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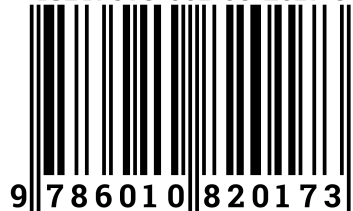
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## LAW SCHOOL

### **“Concrete reasons and specific measures to undertake in order to improve and ensure the copyright laws’ protection in the Republic of Kazakhstan”**

Baismakova Dina, ID 20201603 (LLM)

#### **Abstract**

This paper provides an analytical, examinational and empirical overview of how economic development may be promoted or hindered by an effective system of copyright protection. Copyright, as a source of income, is important for creators and their publishers as well as an economic vector for society. Often reduced to its simplest expression - citing the references and avoiding plagiarism - copyright means much more than respecting creators. Copyright funds the creative process and fosters innovation. Copyright is a property right that belongs exclusively to creators. Properly understood and well used, it is a way to diversify one's incomes from the same work and thus funds one's creative time and production costs. For publishers, copyright is a major financial tool. Royalties coming from copyright enable them to cover their production costs and to finance production of new works. The royalties paid to publishers help to pay the authors for creating these works. Every year, millions of photocopies, scans and projections of books, newspapers and magazines are made across the country. Through reproduction rights, authors and publishers are compensated for these uses without having to invest additional time and money. This is why our copyright law must be revised as soon as possible. Copyright is vital to any person or business operating in the cultural sector and contributes to Kazakhstani economic development.

The solutions to those problems are known and simple to implement. Many other organizations and coalitions have also contributed by proposing innovative solutions. This mobilization around the cultural sector shows the importance of copyright in the daily lives of thousands of creators.

So, what can be done in Kazakhstan to protect copyright law?

In the process of work, an extremely deep examination and a highly profound analysis are carried out on the basis of comparative method in relation to the law of foreign countries and existing Kazakhstani national system in the protection of copyright laws, relevant doctrinal sources and as well as law enforcement practice, i.e. litigation, judicial cases. Based on collected data and research, conclusions are made in terms of improving the law enforcement practices regarding regulatory gaps and key issues in the protection of copyright in Kazakhstan. Therefore, the paper concludes by putting forward suggestions and proposals for new policy reforms in the country.

#### **Introduction**

##### **1.1. The background of the problem and significance of the issue, topic and research**

Each major technological innovation is the occasion for a copyright challenge/extension process. Currently, there are lively debates between defenders and opponents in the context of the technological paradigm shift caused by digital in general and the Internet in particular. Although the

issue of copyright is often considered central to the development of so-called "content industries" without which networks and digital materials are meaningless, Kazakhstani economists have still invested little in this field, traditionally reserved for lawyers.

This lack of interest opposes an Anglo-Saxon tradition of reflection on the contrasting effects of copyright on social well-being. The numerous debates on the economic justifications of copyright have revealed the contradictions between the interests of economic agents, authors, producers and users. As much as the economic constraints, the choices made testify to the importance of historical and social facts that have made it possible, in different ways depending on the case, to achieve a balance between the parties involved. This balance seems to have been broken by the development of a digital economy that raises the hope of free, abundant and freely accessible content multiplying and in which copyright would only be a somewhat outdated testimony of a bygone era.

The criticisms made are numerous, sometimes contradictory, but always end up highlighting the difficulties in making copyright and digital coexist. On the one hand, copyright would be harmful as an obstacle to the development of a long-awaited information society. On the other hand, digital technology would allow the multiplication of copies and copyright violations making its implementation impossible. The examination of these criticisms and the very real problems raised cannot do without a complementary analysis of the alternatives proposed in the digital universe. In practice, these are proving to be less easy to implement than the staunch opponents of copyright assume.

The main justifications of copyright in economic analysis emphasize the incentive aspect of this form of protection in a logic of efficiency. The first form of incentive is creation. Copyright is not only an ex-post reward for the work of a creator, it is also a way to encourage him to create more. The arguments related to incentives for creation, however, are quite weak; first of all, because the author can be driven by other elements than economic remuneration (propagation of his ideas, desire for recognition...). In addition, other means of intervention, such as social law, subsidies or taxation, may prove to be more incentive. The incentive aspect of copyright is much more interesting if we consider its effect, no longer on the creator himself, but on his producer or more generally on the intermediary to whom the author transfers his rights and who is engaged in the distribution of works on the market.

The Anglo-Saxon term copyright (which is currently equated with copyright) expresses, as its name indicates, the desire to protect itself from copiers who, by behaving like "stowaways", would exert unfair competition with the original creators and producers (for example, to edit at a lower cost a work that has been successful without taking risks). W. Landes and R. Posner analyze this classic economic problem of externality in the case of the production of a reproducible cultural good. This production requires two types of costs: the costs of creation (the author's effort, the cost of editing a manuscript, proofreading, etc.), which they call "expression costs", which do not vary with the number of copies made (fixed costs of creation), and the costs of additional copies. On the contrary, these are variable costs (reproduction, distribution of copies), which are generally significantly lower than the first. In the absence of copyright, anyone can make copies of the work and sell them without having to bear the costs of expression. A copier producer enjoys decisive competitive advantages over the original producer: not only does he not bear the fixed costs, but, moreover, by selecting the works that have already become successful, he avoids any editorial risk. This case of a positive externality for the copier entails a risk of under-production; the work has every chance of not being produced insofar as the original producer will not be able to amortize its fixed costs. Here we find a characteristic common to all informational goods. As Arrow had already noted, any informational good is

communicable at a cost much lower than its production cost. "Information is expensive to produce but inexpensive to reproduce. A book whose production costs thousands of euros can then be printed and bound for a few euros. Similarly, a film whose production costs several million euros can be copied to a video cassette for a few euros. In economic terms, this means that the production of an information good requires high fixed costs but has a low marginal cost.

In contrast to the justifying arguments, we find as early as 1934, in A. Plant, in the case of the book, most of the arguments that will be taken up against copyright. The central point of the analysis is the refusal of the monopoly position and associated rents. Copyright in fact confers a monopoly situation on its holder, which abounds at high unit prices comparable to the creation of rents. S. Breyer, on the other hand, takes up the idea that a copyright-free economy allows for greater dissemination of works and eliminates the high transaction costs necessary to obtain them. Economic theory therefore has a hard time separating the contradictory effects of copyright. To justify the existence of economic rights, the most convincing argument is undoubtedly the incentive for production to ensure a return on investment for those who take the risks associated with the fixed costs of creation. Copyright thus increases social well-being by limiting the under-production that would result from the behaviors of "stowaways". On the other hand, copyright produces situational rents and has negative effects in terms of the distribution to the public of protected works because some consumers do not buy the good that has become too expensive or because they prefer to substitute copies for it.

In the West, the sphere of copyright or, in other words, intellectual property (IP) is an area that draws particular attention from the state, and this in many ways enabled developed countries to become world leaders in producing various types of industrial products. The general director of the World Intellectual Property Organisation (WIPO), Kamil Idris, says that IP is becoming increasingly more significant as an important instrument of economic growth and accumulation of national wealth. For example, according to a study by this organisation, the intellectual copyright industry accounts for 12% of GDP in the USA. In monetary terms, it stands at about \$500bn, which is more than US exports of clothes, cars, PCs and aircraft put together<sup>1</sup>.

In Kazakhstan IP is gradually acquiring genuine significance as a valuable and renewable resource which will define the level of well-being of our country's people in the future. Kazakhstan's former President Nursultan Nazarbayev has repeatedly said that creating favourable conditions to produce goods with protected trade marks and copyright is a priority in helping to achieve rapid economic development.

According to the Kazakh Prosecutor-General's Office, about 90% of multimedia products sold in Kazakhstan are fakes. The Kazakh Copyrights and Related Rights Protection Association has also said that the total number of multimedia products sold in Kazakhstan in 2005 stood at over 50 million, of which only 5 million were licensed<sup>2</sup>. Revenue from selling licensed products exceeded \$15m in 2003 and revenue from fake products exceeded \$70m. As a result, the budget fell about \$3m short in

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<sup>1</sup> <http://investkz.com/en/journals/48/106.html> (Kazakhstan International business magazine. Copyright protection. Why Kazakhstan is no longer included in list 301 published by Gulmira Arbabayeva on 3 March, 2006)

<sup>2</sup> <http://investkz.com/en/journals/48/106.html> (Kazakhstan International business magazine. Copyright protection. Why Kazakhstan is no longer included in list 301 published by Gulmira Arbabayeva on 3 March, 2006)

taxes and other payments. As for the dynamics of offences in the IP sphere, only eight people were sentenced in 2003, whereas over 90 criminal cases were launched in 2005.

## **1.2. The problem statement and objective**

In my opinion, the legislation on copyright and related rights is great in Kazakhstan. We have the law on copyright and related rights and the Civil Code, which were inspired by the Russian Civil Code. However, these laws are not strictly applied, because we still can freely, without any financial charge, watch TV programs, watch TV series, watch movies, listen to music illegally, listen to the radio on illegal websites, unlawfully download free articles, books and manuals, without paying for this content.

So, what can be done in Kazakhstan to change the current situation? Since, in our country the law on the Internet is not regulated in any way. We should create a system, like in the developed western countries, for instance, France, the UK, the US, Canada and start to regulate the law on the Internet.

## **1.3. The key empirical material and literature review**

The first article written on the matter was published by Aizhan Muchammad on the official website of “Grata KZ – Law Firm”. It talks about the new alterations and amendments in the legislation of Kazakhstan on intellectual property. The new alterations introduce administrative and criminal liability for a new kind of offence relating to organization and creation of Internet resources, the so-called file-sharing resources, which provide access to, enable sharing, storage and movement of works of copyright and related rights in an electronic digital format. Thus, the legislator introduced fixed liability for complicity in illegal use of such works on the Internet, which up until that time was not regulated by laws of Kazakhstan. It should be noted that the liability differs in significance depending on the damage. Thus, if the total value of illegally used copyright works exceeds the MCI for hundred times, it provides criminal liability. If it does not exceed that threshold, an administrative fine will be imposed. More detailed information about this liability can be viewed in the following table<sup>3</sup>.

In addition, the legislator provides penalties also for another offence on the Internet. For example, if a person through file-sharing web sites places works of copyright on the Internet and provides access for an unlimited number of persons to it, then it will be given a notice, provided that the damage from such actions does not exceed the hundredfold MCI, in case of excess, such persons shall be criminally liable.

Furthermore, according to amendments to the Law on "Mass Media", the owners of Internet resources are required to comply with intellectual property rights, including copyrights, and related rights. Internet resources that do not comply with this obligation will be banned through the courts,

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<sup>3</sup> [http://www.gratanet.com/up\\_files/ip\\_client\\_note\\_eng.pdf](http://www.gratanet.com/up_files/ip_client_note_eng.pdf) (“Alterations and amendments in the legislation of Kazakhstan on intellectual property” published by Aizhan Muchammad on Grata’s official website on 1 February 2012)



and for foreign internet resources – by way of suspension of access to these web sites on the territory of Kazakhstan.

Thus, it can be concluded that with the new amendments, the legislator has decided to radically limit the possibility of illegal use of copyright law in the territory of the Republic of Kazakhstan.

The second article on the matter, written by “Crane IP Law Firm” and named “Intellectual property laws in Kazakhstan and state bodies of intellectual property system”, says that in the sphere of Copyright law, Kazakhstan has signed the Convention Establishing the World Intellectual Property Organization, the Rome Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organisations, the Convention for the Protection of Producers of Phonograms Against Unauthorized Duplication of Their Phonograms, the WIPO Performances and Phonograms Treaty (WPPT), the WIPO Copyright Treaty (WCT), the Berne Convention for the Protection of Literary and Artistic Works, the Agreement on Common principles of regulation in the field of protection and enforcement of Intellectual property rights, the Agreement on Cooperation in Organization of Interstate Exchange of Information and Establishment of National Databases on Copyright and Related Rights, the Agreement on Cooperation in the Repression of Offenses in the Field of Intellectual Property, the Agreement on Cooperation in the Field of the Protection of Copyright and Neighboring Rights<sup>4</sup>.

The legislation of Kazakhstan in the sphere of copyright and related rights is the following.

The list of the legal normative acts is as follows: the Constitution of the Republic of Kazakhstan, the Entrepreneurial Code of the Republic of Kazakhstan, the Civil Code of the Republic of Kazakhstan, the Law On Copyright and Related Rights, the Law On TV and Radio Broadcasting, the Law On Mass Media, the Law On Culture, the Order of the Minister of Justice of the Republic of Kazakhstan On Approval of State Service Standards in the field of Copyright and Related Rights, the Order of the Minister of Justice of the Republic of Kazakhstan On Approval of Checklist and Criteria for Assessing the Risks of Organizations for Collective Management of Rights, the Resolution of the Government of the Republic of Kazakhstan On Approval of the Minimum Rates of Remuneration for Performers, Producers of Phonograms.

The third article on the matter was written by Yuri Bolotov, partner in “Bolotov and Partners LLP”.

In most countries, lawmakers' approach to creating copyright and the exclusive right to related rights objects is the same. In Kazakhstan as well, copyright and related rights arise from the moment of their creation. Thus, copyright and related rights need no registration.

It is a common opinion that the only purpose of having copyright and related rights be registered is to confirm that, at the time of registration, the object in question has been in existence – this may be used as a proof, if and when a dispute arises.

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<sup>4</sup> <https://craneip.com/intellectual-property-laws-of-kazakhstan-and-state-bodies-of-intellectual-property-system/> (Crane IP Law Firm, 5 January 2021)

In most countries, based on the above principle, such objects are not registered with state agencies. Instead, copyright and related rights are registered with institutions for collective management of property rights of authors and related rights holders, as is the case, for example, in Russia.

In Kazakhstan the IPR Committee registers the copyright and related rights and issues a certificate of registration and record the object in the State Register of works protected by the copyright and related rights legislation.

Normally, registration takes a month. The IPR Committee neither examines the materials filed by an applicant nor verifies the information stated in the application. Accordingly, data stated in the certificate are based on information supplied by the applicant, who shall be liable for the compliance with the rights of third parties.

Concurrently, the certificate of registration of a copyright or related rights object confirms that the registered and deposited object is indeed a copyright or related rights object, that the IPR Committee has received it on the date shown in the certificate (an authorized state agency establishes a kind of priority that is a date no later which the object was created), that the object stated in the certificate is stored at the IPR Committee and can be compared with an opposed object, that the individuals stated in the certificate have claimed a right to the registered and deposited copyright or related rights object.

Unless the contrary is proven, the certificate helps one fight pirates because the certificate serves as proof of existence of the said right and could be submitted to state agencies or court.

Also, copyright or related rights objects can be used as collateral for the initial and subsequent public offering of securities. Property rights to copyright or related rights objects can be used as contribution to the charter capital of a company as intangible assets that make it possible to considerably increase the size of the charter capital. Also, copyright or related rights objects can be put in the books of a company with subsequent depreciation. Intellectual property objects, including copyright or related rights objects, can be used as pledge for loans. When IP is used as collateral, contribution to the charter capital of a company, for accounting it in the books of a company, or as pledge, the IP objects should be assessed. Registration of copyright or related rights objects is important for their assessment, as it makes it possible to individualize the object assessed and establish its completeness.

#### **1.4. The employed methodology and theoretical framework**

The study is based on the use of a complex of general scientific methodology (i.e. comparison, analysis, analogy, description). The empirical information base of the research includes articles in periodicals of Kazakhstani and foreign researchers, materials posted on the Web pages of leading scientific institutions on the Internet. The empirical base of the study also includes materials on the regulatory framework of foreign countries and Kazakhstan, and case study research related to the topic. First research method that appears in the study is the analysis. This method involves consideration of the legal framework of the Republic of Kazakhstan and selected countries, articles and topics from scientific journals, as well as judicial cases related to copyright law. Second method used in the dissertation is comparison. This method implies a comparative legal nature. In this way, the legal systems of regulation of copyright protection of Kazakhstan and foreign countries are

compared. Another method is the analogy. Thus, the study has analysis and comparative methods of foreign legal framework that differentiate Kazakhstani one by legal system, this method emphasizes the similarity of regulation of copyright law of different legal systems. Thus, thanks to this method, a search is made for similarities in the legislative aspects of copyright regulation of different countries selected for comparison in this study.

### **Summary, conclusion and recommendations**

It could be that the notion of the author - identified with his rights since the 18<sup>th</sup> century - is only an ephemeral social and cultural construction of a few centuries, which disappears in the cyber culture.

Born with a technological innovation, printing, copyright would be doomed to disappear with another innovation, digital. Joint works are now created in a network by several artists. The new creative uses of digitized works are proving to be very destabilizing for the very notion of author. The appearance of a new device, electronic content, exchangeable and transformable at will, upends our traditional conception of the work and its author. "Auctorial" forms intermediate between classical creation and reception are developing in the digital world. Additions, modifications are made by the author or by third parties that make a work virtually unfinished. Each content is created by modifying previous content and is itself modified. The work becomes a permanent process of creation and its boundaries are being diluted.

The copyright is therefore today subject to many questions and criticism is multiplying. Even if copyright and digital are not as incompatible as we sometimes want to think, adapted solutions must be found to very real problems. Over the centuries, copyright has indeed become a form of protection of works, establishing a social compromise between well-differentiated agents: the author, his economic partners, users. Today, the search for a new balance in the digital universe seems essential in order to reconcile the opportunities for a rich and diverse distribution while avoiding drying up the sources of cultural creation and production in the medium term.

The room for maneuver, however, remains narrow and makes the credible alternatives limited. In the short term, it seems difficult to get out of a system that corresponds to the outcome of a long historical process, insofar as the most often advanced alternatives such as indirect methods of appropriating revenues related to the use of works, attenuated forms of rights such as legal licenses or technological protection, are largely to the detriment of users and / or independent producers. In the search for a new balance, what now seems decisive is therefore which types of agents and which types of "content" will be privileged.

There are two different ways to protect copyrights that are applicable today.

1. Registration of the license agreement. Through this agreement, you can transfer the right to temporary use of a copyrighted object to another person.
2. Intellectual property insurance. Insurance may include, for example, the risk of illegal use of intellectual property, the risk of non-receipt of royalties.

**TRIPS to the WTO.** Since Kazakhstan's accession to the WTO, in addition to national legislation, TRIPS also regulate intellectual property law at the international level. TRIPS is an

agreement on trade-related aspects of intellectual property rights. The TRIPS provisions do not provide for requirements that aggravate the situation of citizens of the Republic of Kazakhstan with respect to intellectual property rights. In case of violation of intellectual property rights under TRIPS, the dispute will be considered by a special commission, an Arbitration group, a WTO Dispute Resolution body. As part of the WTO accession, the institute of "Data Exclusivity" is being introduced in Kazakhstan, which should improve the situation of pharmaceutical companies.

**Unified Customs Register of the EAEU.** Since 2018, a single-level registration in the Unified Customs Register has been operating on the territory of the EAEU (Article 385 of the Customs Code of the EAEU). Thus, the right holder does not need to register his intellectual property rights separately in each state, and instead, when registering in the Unified Customs Register, he automatically has exclusive rights to a trademark in all the EAEU states. This innovation will facilitate the control of goods and prevent the entry of counterfeit goods into the territory of the EAEU. In case of registration, the intellectual property right will be valid for two years with the possibility of extension an unlimited number of times for all the territories of the EAEU (Article 387 of the Customs Code of the EAEU).

Analysis of the current state and prospects for further development of the field of intellectual property rights, that I made, allows me, as well, to determine the following main goals of regulation of processes in this area:

1. Meeting the needs of the economy and the population, as well as medium and long-term goals through the implementation of appropriate measures in the field of intellectual property rights aimed at the social and economic development of our country.
2. Formation of an optimal strategy for the development of the sphere of intellectual property rights in our state.
3. Ensuring the national security of Kazakhstan in the context of restrictions and monopolies related to intellectual property rights.

In my opinion, to achieve the set goals, the following tasks ought to be required:

1. Building an effective intellectual property rights system focused on meeting the needs of the state's economy and population, creating a favorable investment climate and improving the quality of labor resources.
2. Implementing a coordinated policy in the field of protection and enforcement of intellectual property rights.
3. Conducting continuous monitoring directions of development of intellectual property.
4. Identifying areas for potential improvement which will provide an effective and clear functioning of the intellectual property system as a strategic tool to stimulate economic development.
5. Modernizing the current system of state support for innovative activities, including by supporting international patenting and the introduction of tax incentives.

6. Enhancing access to medicines for the population through the use of flexible provisions of international acts in the field of intellectual property, to which our state is a party.
7. Stimulating an increase in the number of international joint inventions and applications for patent families.
8. Monitoring the research and development sector's expenditures.
9. Providing training to all stakeholders on innovation using the Oslo Manual to improve data collection for the global innovation index (GII) and other indices.

The implementation of the potentially new law ought to be based on the basic principles, necessary to ensure the consistency and integrity of the planned activities. To ensure the achievement of the goals of the potentially future law and the solution of the main tasks, it seems to me, that it's necessary to determine the priority areas of action and a practical plan of measures. Priority areas of action and activities suggest the complex use of various educational materials, tools and resources, that are consistent in their implementation on a systematic basis to obtain the best results.

I believe that the development of the sphere of intellectual property rights in Kazakhstan will allow achieving the following goals:

1. A systematic approach will be introduced in the interests of the country's social and economic development.
2. The coherence of intellectual property policies will increase.
3. Coordination of priority measures in the field of protection and enforcement of intellectual property rights will be carried out.
4. The rise of development of intellectual property objects will be stimulated.
5. Further steps should be taken to improve the Kazakhstani legislation in the field of intellectual property and its effective application.
6. Measures should be taken to stimulate the innovation market.

The implementation of the abovesaid goals and objectives will be able to ensure the achievement of the following indicators:

1. An increase in the production of innovative products.
2. Improving the position of our country in the WEF GCI and GII (global innovation index).
3. An increase in the number of applications for international patenting.

4. An increase in the number of international agreements to which our state will be party.
5. An increase in the volume of medicines available to the population.

Conversions, which should be carried out in the future, can or, I actually, hope, will become a launching pad for the formation of the Kazakhstani policy in the field of intellectual property, integrated and agreed with the implementation of the general “Strategy-2050” for Kazakhstan's entry into the thirty most developed countries of the world by 2050, as it is planned by Kazakhstan’s first president, Nursoultan Nazarbayev, and Kazakhstan’s acting president, Kassym-Zhomart Tokayev.

I think that we should prohibit the streaming and downloading of movies, books, music on [www.iv.ru](http://www.iv.ru), [www.megogo.net](http://www.megogo.net), [www.film.ru](http://www.film.ru), [www.tvigle.ru](http://www.tvigle.ru), [www.tvzavr.ru](http://www.tvzavr.ru), [www.kino.mail.ru](http://www.kino.mail.ru), [www.rezka.ag](http://www.rezka.ag), [www.more.tv](http://www.more.tv), [www.kinogo-net.org](http://www.kinogo-net.org), [www.seasonvar.ru](http://www.seasonvar.ru), [www.torrent.ru](http://www.torrent.ru), [www.lamafilm.ru](http://www.lamafilm.ru), [www.lyrsense.ru](http://www.lyrsense.ru) and other websites. And instead, we should all pay for Internet services like Netflix, Amazon Prime, I Tunes, Apple TV, SoundCloud, Deezer, Spotify. For a very long period of time, I myself was illegally downloading and watching movies and listening to free music. But I thought to myself that doing this and being a lawyer are contradictory and controversial things, so I stopped the unlawful streaming of music, books and movies, and since 2015 started paying for the legal services enumerated above. And I think everyone should do this as well. Of course, not everyone can afford this, but these people can simply watch television on the TV set, instead of violating the laws. Because our laws are great, but unfortunately, they are still very poorly applied in our country. And we should create a specific law which will regulate the rights and obligations of people on the Internet. And then after having created the appropriate law, we should punish people who violate the law on the Internet, first by sending a warning mail and a warning letter to the infringer, and then we should give them fines. If the act is repeated, the fine should be more important. For this to be accomplished, people have to, when registering on the website, give their physical address (place of residence), and two e-mail addresses of theirs.

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5. Resolution of the Kazakhstani Government dated November 29, 2017 "On approval of the State Planning System in the RK".
6. Order of the Kazakhstani Minister of National Economy dated June 11, 2018 "On approval of the Rules for the development of a concept, doctrine", as well as a number of other laws and normative legal acts.

### **Judicial cases**

#### **Recent cases which have influenced KZ’s IP copyright law:**

1. The case of the ROO "Kazakhstan Society for the Management of Performers 'Rights" against "Alma TV" LLP from the website [www.sud.gov.kz](http://www.sud.gov.kz)

**“Investment disputes against Kazakhstan. Legislation regulating investment activity in  
Kazakhstan and its impact on the investment disputes settlement”**

Li Dariy, ID 20201020 (LLM)

**Abstract**

Foreign investment has played a key role in the formation and development of Kazakhstan's economy. Despite the continuous process of improvement of the legislation of Kazakhstan regulating investments, there are disputes with investors, which cannot be resolved without resorting to international arbitration. One of the reasons of disputes occurring is gaps in the national legislation regulating investments and investment disputes settlement. This research contains an analysis of specific norms of the national legislation of Kazakhstan and its comparison with the provisions of international treaties ratified by Kazakhstan to identify gaps and contradictions. According to the results of the study, proposals are made to amend the Kazakh legislation to fix the wording that excludes ambiguous interpretation. In addition, the study analyzes individual norms of procedural legislation used in the consideration of investment disputes and puts forward proposals for changes in the procedural legislation to improve the efficiency of dispute resolution at the stage of proceedings in the local courts.

**Abbreviations**

**APC** - Administrative Procedural Code of the Republic of Kazakhstan dated June 29, 2020 № 350-VI

**CC** - Civil Code of the Republic of Kazakhstan (General part) adopted by the Supreme Council of the Republic of Kazakhstan on December 27, 1994 (as amended as of 10.01.2021) Civil Code of the Republic of Kazakhstan (Special part) dated July 1, 1999 No. 409-I

**CPC** - Civil Procedure Code of the Republic of Kazakhstan dated October 31, 2015 No. 377-V

**CU** - Customs Union of the member states of the Eurasian Economic Union

**Customs Code** - Code of the Republic of Kazakhstan "On Customs Regulation in the Republic of Kazakhstan" dated December 26, 2017 No. 123-VI

**EAEU** - Eurasian Economic Union

**ECT** - The Energy Charter Treaty and the Energy Charter Protocol on Energy Efficiency and Related Environmental Aspects, done at Lisbon on December 17, 1994.

**Entrepreneurial Code** - Entrepreneurial Code of the Republic of Kazakhstan dated October 29, 2015 No. 375-V

**ICSID** - International Centre for Settlement of Investment Disputes

**ICSID Convention** - Convention on the Settlement of Investment Disputes between States and Nationals of Other States, done at Washington on March 18, 1965

**MCI** - Monthly Calculation Index is a coefficient for the calculation of benefits and other social payments, as well as for the application of penalties, taxes, and other payments in accordance with

the legislation of the Republic of Kazakhstan, established by the law on the budget for the relevant year.

**RK** - Republic of Kazakhstan

**Tax Code** - Code of the Republic of Kazakhstan "On Taxes and other obligatory payments to the budget" dated December 25, 2017, No. 120-VI

**USSR** - Union of Soviet Socialist Republics

**VAT** - Value added tax

Since gaining independence in 1991, Kazakhstan began to determine its own path of economic development. The transition from a planned model of economy to a free-market model required urgent measures aimed at attracting foreign capital to carry out necessary economic reforms. Significant monetary injections into the economy were required to modernize existing and create new production facilities capable of preserving and maintaining the industrial infrastructure that had passed to Kazakhstan after the disintegration of the USSR, develop economic sectors, and increase commodity turnover.

In the era of globalization of the world economy, the states are dependent on each other economically and politically, which creates prerequisites for establishing the necessary legal mechanisms capable of ensuring effective, predictable and mutually beneficial cross-border interaction between the subjects of economic activity, including legally enshrined guarantees of investment safety.

Kazakhstan was not an exception and has taken legislative initiatives called to create a conducive environment for investments. Numerous bilateral and multilateral international agreements have been concluded which fix Kazakhstan's obligations to establish and maintain a favorable legal regime for foreign investors in the country. The taken measures have allowed Kazakhstan to provide stable economic growth and to become the largest economy of Central Asia.

However, despite the work done, there are still urgent problems of legal regulation of investments, consisting in imperfect wording of the national legislation, absence of certain legally enshrined concepts related to investment activity, generating ambiguity when considering disputes with investors, gaps in law and mechanisms of interaction with investors. In the course of this research we will try to identify these problems, to understand the essence of these problems, to analyze them and to formulate proposals to improve the national legislation of Kazakhstan.

## **Description of the problem**

On 16 June 2021 the deputy of the Majilis of the Parliament, D. Nazarbayeva sent a deputy's inquiry to the Prime Minister of the Republic of Kazakhstan, A. Mamin, on the issues of arbitration in the Republic of Kazakhstan.

The deputy drew attention to the increasing number of arbitration disputes with foreign investors and the need to improve the mechanisms of work with foreign investors.

As a result of the fact that most arbitration processes are conducted publicly, and the materials of arbitration processes are publicly available on the Internet, a negative resonance is created in the foreign media, leading to a constant growth of reputation risks for the country... Each arbitration dispute is a "stress-test" for the Kazakhstani judicial and law enforcement systems. During arbitrations system deficiencies of state management in various spheres and sectors of the country's economy are revealed. (Nazarbayeva, 2021a, para. 3,6)



On 08 September 2021, Deputy D. Nazarbayeva sent another deputy request to Prime Minister A. Mamin, in which she raised several questions related to the implementation of the National Investment Strategy for 2018-2022, which was aimed at improving the investment climate. In the request, D. Nazarbayeva drew attention to the fact that in 2020, the inflow of foreign investment in the economy of Kazakhstan decreased by 30 percent. (Nazarbayeva, 2021b)

Conclusions of Deputy Nazarbayeva's inquiries demonstrate concern over the negative trend of an increasing number of disputes with foreign investors, which indirectly affects the inflow of foreign investments into the country, and consequently, decreases the pace of development of the country's economy.

The possibility of attraction of investments directly depends on guarantees of safety of investments, which are provided by the state. Such guarantees include the possibility of proper protection of investor's rights in the framework of dispute settlement procedures in the host state.

Current legislation does not fully provide an opportunity to settle investment disputes at the stage of consideration by local courts, firstly because of the defective conceptual apparatus and procedural order of investment-related disputes consideration. This does not allow to reduce the number of disputes initiated by investors against Kazakhstan in the international arbitrations.

The transfer of a dispute to international arbitration always involves certain risks of unfair resolution of the dispute and the associated unjustified losses.

Key procedural issues stem from the decentralized system of nonpermanent arbitral tribunals, its commercial emphasis, and the confidentiality surrounding proceedings. The lack of any governing framework leads to inconsistent decisions on the same issues, even on essentially the same dispute. (Miles, 2013, p. 372).

In this regard, it is critically necessary to try to settle investment disputes without referring the dispute to international arbitration, which in turn requires improvement of national legislation.

### **Importance of the research**

Kazakhstan aims to maintain its leading position in Central Asia and, in this regard, continues to work to further attract foreign direct investment. Emerging investment disputes are a direct obstacle to achieving the goals set.

Each investment dispute between an investor and Kazakhstan is subject to detailed analysis by other potential investors for possible risks for their upcoming investments. Each arbitration proceeding, regardless of in whose favor it was resolved, is a negative signal to potential investors that possible investments in Kazakhstan may not pay off, and in the worst case, may be lost.

This study aims to identify problems of legal regulation of investments and make proposals to change the national legislation in order to improve the efficiency of investment disputes resolution at the domestic level.

Improvement of the investment legislation of Kazakhstan will be one of the aspects of improvement of investment climate, it will allow increasing inflow of foreign investments and creating favorable image of the country on the international arena.

In this connection I consider that the present research has significance as it relates to realization of one of the most important tasks of the state.

## Research Methodology

The use of one or another research method depends on the purpose of the research and the key question.

In determining the methodology of this study, I considered that the problem under study is related to the analysis of the causes of investment disputes appearance, which excludes the possibility of applying research methods such as interviews, because it affects the issue, which is not the subject of general interest and awareness.

Statistical analysis as a research method cannot be applied in this case because information about the content of investment disputes is not freely available in all cases, which prevents proper research. Procedural documents of many arbitrations are confidential. In addition, the bare statistical data will not provide the key to solving the problematic issue that is the subject of this study.

In reviewing the scholarly literature related to the methodology of legal research, I followed the recommendations to collect and analyze all relevant material, such as normative sources, authoritative sources, and legal writings. (Hoecke, 2011) And, after a proper analysis of the relevant literature and normative sources, further research had to be conducted by using interpretive tools and legal reasoning to evaluate legal rules and offer recommendations for further legal development. (McConville & Chui, 2017)

These methods of research seem to be the most reasonable for application, in this connection the methodology of the present research is based on the analysis of norms of law regulating investment and settlement of investment disputes in Kazakhstan, literature review including review of scientific articles and publications on the research topic, and case study.

## General description of the legal regulation of investments in Kazakhstan

Regulation of investments in the Republic of Kazakhstan establishing investors' rights and determination of measures of state support of investors are regulated by norms of Chapter 25 of the Entrepreneurial Code. The Entrepreneurial Code provides fair and equitable treatment of all investors, including a minimum standard of investor protection with full compensation for nationalization losses, fair compensation for requisition and protection against unlawful acts.

In addition, to facilitate the activities of investors, the Entrepreneurial Code provides for the principle of "one-stop-shop", which is a centralized form of assistance to investors by the National Company to obtain government and other services and minimize the participation of investors in the collection and preparation of documents and limit their direct contact with government authorities.<sup>5</sup>

At the same time, the legal regulation of investors has differences depending on the type of legal relationship in which the investor makes investments, as well as depending on the size of the investment.

Thus, normatively regulated ways to make investments in Kazakhstan are the following:

- a) By conclusion of an investment contract - an agreement on implementation of an investment project providing for investments and granting of investment preferences;<sup>6</sup>
- b) By way of conclusion of a special investment contract - a contract providing for the granting of investment preferences for a special investment project.<sup>7</sup>

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<sup>5</sup> Art. 282-1 of the Entrepreneurial Code

<sup>6</sup> Art. 294 of the Entrepreneurial Code

<sup>7</sup> Art. 295-1 of the Entrepreneurial Code

- c) By conclusion of an investment agreement - an agreement on implementation of an investment project to be concluded according to a decision of the Government of the Republic of Kazakhstan for an amount not less than seven and a half million times the MCI.<sup>8</sup>

However, this does not mean that without the conclusion of one of the above contracts it is impossible or prohibited to make investments.

Projects in the context of the Entrepreneurial Code refer to activities involving investment in the creation of new, expansion and/or renovation of existing production facilities. Priority and special projects are types of investment projects and differ in that a priority investment project is a project related to priority activities determined by the Government of Kazakhstan and the amount of the project is not less than two million times MCI, and a special investment project is a project implemented by a member of a special economic zone.<sup>9</sup>

For investors implementing an investment project, an investment priority project, or a special investment project there is an opportunity to receive various investment preferences.

In particular, investing in the investment project shall be provided with: exemption from customs duties and import VAT; state grants. For investment priority project in addition to the above-mentioned tax preferences, the exemption from payment of corporate income tax, property tax and land tax shall be applied. Under special investment project investor shall be exempted from taxation according to Chapter 80 of the Tax Code as well as exemption from VAT for import of raw materials and materials under special investment contract.<sup>10</sup>

As we can see, preferences to investors can be provided only in cases when investments are related to implementation of investment projects and are based on concluded investment agreements between the investor and the authorized state bodies. Other investors are given the opportunity to make investments on a common basis.

The norms of the current legislation to a large extent protect the rights of investors and at the same time ensure that the interests of the state are respected. However, certain gaps in the law have been identified by analyzing the legislation and are as follows.

### **Substantive law analysis**

The most obvious problems of legal regulation of investments in Kazakhstan is the imperfection of the conceptual apparatus enshrined in the national legislation.

### **Analysis of “investment” definition**

There is no definition of an “investment” in the ICSID Convention, and it was envisaged by the drafters that the parties would have a wide margin of discretion in settling upon a definition in each instrument recording their consent to ICSID arbitration. (Douglas, 2009, p. 164)

Absence of the term "investment" in the ICSID convention causes the necessity to formulate this notion both in the BITs concluded by Kazakhstan with other countries and in norms of national legislation. At the same time the norms of national legislation must not contradict the BITs provisions, since the latter, being international treaties, have priority over the norms of national legislation.

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<sup>8</sup> Art. 295-2 of the Entrepreneurial Code

<sup>9</sup> Art. 284 of the Entrepreneurial Code

<sup>10</sup> Art. 290 of the Entrepreneurial code

Almost all BITs contain definitions of the term investment that have similar features and provide a non-exhaustive list of typical rights. The general description often refers to “any type of asset”. (Schreuer, 2009)

At the same time the definition of an “investment” is a highly contentious topic in investment arbitration. A range of indicative “characteristics” or binding “requirements” – depending on one’s interpretation – have been identified: a contribution of resources, sufficient duration, incurring a certain risk, acquiring a regular profit and return, and a contribution to the economic development of the host state. Remarkably, there is still no consensus in the case law on whether any criteria should be applied at all, or what criteria those would be, or how such criteria should be interpreted. The characteristic that has been interpreted most diversely is probably the “contribution to the economic development of the host state”. Some tribunals have deemed it a fundamental pillar of investment arbitration; others have not even considered it important enough to mention. (Bath & Nottage, 2011, p. 174)

That is why a clear and unambiguous wording of the term "investment" is very important because in the event of failure to resolve the dispute by agreement between Kazakhstan and the investor, in arbitration proceedings will be required to determine the legal status of the contributions made to establish the category of the dispute.

The authors of scientific publications that were the subject of the literature review points on contradictions between definitions given in the norms of national legislation and following from contents of BITs to which the Republic of Kazakhstan is a party.

M. Suleimenov notes that the terms “investment”, “investment activity” and “investment dispute” as a result of amendments in legislation have undergone significant changes and in the current wording all three definitions given in the Entrepreneur Code, radically diverge from the concepts enshrined in international documents. M. Suleimenov also draws attention to the fact that the term “investment activity” is not given in the norms of international law at all, and the consonant concept in the ECT "making investments" has a completely different meaning than the concept of "investment activity" set forth in Article 274 (3) of the Entrepreneur Code. (Suleimenov, 2016)

The term “investment” enshrined in the national legislation cannot be called successful as it offers a truncated definition in comparison with the notions enshrined in the international treaties.

In the national legislation the notion of investment is fixed in the following edition:

Investments are all types of property (except for goods intended for personal consumption), including objects of financial leasing from the moment of conclusion of the leasing agreement, as well as rights to them, invested by the investor in the share capital of a legal entity or increase of fixed assets used for business activities, as well as for the implementation of a public-private partnership project, including a concession project.<sup>11</sup>

It follows from the above norm that can’t be considered an investment:

1. property imported or purchased by the investor for personal consumption;
2. objects of financial leasing, before the conclusion of the leasing agreement;
3. property not related to the increase of fixed assets;

Let’s have a closer look at the types of property that are not considered as investments:

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<sup>11</sup> Art. 274 (1) of the Entrepreneurial Code

- 1) It should be noted that the term "goods for personal consumption" is not enshrined in the current legislation of Kazakhstan, which creates confusion in the definition of specific types of property falling under this term.

The provisions of the Customs Code and international treaties ratified by Kazakhstan enshrine the concept of "goods for personal use" and determine the procedure for moving certain types of property across the customs border of the CU and the territory of EAEU countries by individuals.

Considering that property may include not only such things as clothes and footwear, but also machines, mechanisms, watercraft and aircraft, the establishment of exclusion from the term "investment" of goods related to "goods for personal consumption" creates risks of disputes as to whether this or that good should be considered as intended for personal consumption, and accordingly, whether it refers to investment or not.

It seems that there is no problem in identifying difference between investment and non-investment since investments aims for generating income, while goods for personal consumption are goods intended for personal, family and other non-income-generating uses.

However, the presence of the clause generates ambiguity in the categorization of the dispute, when as a result of disagreements between the investor and the state the property imported as goods for personal use is withdrawn.

- 2) Considering phrase "objects of financial leasing before the conclusion of the financial leasing agreement" we can see a logical contradiction because the property cannot be a "leased asset" before establishing legal relations between the lessor and the lessee.

There are grounds to believe that the above specification was included with the purpose of specification of the moment of assignment of investment status to the property, namely:

- a) not from the moment of signing the financial lease agreement, but from the moment when according to legal requirements the agreement is deemed concluded (for example after the registration of the contract for real estate property)
- b) not from the moment of direct receipt of the leased asset by the lessee from the lessor, but from the moment the lessor assumes the obligations to purchase the leased asset from the seller.

In this case there are risks associated with the non-recognition of certain types of property that are financial leases as investments due to formal non-compliance with the requirements on the form and/or content of the leasing agreement.

On the other hand, based on the above stipulation the property that has not yet come into the lessee's possession and even not acquired by the lessor from the seller is already recognized as an investment, which raises doubts about the validity of such legal assessment and can provoke disputes in cases when the lessee will not acquire the leased asset from the seller or will not transfer it to the lessee in violation of the leasing agreement.

- 3) Another exception to the term "investment" is property not intended to increase fixed assets. This clause directly contradicts the norms of international treaties as it significantly limits the list of property and property rights which are to be recognized as investments.

The notion of fixed assets is stated in Article 266 of the Tax Code. This norm establishes the list of characteristics that property must meet to be recognized as fixed assets, as well as the list of property that is not recognized as fixed assets.

The list of property that is not recognized as fixed assets includes fixed assets and intangible assets put into operation by a subsoil user before production begins after commercial discovery, construction in progress, which significantly increases the risks of investors who make investments in subsoil use at the early stages of investment projects.

It is noteworthy that fixed assets do not include land, in this regard, when considering whether the costs of land acquisition are an investment or not, it is possible to conclude under a certain interpretation that these costs are not an investment.

The question of what is an “investment” has a critical importance because the answer on this question determines further qualification of the dispute as an investment dispute. (Crawford et al., 2014) Meanwhile, the current wording of the concept of "investment", if interpreted literally, will not allow a number of disputes actually related to investment to be classified as investment disputes.

To summarize the above, it seems necessary to exclude unjustified clarifications and exceptions from the term "investment" set forth in the article 274 of the Entrepreneurial Code.

### **Analysis of “investment dispute” definition**

The term "investment dispute" is enshrined in Article 296 (1) of the Entrepreneurial Code, according to which an investment dispute is a dispute arising from contractual obligations between investors, including large investors, and state bodies in connection with investment activities of an investor.

The considered wording of the term "investment dispute" includes only investors among the parties to a dispute, and a prerequisite for recognition of a dispute as an investment dispute is an investment contract, concluded between an investor and the state bodies of Kazakhstan.

At the same time, not all investors make investments based on concluded investment contracts. Conclusion of the investment contract is obligatory only for implementation of investment projects.

Consequently, disputes with those investors who invest in the economy of Kazakhstan not based on investment contracts, but, for example, through participation in the charter capital of legal entities, are not recognized as investment disputes, which deprives investors of the opportunity to properly protect their investments at the stage of dispute resolution in the local courts.

Moreover, the considered wording excludes the disputes involving legal entities controlled by investors from the scope of recognized as investment disputes. This contradicts the provisions of the ICSID Convention, according to which disputes involving legal entities, although having the nationality of the host State, by virtue of the control of a foreign investor are recognized as nationals of another State.<sup>12</sup> In other words, when a dispute arises with the participation of a local legal entity controlled by a foreign investor, this dispute is recognized as a dispute involving the investor itself and is therefore considered an investment dispute.

Imperfection of the wording of an investment dispute enshrined in national legislation directly affects the determination of the jurisdiction at the dispute resolution stage in the local courts of Kazakhstan.

### **Legislative stability provisions analysis**

When making investments, the investor is subject to the legal regime of the host state. In this regard, an important issue for the investor remains the guarantee of security of investment, which includes the invariability of investment agreements concluded with the host state, as well as the stability of legislation related to the investment. On the other hand, the state providing guarantees of

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<sup>12</sup> Art. 25 (b) of ICSID Convention

stability of legal regulation of investor's activity and invariability of conditions of investment agreements should not jeopardize national interests and development of society and legal institutions.

The legal validity and effect of legislative and contractual stabilization clauses under national law is scrutinized against a set of constitutional and legal principles within the national legal system. This lies on the premise that the stabilization clause should be consistent with the constitutional and legislative requirements of the national law under which it is granted. (Gjuzi, 2018, p. 191)

To avoid possible disputes associated with the assessment of certain changes in national legislation as violating stabilization conditions, it is necessary to clearly formulate the wording of the relevant norms of current legislation.

We should admit that the wording of stabilization regulations enshrined in Entrepreneurial Code is much better than the earlier wording in the Law of the RK "On foreign investments" on December 27, 1994, which provided investors with universal guarantees of invariability of legislation governing foreign investments in the Republic of Kazakhstan. The imperfection of the earlier wording caused misinterpretation by the investor, which led to arbitration proceedings related to alleged violations of stabilization clauses.<sup>13</sup>

The consolidation in the current legislation of norms that guarantee the stability of the legal regulation of investment activity is one of the main problems of legal provision of a favorable investment climate. (Farkhutdinov, I., 2005)

Existing legislative norms containing stabilization provisions are contained in Article 276 (3) and 289 of the Entrepreneurial Code.

The provision of Article 276 (3) of the Entrepreneurial Code provides guarantees of stability of the conditions of contracts concluded between investors and state bodies of Kazakhstan and contains clauses to which the guarantees do not apply.

According to subparagraphs 1 and 2 of paragraph 3 of the article in question, guarantees of stability of conditions of contracts do not apply to:

- 1) changes in legislation and entry into force of international treaties, which change the conditions of import, production, sale of excisable goods;
- 2) changes and additions to the laws to ensure national security, public order, protection of health and morals.

If the reservation specified in the first subparagraph clearly enough defines the range of legal relations falling under exceptions from the stabilization provisions of the legislation, the wording of the second subparagraph is too general and does not allow to specify those branches of law that regulate legal relations falling under exceptions. In addition, the reservation applies only to changes made to the laws of Kazakhstan, whereas national legislation includes not only laws, but also Constitutional laws, Codes, Presidential decrees, etc.

In such circumstances the reservation set forth in subparagraph 2 of paragraph 3 of Article 276 of the Entrepreneurial Code, which contains exceptions to guarantees of stabilization, allows a broad interpretation and does not allow clearly forming a list of legislative acts, against changes of which guarantees are not provided.

Article 289 of the Entrepreneurial Code provides for the stability of tax legislation and legislation in attracting labor for investors implementing investment priority projects, strategic

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<sup>13</sup> See AES Corporation and Tau Power B.V. v. Republic of Kazakhstan (ICSID Case No. ARB/10/16)

investment projects and investment projects on the basis of investment agreements under Article 295-2 of the Entrepreneurial Code.

At the same time, the establishment of stabilization provisions in national legislation about freezing taxation regime may lead to a negative economic effect. As a rule, stabilization clauses concerning the invariability of the taxation regime are included in the investment contract concluded between the investor and the state.

It is noted that freezing stabilization clause which prohibits the host government from altering the fiscal regime prescribed in the investment agreement (including royalty rates, taxes, import and export duties etc.), may lead to loss of revenues for the host state. (Gjuzi, 2018, p. 100)

Thus, it seems advisable to discuss the maintaining the tax regime unchanged in each specific case and provide it by including stabilization clause in investment agreement, but not to enshrine them in national legislation with a clear definition of the scope of their application.

As for the norms of legislation regulating the invariability of the taxation regime, it seems reasonable to formulate the possibility of the state assuming such obligations with reference to investment treaties.

### **Procedural law analysis**

The judicial system of the Republic of Kazakhstan is three-tiered and consists of courts of first instance, courts of appeal, and courts of cassation.

District and equivalent courts shall perform the role of courts of first instance and consider disputes on the merits. Certain specific categories of disputes fall under the jurisdiction of Specialized inter-district courts.

The role of courts of appeal is performed by regional courts and courts equivalent to them, which consider appeals against decisions of courts of first instance that have not entered into force.

The court of cassation instance is the Supreme Court of Kazakhstan, which considers applications for review of judicial acts that have entered into force.

As mentioned above, the norms of the Entrepreneurial Code include into the range of disputes recognized as “investment disputes” only disputes with participation of the investor itself, connected with investment activity and only those arising from contractual obligations.

The norms of procedural legislation provide for differentiation of jurisdiction of local courts to consider disputes with participation of investors depending on the essence of a dispute.

Thus, consideration of investment disputes has the jurisdiction of the Specialized Inter-district Economic Court of the city of Nur-Sultan. The same court has jurisdiction over disputes on claims of state bodies to foreign legal entities and their branches, as well as local legal entities controlled by foreign investors.<sup>14</sup>

As can be seen from the considered rules of jurisdiction, the legislation of Kazakhstan distinguishes the investor from legal entities established and/or controlled by foreign investors and does not establish a special jurisdiction for consideration of disputes on claims of such legal entities. At the same time on claims of state bodies to legal entities controlled by foreign investors the special jurisdiction is provided.

There is also no special jurisdiction for disputes involving investors not related to investment activities, as well as disputes to be considered in simplified proceedings. These disputes are considered by the district courts of general jurisdiction.

Norms of Article 102 (3) of the APC also establish a special jurisdiction for consideration of claims of investors on appeal of administrative acts of state bodies and officials and refer consideration of these disputes to the jurisdiction of the Specialized Inter-district Administrative Court of Nur-Sultan.

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<sup>14</sup> Art. 27 (1-2) of CPC



However, during the activity of the legal entity controlled by the investor, all administrative acts of state bodies and officials will refer to this legal entity, and not to the investor. The investor will not have sufficient procedural grounds to appeal administrative acts of state bodies. The procedure of appeal should be initiated by the legal entity in respect of which such administrative acts were made. In this case, the appeal will be made by the rules of general jurisdiction in the district courts.

The imperfection of the norms of procedural legislation has led to ambiguity in determining the jurisdiction of various disputes involving legal entities created or controlled by foreign investors.

In this regard, on February 03, 2017 the Supreme Court with the participation of state authorities held a round table on "Certain issues of the practice of consideration of investment disputes. Delimitation of their jurisdiction" as a result of which recommendations were elaborated to change the legislation regulating investments, including attributing to the investment disputes all disputes with participation of investors, which should be understood as legal entities controlled by foreign investors. As well as recommendations for specifying the jurisdiction of investment disputes. (Supreme court of Kazakhstan, 2017)

However, there is still a gap in the legal regulation of the jurisdiction of investment disputes.

Consideration of investment disputes by specialized courts is extremely important because the legal regulation of relations with investors has significant differences from the regulation of ordinary business activities and when considering investment disputes it is required to take into account the norms of international law, which is not always taken into account by courts of general jurisdiction.

At the same time, narrowing the range of legal relations falling under the concept of an investment dispute and limiting the jurisdiction of specialized courts to cases involving investors themselves and only those investors with whom the state has contractual obligations, creates obstacles to full-fledged qualified consideration of disputes that affect investors' rights, which leads to the initiation of arbitration proceedings in international arbitrations.

## **Conclusions and proposals**

As we can see, imperfection of the above norms leads to the situation when certain categories of disputes relating to investments are not qualified as such due to the fact that certain property types cannot be attributed to investments due to their incompliance with the notion "investment" or the content of a dispute does not meet the formal and legal criteria of the notion "investment dispute" as the litigant does not meet the requirements of the notion "investor" or there are no other grounds for qualifying this dispute as an investment dispute.

The qualification of such disputes as ordinary disputes of civil law nature excludes the possibility of settling these disputes under special procedures provided exclusively for investment disputes, as well as the consideration of these disputes under the rules of special jurisdiction by specialized courts.

As a result, insufficiently comprehensive and thorough consideration of disputes without regard to the fact that the dispute is an investment dispute leads to the initiation international arbitration proceedings by the investors.

To eliminate the above gaps in the law, it is advisable to bring the concept of "investment" in line with the norms of international treaties, by including in this concept all types of movable, immovable property, tangible and intangible assets and all types of investor rights used in investment activities in the host state, without any exceptions. It is also necessary to clarify the notion of "investment dispute" to mean all investment-related disputes, including claims of investors against government authorities, claims of government authorities against investors, as well as claims of legal entities with foreign participation in the share capital on investment-related disputes.

It is also necessary to formulate the exhaustive list of branches of law and the range of legal relations, which are not provided by the guarantees of invariability by the effect of stabilization norms.

On the contrary, as regards the stabilization norms of tax legislation, I believe that it is necessary not to fix the obligation to preserve the invariability of the tax regime according to strictly established criteria, but to give this norm flexibility by including a reference to the possibility of freezing the tax regime for investors if it is provided for by the terms of investment agreements.

The proposed amendments will make it possible to expand the range of legal relations regulated by special legislative norms and to bring under the jurisdiction of specialized courts all categories of investment-related disputes, untimely or improper settlement of which may result in investors' claims in international arbitration.

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## **“Issues of legal regulation of environmental safety in the production of minerals in the Republic of Kazakhstan”**

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### **Abstract**

The current legislative framework, an attractive investment climate, stable state support for the activities of subsoil users, the location of large transnational energy corporations in the oil and gas sector, allowed the country to ensure the industry and take a leading position among exporters of hydrocarbon raw materials. The research topic is very relevant and has indisputable practical significance. On the basis of a comprehensive and systematic study of the legislation of Kazakhstan and law enforcement practice, issues are disclosed concerning: characteristics of legislation on ensuring environmental safety in the production of hydrocarbons, principles, and methods of ensuring environmental safety; competence of state bodies in the field of subsoil users in the safe conduct of hydrocarbon production from an environmental point of view. The survey of the listed issues allowed us to come to specific recommendations. So, for example, ensuring environmental safety, as one of the key conditions for the survival of the state, presupposes the change of existing economic priorities to environmental ones in all aspects of state policy in the field of subsoil use. It is also noted that the formation of a responsible attitude of nature users to the environment should be systematic and can be ensured only as legislation improves and environmental culture is increased. At the same time, the thesis notes the negative aspects of the activities of subsoil users and the imperfection of the current environmental law in regulating the issues of environmental protection of subsoil use. This analysis is of scientific and practical importance, and the results of the research can be used in the activities of enterprises or be a kind of the impetus for the state and business in general.

### **1 Introduction**

Our natural resources are immense wealth. Paradoxical as it may seem, world experience shows that many countries possessing natural resources have not been able to properly dispose of them, and have not left the category of poor. The most dynamically developing countries of East Asia,

which lack natural resources. All this only once again emphasizes that the leading factor is the people themselves, their will, energy, perseverance, and knowledge.

The wealth of the subsoil is the property of all generations. In order for our country to achieve lofty goals, the 1st President of the Republic of Kazakhstan (hereinafter - the 1st President of KZ) - Nursultan Nazarbayev, determined the ways to achieve them back in 1997, having published the long-term development strategy of Kazakhstan "Kazakhstan - 2030". We are talking about the implementation of seven long-term priorities. In the context of this topic, it directly includes the health, education, and well-being of citizens of Kazakhstan, i.e. the task is to constantly improve the living conditions, health, education, and opportunities of all Kazakhstanis, to improve the ecological environment.

The next priority is national security. This is the development of a sense of patriotism and love for their country in all citizens of Kazakhstan. The new one - between personal and state interests - has not yet been formed. Fortunately, an understanding of community, the interests of people and the state is already maturing in the mass consciousness. And here the 1st President of KZ has no doubts that as the well-being of the people improves, it will only get stronger. This will accelerate the realization of such seemingly simple truths that the well-being of every citizen depends on the sovereignty and security of the state in which he lives.<sup>15</sup>

### **1.1 The relevance of research**

Today, human health depends to a greater extent on the purity of water, air, the quality of the food that he eats, and, accordingly, on the purity of the soil. Unfortunately, there was no information on the number of deaths in Kazakhstan due to the impact on the health of unfavorable environmental factors. Nevertheless, according to official figures, the average life expectancy of a Kazakhstani is 71.1 years. These indicators are much lower than in Russia, 105th place, while Kazakhstan occupies 111th place in the ranking. Evaluating these data with the indicators of other countries, we can say that the citizens of Kazakhstan, unfortunately, live 13 years less than the inhabitants of Japan, and 10 years less than those of Great Britain and Austria.<sup>16</sup>

Today, poor environmental conditions are the cause of 20% of deaths, and in some regions, the situation is even worse. A significant part of compatriots uses poor-quality drinking water. Malnutrition and malnutrition also lead to bad demographic consequences.<sup>17</sup>

Environmental, sanitary, and epidemiological services and standardization bodies should work in accordance with the priority of the set goals. It is necessary to put up a powerful and echeloned barrier for suppliers and manufacturers of low-quality food products, all those who pollute the environment.

### **1.2 Literature review**

The degree of scientific elaboration of the research topic. The problems determined by the topic of the thesis were the subject of special studies in the industry literature and were considered earlier in the works of D.L. Baydelilnov, S.D. Bekisheva, Y.A. Yezhov, Z.S. Yelyubaev, L.K.

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<sup>15</sup> Послание Президента страны народу Казахстана 1997 года "Казахстан – 2030 Процветание, безопасность и улучшение благосостояния всех казахстанцев" [Message of the President of the country to the people of Kazakhstan 1997: "Kazakhstan - 2030 Prosperity, security and improved well-being of all Kazakhstanis"].

<sup>16</sup> WORLDHEALTHRANKINGS. Kazakhstan: life expectancy. <https://www.worldlifeexpectancy.com/ru/kazakhstan-life-expectancy>.

<sup>17</sup> Message of the President of the country to the people of Kazakhstan 1997: "Kazakhstan - 2030 Prosperity, security and improved well-being of all Kazakhstanis.

Yerkinbaeva, and S.T. Kultelev, D.K. Mukanova , G.S. Sapargalieva, V.G. Fedtsova, V. Cherykh, and K.K. Shankhieva, as well as personal analysis.

### **1.3 The object of the thesis**

The object of the thesis is public relations developing in the field of legal regulation of environmental safety in oil and gas production.

### **1.4 The subject of the research**

The subject of the research is the provisions of the Constitution of the Republic of Kazakhstan (hereinafter - the Constitution of the Republic of Kazakhstan), civil, administrative, environmental, and other sectoral legislation governing the use and protection of the environment in oil and gas production, rule-making practice, statistical data reflecting the dynamics, structure and the state of environmental relations.

### **1.5 The theoretical basis of the thesis**

The theoretical basis of the thesis was the scientific works of domestic and foreign scientists in the field of environmental law, general theory, and oil and gas engineering.

### **1.6 Thesis outline**

In the Republic of Kazakhstan, since gaining independence, environmental legislation is being formed and improved every year.

With the adoption of the new Environmental Code of the Republic of Kazakhstan in 2021, the issues of legal support of environmental safety in oil and gas production, within the framework of the thesis, received a certain legislative consolidation. In particular, in fact, a new practice of concluding and enforcing the norms of law began to form. One of the main innovations is the introduction of the "pay and restore" principle. This will allow subsoil users to be more careful with natural resources.

The Republic of Kazakhstan has independent and very extensive legislation. Today, human health depends to a greater extent on the purity of water, air, the quality of the food that we eat, and, accordingly, on the purity of the soil.

The second chapter examines the system of legislation in the field of environmental safety, the concept, essence, and principles, as well as regulatory support of environmental safety in oil and gas production. In addition, the role and place of state-authorized bodies and the role of international normative acts in ensuring environmental safety have been determined.

The third chapter examines issues related to the legal aspects of ensuring environmental safety in oil and gas production. Issues related to general environmental requirements and environmental foundations for oil and gas production operations are considered. The provisions concerning the peculiarities of the protection of subsoil and the environment during the development of oil and gas fields are analyzed separately.

The fourth chapter is devoted to the issues of improving the state legal mechanism and the problems of legislation in the field of environmental protection and subsoil use.

The thesis explores and analyzes the development of environmental protection legislation in oil and gas production.

## **2 Legislation system of the Republic of Kazakhstan in the field of ensuring environmental security. Concept of environmental safety**

### **2.1 Types and features of regulatory legal acts regulating relations in the field of ensuring environmental safety**

The Constitution of the Republic of Kazakhstan contains a number of provisions that are the basis for regulating relations related to ensuring environmental safety. Thus, the goal of the state is to protect the environment favorable for human life and health. And also, on responsibility for concealment by officials of facts and circumstances that threaten the life and health of people, in accordance with the law, in accordance with article 31 of the Constitution of the Republic of Kazakhstan.<sup>4</sup>

Under the resource-based sources of environmental law, one should understand normative acts in which the object of legal regulation is a separate object of nature, a separate natural resource. These include the Land Code (hereinafter – the LC RK), the Water Code (hereinafter - the WC RK), the Forest Code (hereinafter – the FC RK), etc.<sup>7</sup>

The participants in regulated relations are individuals and legal entities, the state, as well as state bodies that carry out state regulation in the field of environmental protection and state administration in the field of the use of natural resources.

## **2.2 The role and place of state-authorized bodies in ensuring environmental safety**

Kazakhstan is a presidential republic. The origin of the term "republic" is associated with the people. Respublica est res populi (the state is a matter of the people). State power in the republic is exercised by elected and appointed representative and executive bodies (supreme and local).<sup>18</sup>

In conclusion of this subsection, relying on the above information, we see that the role and place of state authorized bodies in ensuring environmental safety takes a primary place in resolving issues related to ensuring environmental safety in the territory of the Republic of Kazakhstan. Thus, it can be said with confidence that each of these state authorized bodies differs from each other in the scope of their activities.

## **2.3 The role of international legal acts in ensuring environmental safety**

The economy of the post-Soviet states of the region is largely based on the production and export of hydrocarbons. As a result, the role of coastal regions in the economy of these states, the structure of national economies, as well as the living conditions of the region's population and the environment began to change.<sup>19</sup>

Anthropogenic factors of impact on the environment are intensified by natural phenomena inherent in this region, such as perennial, seasonal and short-term (surge) water level rise.<sup>20</sup>

In conclusion, I would like to mention that under the auspices of the UN there are global or regional intergovernmental environmental organizations in the field of environmental protection.

- UNESCO (United Nations educational, scientific and cultural organization);
- FAO (food and agriculture organization);
- WHO (World Health Organization) is directly related to the protection of human health, which is always associated with the environment;
- WMO (World Meteorological Organization) – an environmental functions are primarily related to global environmental monitoring.

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<sup>18</sup> G.S.Sapargaliev, Constitution of the Republic of Kazakhstan. Scientific and legal commentary - Almaty 2004 – page 8.

<sup>19</sup> Environmental aspects of the investment policy of the Eurasian Development Bank. - Almaty, February 2009 – page 30.

<sup>20</sup> Z.S. Yelyubaev, Subsoil use and law in the Republic of Kazakhstan: Scientific and practical guide. - Almaty: Complex, 2009 – page 90.

### **3 Legal aspects of ensuring environmental safety in oil and gas production**

#### **3.1 General environmental requirements and environmental basis for conducting oil and gas production operations**

At the beginning of the study of this issue, first of all, I would like to define the concept of "sustainable development of the Republic of Kazakhstan" through the prism of environmental legislation. So, according to the EC of the Republic of Kazakhstan, sustainable development is understood as:

- environmental protection and biodiversity conservation;
- developing sustainable production and consumption patterns;
- compliance of environmental regulation with the conditions of social and economic development, taking into account the state of the environment;
- ensuring publicity of measures taken in the field of environmental protection and others.<sup>21</sup>

Fulfillment of the listed requirements to ensure sustainable development of the state, in compliance with the provisions of environmental legislation, should be provided for in the activities of subsoil users and producers.

One of the unresolved issues is the determination of the measure and degree of responsibility for damage to the environment and the creation of a threat to the safety of life and health of the population. It is also necessary to clearly delineate the scope of authority of the MEGNR of the RK in matters of cancellation of environmental permits. A more rigorous approach to the issues of ensuring the safety of personnel employed at all stages of the life cycle. And no matter how we consider the RK EC to be perfect, it does not solve all the problems that exist in the field of environmental management. However, as noted above, the adoption of the new economic code is a major breakthrough in ensuring the environmental safety of not only people, but also the planet itself.

#### **3.2 Features of the protection of subsoil and the environment during the development of oil and gas fields**

Currently, gas condensate fields in the Republic of Kazakhstan are being developed without impact on the formation. According to the calculations of specialists, this can lead to significant losses of condensate in the bowels (up to 40% or more). The use of active methods for the development of gas condensate fields promises a significant increase in condensate production and a more complete extraction of it from the subsoil. Thus, in the coming years, it is necessary to take economic and technological expedient measures to influence gas condensate deposits.

Thus, the use of new methods of reservoir stimulation is the main way to increase the efficiency of using subsurface reserves, oil and gas fields. Meanwhile, the processes occurring in the bowels of gas fields during the implementation of new methods of stimulating the reservoir are still far from fully studied. Hence, it is obvious that a broad development of the methodology and practice of geological field research is necessary to understand new in-situ processes, to substantiate the effective implementation of these processes in various geological conditions and measures to protect the subsoil. And this activity should be regulated by more advanced legal and regulatory acts.

### **4 Issues of improvement of legislation**

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<sup>21</sup> Елюбаев Ж.С. Проблемы нормативного регулирования добычи, производства, хранения и транспортировки серы. – Алматы, 2009. [Z.S. Yelyubaev, Problems of normative regulation of extraction, production, storage and transportation of sulfur. - Almaty, 2009] – page 65.

Currently, there are a huge number of individual issues and problems in the oil and gas industry, which are somehow regulated or not regulated at all by national legislation. In general, the legislation of the Republic of Kazakhstan in the field of environmental protection is based on the Constitution of the Republic of Kazakhstan and consists of more than 10 legislative and 200 by-laws.<sup>22</sup>

Changes in the economic situation, the adoption of strategic documents for socio-economic development, the active participation of the Republic of Kazakhstan in international cooperation and the need for convergence with international standards pose us the task of deep analysis of the existing system of environmental protection, conceptual revision of the priorities of environmental policy and objectives of ensuring environmental.<sup>23</sup>

It should be noted that such frequent changes to the legislation give rise to more and more confusion in regulated relations, thus, the original meaning of these laws is lost. Thus, I would like to urge the legislative branch of government to take a more conservative approach when changing and supplementing new normative legal acts introduced into the legislation, as well as at the stage of their development.

## **Conclusion**

Summarizing the results of this study, we came to the following conclusions that the most acute and urgent problems that have developed in our state are the problems of legal support for environmental safety in oil and gas production, which is evidenced by the analysis of the legislative system, the concept, essence of principles and regulatory legal support environmental safety. The creation of legal levers for the correct interaction of man with nature, which presupposes the rational and efficient use of natural resources by man, the preservation of a favorable natural environment for man, is the essence of legal protection of nature. From a legal point of view, nature protection should be distinguished, on the one hand, as a measure to combat theft and illegal use of its objects, and on the other hand, as a protection from the irrational use of its resources in the process of economic activity, etc.

When resorting to such measures, one should not forget that frequent amendments to legislation create a favorable environment for “black holes and blunders” in the regulatory framework. Thus, one should more clearly and thoroughly approach the issues of improving national legislation.

And in turn, I would like to hope for further reasonable, transparent improvement of legislation in the field of environmental safety in the extraction of oil and gas, minerals in the Republic of Kazakhstan, because both the further prosperity of the state and the health of the nation as a whole depend on this.

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<sup>23</sup> Z.S. Yelyubaev, Subsoil use and law in the Republic of Kazakhstan: Scientific and practical guide. - Almaty: Complex, 2009 – page 87



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## COLLEGE OF SOCIAL SCIENCE

### “Queer migration in Kazakhstan”

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#### **Abstract**

‘Queer migration’ – when LGBTQ+ people move between countries in the long term – is a phenomenon observed and studied in several regions and contexts worldwide. While scholarship on LGBTQ+ themes in Kazakhstan and Central Asia is growing, examination of queer migration has thus far been overlooked. In response to this gap, this research aims to identify the motivating factors surrounding queer migration from Kazakhstan. It seeks to explore the ‘push’ factors that drive migrants and aspiring migrants from Kazakhstan, and the ‘pull’ factors that draw them to the countries or regions they have identified as their target destinations. I conducted in-depth, semi-structured qualitative interviews with 15 people in Almaty, Kazakhstan. Participants were recruited by snowballing from social or civil society connections and represented a broad spectrum, identifying as lesbian, gay, bisexual, asexual or queer and/or cisgender, trans or non-binary. All were aged 18 to 35 at time of interview and originate from Kazakhstan, from various ethnic, cultural and linguistic backgrounds.

At this stage, analysis is still ongoing and full results are not available; this paper is presented to satisfy legal requirements. However, the literary context is discussed here alongside the methodological approaches taken and the challenges of fieldwork in this context. Expected results are discussed briefly, showing that queer migrants and aspiring migrants in Kazakhstan share some motivations with their counterparts elsewhere in the world, but initial data shows they may differ in some ways. Full data analysis will reveal more.

#### **I . Introduction**

This paper will describe an ongoing research project which will form the basis of the author’s master’s thesis for the Erasmus Mundus joint degree in Central and East European, Russian and Eurasian Studies between the three above-noted universities. This paper is submitted in response to the Ministry of Education and Science of the Republic of Kazakhstan’s requirement to publish a related academic paper before a thesis can be submitted or defended and a degree granted. As such, this paper describes a project that is still in progress. It will therefore concentrate on the existing literature in this field, the methodology employed and will give only a brief overview of the project’s expected results and outcomes.

The project focuses on queer migration in Kazakhstan and aims to make an in-depth study of the motivations, aspirations and attitudes of LGBTQ+ people in Kazakhstan around queer migration. The project fieldwork has already been carried out, with fifteen interviews in English and Russian already undertaken. However, owing to significant delays from pandemic-related administrative problems and the efforts required to secure ethical approval amid a near-total fieldwork ban, the project’s timeline has been pushed to its limits and data analysis is ongoing at the time of writing.

The project’s primary focus is to identify the specific ‘push’ and ‘pull’ factors that push queer migrants in Kazakhstan to leave their home countries, and those that pull them to others. The relevance of these questions, their purpose and their situation in the broader migration, queer migration and Eurasian studies literature is discussed depth below. However, I believe that better understandings of queer migration offer opportunities to address inequality, discrimination and disadvantage faced by LGBTQ+ people both in their home countries and in migratory destinations. The study of queer migration and experiences of queer migrants present an important insight into marginalised lives and

raise the potential to (re)examine support around migration and press for change in destination country policies, which generally assume that all migrants are heterosexual (Luibhéid, 2008: 169).

This paper will first review the contextual literature in which the research was framed and the thesis will be set. There will then be a discussion of the methodology employed to carry out the research. Finally, a brief discussion of expected results and outcomes will be presented.

## **II. Literature Review**

Searches for relevant literature on queer migration in Kazakhstan or Central Asia tended to return studies on public health, HIV prevalence and spread, human trafficking and sexual risk behaviours in migrant communities. I was not able to locate any academic literature specifically and directly concerning queer migration in Kazakhstan or Central Asia. Whilst this lack did cause some concern in approaching this research, this is the gap that the project seeks to address. There does exist, however, a broader basis of literature, both academic and non-academic, which provides background and context in which this research can be sited. Examinations of queer migration in other contexts are widely available, notably in South America, Eastern Europe and, to a lesser extent, East and South-East Asia. While academic literature on sexualities and queerness in Central Asia is sparse, some is now beginning to appear which can be considered alongside the broader context of non-academic literature produced by local and international organisations including support groups, campaigns and large NGOs. There is also literature concerning sexualities both in the Soviet Union and the countries which succeeded it, though this focuses mainly on Russia and the European republics. This section will examine this literature in three parts: NGO and CSO reportage; academia on LGBTQ+ Central Asia; academia on sexual migration/queer migration.

### **NGO and CSO reportage**

The broad picture is not a good one with international groups describing the situation for LGBTQ+ people in Central Asia as a ‘climate of fear’ in Kazakhstan (HRW, 2015: 7) with extreme stigmatisation and invisibility (Amnesty, 2017:27). The picture is similar in the country’s neighbours, many of which share cultural traits, linguistic links, and similar historical trajectories in the Russian Empire and Soviet Union. In Kyrgyzstan sexual minorities face violence and extortion from strangers, acquaintances and public bodies (Amnesty, 2017: 31). In Uzbekistan, consensual sex between men remains illegal and is reportedly used by authorities not only to target sexual minorities but also as a form of repression and extortion for others too (ILGA, 2020: 139). In Turkmenistan too, consensual sex between men is criminalised and in 2019 the law was amended to increase the punishment from two years to five. Some reports suggest that prosecutions are rare, but there have been series of arrests reported as recently as 2020. (ILGA, 2020: 137). In Tajikistan, same-sex sexual relations are legal, but discrimination and violence against LGBTQ+ people is ‘common,’ and they often face abuse from the police (Freedom House, 2020). In 2017, the Ministry of Internal Affairs created a database of LGBTQ+ people to monitor them, ostensibly for HIV infection (Aripov, 2018), though many suspect the motives are more sinister.

Organisations and groups operating from inside the region paint a similar picture. Kyrgyz Indigo (2019) produced a lengthy and comprehensive report on the experiences of a small number of LGBTQ+ people from Turkmenistan which paints a brutal picture of repression and violence with ‘more and more people trying to leave the country every day,’ reporting that LGBTQ+ people’s desire to leave is based upon economic factors as well as repression and persecution (2019: 19). In Kyrgyzstan, the same group (2020) also pointed out in a recent report on LGBTQ+ inclusion in the Sustainable Development Goals in the country that due to problems of harassment and victimisation, ‘many LGBT+ people leave the country in search of a better and more dignified life’ (2020: 23). Media output from organisations in countries in Central Asia, including Kazakhstan, provides less in

the way of formal reporting and less examination of the topic of migration though it is quite clear from the websites and social media channels of groups such as Labrys (Kyrgyzstan) Amanbol, Kok.Team, and Feminita (Kazakhstan) that the picture of LGBTQ+ lives and activism is a difficult and nuanced one.

### **Academia on LGBTQ+ Central Asia**

Turning to literature directly examining Kazakhstan and the wider region of Central Asia, I have been unable to locate any academic work on sexual migration. Works concerning LGBTQ+ lives or queer topics in the region are less sparse, but there are still relatively few academic papers as compared to other regions, something highlighted in some studies. Papers in this category, whilst not directly providing exact points of reference for this project, are still useful in providing background on the social and cultural situation.

Though dating from 2013, Latypov et al. sought to address the lack of scholarship in the area by providing a ‘commentary on the social, historical and HIV contexts affecting men who have sex with men in Central Asia’ (52) which, despite its male-centric and public health focus, gives significant historical and cultural background as well as references to other relevant works. Like other literature considered here, Latypov et al. do not address sexual migration. Their public-health and HIV focus is also worth highlighting as much of the literature concerning LGBTQ+ topics in Central Asia and elsewhere also views people through such a lens. No one, of course, could argue that HIV prevention is not key to reducing prevalence in at-risk communities like MSMs, but such a focus is at least interesting, in light of the authors’ own observation that the ‘key driving force of HIV transmission in Eastern Europe and Central Asia’ remains the sharing of unsterilised drug-injecting equipment (2013: 52) and not sex between men. There are several papers available from a wide variety of sources examining general and labour migration from Central Asia, mainly to Russia, and often covering sexual health and sexuality. Notable among these is Rochava and Varshaver (2017), providing insight into gendered aspects of the phenomenon, and El-Bassel et al.’s (2016) study of HIV risk among male migrant workers. Among a dozen or so considered, I found no papers in this field with any meaningful mention of LGBTQ+ themes or same-sex sexualities, though I accept some may exist and were not found.

Another notable and recent exception to the sparsity on works about Central Asia is Shoshanova’s (2021) article which examines queer identities in contemporary Kazakhstani art. While it does not focus on migration, it is useful and informative in the sense that Shoshanova describes the social and cultural milieu of contemporary urban Kazakhstan and its arts scene, providing an examination of the intersection of queerness and national identities. There is also some exploration of the social and governmental barriers faced by artists and activists from sexual minorities which provides useful insight for this study.

A recent (2021) study from Gulevich et al. on the prediction of attitudes towards LGBTQ+ people in three countries in the former Soviet space looked to also prove useful. However, even though the article examines Kazakhstan, its analysis is mainly a statistical one advancing a model of attitude prediction, which does not offer a view of the roots and effects of such attitudes that would assist this paper. Some works addressing other countries in Central Asia nevertheless proved useful in providing context for this research and its planning. Among them, Ibragimov and Wong’s (2018) study of the enactment of stigma towards gay and bisexual men in Tajikistan provides a nuanced view of the prejudices faced by certain sexual minorities. It pays only passing attention to queer migration, but provides some quantitative basis for assessment of societal stigmas in Central Asia from its examination of, among others, post-Soviet and religious-based stigmas. Similarly, Wilkinson and Kirey’s (2010) study on young non-heterosexual and transgender people and their approaches to identification and identities provided useful insight. Similarly, Suyarkulova (2019) provides a useful

framework for approaching the use and translation of the word *queer/квир* and its differing connotations in English in and Russian. Both papers, particularly the discussion of self-labelling and rejection of certain identities, assisted in guiding ethical approaches to this work

### **Academia on sexual migration/queer migration**

It would be quite possible to consume the entire word limit for this paper discussing the theoretical development of concepts of queer migration and sexual migration, as well as ongoing debates. However, a brief overview is called for. The terms ‘sexual migration’ and ‘queer migration’ have existed separately and together for some time, with the former probably emerging from AIDS-focused public health literature in the 1990s (Manalansan, 2006: 226), with some (e.g. Carrillo, 2004) crediting the term’s development to Parker (1997) and Cantú (1999). Carrillo (2004: 59) defined it as ‘international relocation that is motivated, directly or indirectly, by [migrants’] sexuality.’ While this term can include heterosexual sexualities and cisgender identities, and a number of studies have examined those, these authors focused on men who have sex with men and arguably began carving this out as a specific field of study in its own right. Queer migration appears to have come to prominence later with authors such as Luibhéid (2008) particularly prominent in its discussion. Concrete definitions of queer migration are harder to come by in literature and, for example, summarising Luibhéid’s (2008) explanation of the field in terms of its multiple intersectionalities and contexts would take several paragraphs. Inherent in the concept as discussed above, and particularly by Luibhéid (2008) and Carrillo (2004), is that it need not focus solely on sexualities and identities however not all scholars agree. Gorman-Murray (2009), for example, argues that ‘queer migration’ only occurs when sexuality is the main motivating factor.

However, in the context of this project, the definition is purposely loose and encompasses planned or realised international relocation by queer people; that is, those who identify as lesbian, gay, bisexual, trans, queer or any other non-heterosexual sexual orientation or non-cisgender identity.

While, as discussed, no literature on queer migration in Central Asia or Kazakhstan was found, a number of other studies in the field informed the planning and execution of this project. In addition to its discussion of definitions and its primary content on case studies of sexual migration from South America and the Philippines to the USA, Carrillo (2004) also provides an excellent literature review of sexual/queer migration, which proved useful in locating a wider sexual migration literature from which to identify a ‘Central Asian gap.’ Likewise, he highlights a research gap on its cultural impacts on points of origin, which informed my conceptualisation of this project. Mai and King (2009) called for a sexual and emotional ‘turn’ in migration studies to acknowledge the impact of emotion, sex and love upon the motivations of all those who migrate, calling on scholars to consider these factors alongside more mainstream academic focuses. They suggest that previous general migration scholarship has impressed factors such as economics, politics or geography onto migrant stories from the academic side, ignoring the emotional and experiential factors. This conception influenced, at least in part, my decision to concentrate on the full picture of motivation of *voluntary* migrants in the thesis.

Taking a similar viewpoint, and perhaps more relevant to a Central Asian context than much of the American literature is the Intimate Migrations project reported in Stella et al., (2016); Stella et al., (2017), and Stella and Cuthbert, (2017), which examined experiences of LGBT migrants coming from Central and Eastern Europe and the former Soviet Union (2016). Given the post-Soviet and post-Communist context shared with Central Asia, this informed the construction of my interviews and which themes I expected. In particular, the pursuit of ‘normality’ as an impetus for migration, as well as the deep and nuanced mixture of economic, social and aspirational motivations that ran alongside and intersected with all participants’ sexualities and gender identities.

Though no queer migration literature comes from Central Asia, there are a wide number of studies concerning Asia more broadly, some of which influenced this research. Yu (2020), for

example, provides a deep and fascinating ethnography of queer Chinese-Malaysian students in Taiwan and reveals a complex picture of ethnicity, prejudice, culture and aspiration. It considers clashes of ethnic and sexual identities and how these change after a period abroad – a highly relevant topic in ethnically diverse Kazakhstan. Notably, Yu includes a wide variety of sexualities and gender identities, something lacking in several of the other available papers, and something I have tried to replicate.

Baas (2018) examines the temporality of gay Indian migrant workers in Singapore, in the context of moving from one conservative society to another while making use of ties of ethnicity and language. This is highly relevant to labour migration in Kazakhstan and the CIS and influenced my approaches to questions about destination choice. Kam's (2020) study of queer Chinese women in Australia unusually includes participants who have returned from migration influenced my decision to include such migrants in this study.

### **III. Research methodology**

The study adopted a qualitative approach, due to qualitative methods' disposition to offer 'an inductive view of the relationship between theory and research,' which matches this project's aim of uncovering the motivations behind the phenomenon rather than seeking to prove a theory. It also generally suits the interpretivist and constructionist positions inherent in the research. These are appropriate to the project's aims in that they enable 'understanding of the social world through an examination of the interpretation of that world by its participants' and supports the exploration of social phenomena and properties as outcomes of social interaction rather than standalone, abstract phenomena (Bryman, 2012: 380). These principles are key for me in a project such as this, where I aimed to capture the phenomenon in question - queer migration - through the eyes of those who are part of it: the participants. Lofland & Lofland, (1995: 16, in Bryman 2012: 399) underscore this importance by laying out the central tenets of qualitative research epistemology as human interaction being key to understanding the mind of another, and that doing so is essential for the acquisition of social knowledge.

In line with this approach, the principal method selected for this thesis was qualitative interviewing. Semi-structured qualitative interviews were carried out with LGBTQ+ people originating from Kazakhstan. Interviews are appropriate because they are not just a means of transfer of knowledge but are in themselves 'knowledge producing' (Brinkmann, 2018: 583) in that the interaction in itself, and the ability of the interviewer to probe further allow for deeper knowledge to be gained than other methods. I selected interviewing over other methods, such as surveying, because they are 'not neutral tools of data gathering, but rather active interactions' (Fontana & Frey, 2005: 698). Particularly in the context of sexualities, a mutuality between interviewer and interviewee can allow for a more honest and open exchange of information (Kong et al., 2011). I elected to conduct semi-structured interviews in particular because they allow both me and the interviewee to be more flexible and open-minded about the content of the interview and the issues talked about (Bryman, 2012: 12). In short, they allow the interviewee to talk about what is important to them but also allow me to guide them back to topic and to explore the themes relevant to the research questions. This is in line with the inductive approach above, and matches the project's aims and methodology well.

An interview guide was prepared in advance, which listed general topics to be covered. Whilst I did not conduct fully unstructured interviews, I did still wish to be guided by my interviewees and took great care not to steer them toward talking what *I* think about migration. For this reason, the interview guide left questions as open as possible and avoided guiding respondents towards my own preconceptions (Bryman, 2012: 473). While discussing sensitive topics, I was aware of the need to form trust and rapport with the interviewees. It is also accepted that the way in which both parties participate in the interview may be affected by this rapport and interpersonal relationship but doing



so openly and ethically can enhance the process and the honesty of the interview content (Kong et al., 2011). Though I conducted myself fairly and ethically, a degree of solidarity and trust is required in encouraging queer people to speak openly about their sexuality and this appropriate proximity with interviewees can benefit the research process (Kong et al., 2011). I believe I achieved this balance. I am aware that as a person from outside Kazakhstan, I bring my own set of biases, assumptions and privileges I interact with participants. I remained as aware as I could of these and took steps such as discussing my understanding of concepts, and discussing coding and analysis with the interviewees, to ensure I properly understood and did not impose my own views and beliefs.

### Fieldwork and respondents

All interviews took place in Almaty, Kazakhstan in August and September of 2021. They were audio recorded, and I transcribed them myself. Fifteen interviews were conducted with 15 participants: two wholly in Russian, and the remainder either wholly in English or in a mixture of both languages. My lack of Kazakh language skills meant I was unable to conduct interviews with people who do not speak either Russian or English. It is accepted that this may affect outcomes, but this will be acknowledged and discussed with the final results. Nevertheless, the project has still produced insights not present elsewhere, despite this limitation.

Table 1: Research participants

Gender and/or gender identity (self-described) <sup>1</sup>		Sexual orientation (self-described)		Age group	
Man	8	Gay	7	18-25	8
Woman	3	Lesbian	2	26-35	7
Non-binary	4	Asexual	2		
Trans or questioning gender identity	2	Bisexual	2		
		Pansexual	1		
		Not disclosed	1		

<sup>1</sup> Respondents were invited to describe their gender and/or gender identity as they wanted to be identified in the research. Total is more than 15 as some identified with multiple terms, e.g. trans *and* man.

<sup>2</sup> Category 26-35 includes two who did not specify their exact age but provided a range, e.g. ‘I’m over 30.’

Table 1 shows research participants by gender and/or gender identity, sexual orientation, and age group, data which were self-reported without any prompt provided. I have elected not to disclose the ethnic composition of the group as I believe this might provide a level of specificity that could lead to identification of individual participants. However, the spread of participants did broadly reflect the ethnic makeup of Kazakhstan, with Kazakhs, Russians and at least three other ethnic groups (including those describing themselves as coming from a combination of ethnicities) present in the group in proportions reflective of society at large. Most lived in Almaty, the country’s largest city, and levels of education ranged from high school to masters-level. Recruitment was carried out by respondent-driven snowball sampling, starting from informal social groups and contacts I have made in Almaty. From here, initial participants were asked to invite acquaintances who meet the criteria to voluntarily contact me. Snowball sampling’s tendency to produce samples of people with wide social connections and to focus on smaller groups is well-discussed in literature and noted here. However, it has noted benefits in recruiting groups that are ‘hard to reach’ by other means, which I believe justifies

its use here (Bryman, 2012: 203, 424; Johnston & Sabin, 2010: 38-9). A bias towards cisgender gay men was evident in the initial respondents recruited from personal contacts, however the group did widen out as the process continued. On average, each initial participant assisted in recruiting one more, and by the end of the fieldwork phase there were more participants willing to participate than I had time to interview. All participants were under 35 years old. Efforts were made to recruit from other age groups, but this proved extremely difficult, perhaps raising questions around the ages at which queer migration is considered or enacted in Kazakhstan that could be explored in future.

Participants were invited on the basis that they were over 18 years old (a requirement of the ethical approval process), and self-identified as lesbian, gay, bisexual, queer or any other non-heterosexual orientation, or whose gender identity is not that assigned at birth, or any combination of these. Participants were welcome to decline to specify which of these identities they held, so long as they could confirm that at least one applied. Further, the invited participants had all considered undertaking queer migration, even if they themselves would not use that term, and even if they had decided against doing so or were undecided. The project did not seek (and did not find) a representative sample of LGBTQ+ people, evenly distributed across the country. Instead, it explores a deep and nuanced, qualitative insight of this small group.

### **Analysis**

As explained above, coding and analysis are in progress. However, I will present a brief explanation of how I plan to analyse the data. I intend to approach analysis with at least elements of grounded theory in mind, but because of this project's limited scope, and because grounded theory courts some controversy (Bryman, 2012) I cannot say that the analysis will fully embrace grounded theory. I do not intend to embark on a long-winded explanation of theoretical basis and practicalities here but I will explain how I envision this choice using concepts from the theory (*italicised*). To the extent that is possible in a work of this type, I have tried to employ *theoretical sampling* to some degree by deriving theory mainly from the data – and earlier interviews did indeed influence the topics raised in subsequent interviews. Further, *coding* is a 'key process in grounded theory' (Bryman, 2012, p.568) and I am deriving the codes from the emerging data rather than fitting it into preconceived categories. In doing so, I am attempted to maintain *constant comparison* but due to scale and time constraints, it is unlikely that *theoretical saturation* will be reached.

Coding and analysis are being carried out electronically using software. As part of this process, *concepts* are identified and grouped into *categories* via *constant comparison*. Many practitioners would call at this point to continue until *saturation* (Bryman, 2012: 571) but this will not be possible due to time constraints in this case. Following this, I will explore and compare the categories and their relationships, and form *hypotheses*. Again, due to the constraint of time it is unlikely that I can allow this to guide me to new data sources, but I can revisit existing data and potentially return to interviewees for follow-up. It is here that I must depart from the more formal path of grounded theory, in that I will not be able to verify hypotheses with further data from other settings, and will instead compare the generated theory with those in existing literature concerning other contexts.

### **IV. Results and general discussion**

As explained above, at the time of writing, fieldwork is complete but structured analysis of data is ongoing and full results are not yet available. While it may seem strange to present a paper without results, this is a compulsory step in Kazakhstan and must be completed before a thesis can be defended and, thus, before a student of a joint programme such as mine can progress. Compressed timelines due to the pandemic make it necessary to present this paper now and so this regrettably brief summary serves as something of a preview for the later paper.

The raw data appears to show that the Kazakhstani queer migrants and aspiring queer migrants interviewed in this project share a number of similarities with their counterparts abroad, but are also distinguished by some context-specific issues that come forward from their interviews. The smaller group size and in-depth, pre-migration nature of many of the interviews also allowed for these issues to be discussed in detail, and an example of these nuanced views is presented below. Further, the participants do appear to differ significantly from the general population of outward migrants from Kazakhstan more generally. Finally, the project has raised a number of questions that are worthy of further study – both on a Kazakhstani level, but also in the broader field of queer migration studies. I will discuss each of these outcomes in turn.

On questions of ‘push’ factors – that is, motivations to leave Kazakhstan – most respondents in this research primarily discussed economic factors, such as poor job prospects in Kazakhstan, an economy perceived to be failing, poor working conditions and unenforced workers rights. This is broadly reflective of the patterns in other queer migration studies cited above, including Baas (2018), Kam (2020) and Stella et al. (2016) and are also common factors in general outward migration from Kazakhstan (Osipova, 2021; IOM, 2019). For most (but not all) participants, their sexuality or gender identity was not identified as the primary motivating factor for migration, but played a significant part in that these broader issues were viewed through a ‘queer lens’ not shared by non-queer migrants. For example, a number of respondents discussed the inability to excel or advance in homophobic or transphobic working environments. Others discussed public sector corruption – another theme common motivating general migration (Osipova, 2021) but through their queer lens, some saw the additional threat of blackmail based on their queerness as well as the threat their sexualities and gender identities could pose to family members in business or public life if revealed.

An example of a particularly context-specific motivating factor was the fear instilled by compulsory military service. Some, particularly women, were exempt from having to serve but among all but one of those eligible, the fear of homophobic or transphobic bullying was enough to drive them to seek migratory routes as early as possible and, in one case with specific complicating factors, by asylum or irregular migration if necessary.

Education was often referenced in terms of both push and pull: the low quality and lack of international recognition of higher education in Kazakhstan was mentioned by several as a factor pushing them to study abroad, while the high quality of education abroad was cited by several as a pull factor. The low (or, indeed, no) cost of study in some European countries made them attractive destinations for some, particularly Germany and Czechia in this context. Education was seen by several as not just a motivation for migration but at the same time a potential pathway to more permanent migration in countries where work and residency can be found after graduation. Such outcomes would also be expected among non-queer migrants (Osipova, 2021; IOM, 2019) but the participants approaches once again come with a queer twist. A number of participants who were either seeking education abroad or had returned after graduation explained the particular draw of queer-friendly universities with safe facilities, clubs and societies where they could find and enjoy the kind of ‘normality’ Stella et al. (2016) and Yu’s (2020) respondents also sought outside their homeland.

Stressing once again that analysis is ongoing, there may be reason to believe that queer migrants in Kazakhstan might buck two trends observable among non-queer migrants, in terms of ethnicity and destination. The recent analysis by Osipova (2021) of emigration trends from Kazakhstan, based on official statistics, suggests that the vast majority of emigrants in recent years are ethnic Russians. However, in my research there was no such observable distinction in terms of ethnicity of those who wanted to migrate. Of course, my sample size was small and this research did not produce quantitative data of the same type for comparison; further analysis would be required if one wished to theorise, for example, that queer people’s experiences are so different as to reverse such a trend across the board. Nevertheless, it does present the possibility that sexuality and gender identity do influence

migratory aspiration enough to increase the desire to leave among groups at particular intersections of ethnicity and queerness. This will be explored further in the final paper. Secondly, comparison with Osipova's (2021) work also invites questions around destination, with 88% of emigrants from Kazakhstan heading for Russia but the vast majority of participants in this study rejecting such a notion out of hand. Once again, there are a number of potential explanations for this, such as aspiration for an ideal destination not necessarily leading to realisation, or a deterrent effect of Russia's homophobic reputation and legal obstacles for queer people. This too will be explored once data analysis is complete.

Finally, in addition to those points meriting further study already noted above, a number of more general questions not specific to Kazakhstan emerged from the research. In particular, I noted that most aspiring migrants had an ideal destination country in mind and could articulate their well-researched basis for why that country would suit their purposes particularly and may be achievable. Most also accepted that their journey may end in a different destination or indeed never start at all, but they had nevertheless settled on an ideal. However, most participants could not at first elucidate on when, why and how they had come to that decision. There is little research on such decisions in the wider literature and there was not enough time to explore it during this study. I intend to pursue this question and others in my future studies.

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## **“Exploring the Dynamics Between Non-State Cinema, Audiences, and the Future of the Industry: Contemporary Kazakhstani Independent Arthouse Cinema from the Perspectives of the Filmmakers”**

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### **Abstract**

Recently, the Kazakhstani film industry as a whole has been experiencing many significant changes. Rising numbers of independent and arthouse filmmakers are financed by the government with fewer restrictions and now the government supports greater competition amongst film companies and individuals.

Yet, there continues to exist a complex inter-relationship between auteur filmmakers, the commercial film and state establishments of Kazakhstan, and the domestic viewing audience. This research sought to gain insight into two categories: 1) Where is the Kazakhstani film industry (particularly arthouse and independent) today? 2) What is the current relationship between the different sub-categories and with the Kazakh audiences, from the viewpoints of filmmakers and industry professionals?

The ongoing research consists of qualitative, semi-structured interviews with Kazakhstani filmmakers and industry professionals. Participants were selected via the snowballing method stemming from contacts suggested by the researcher's supervisor. Interviews are currently being analyzed, however early results suggest that audiences are becoming interested in Kazakh arthouse, but this may be a result of the growing international accolades these films are receiving. Additionally, there remain sentiments that the Kazakhstan government, though beginning to make themselves available, are still not doing enough to assist in auteur and independent filmmaking -- especially financial support.

This research provides both updated survey of the Kazakhstani film industry, and new developments upon which future scholarship can examine. Despite the promising changes in landscape, the filmmakers still see problems in changing the attitudes of the Kazakhstani audiences, and reinforcing their newfound relationship with the Kazakh state regarding financing.

### **I . Introduction**

#### **Problem Statement**

The generation of filmmakers born in Kazakhstan during the 1960s would grow up to form the Kazakh New Wave of the 80s and 90s, making provocative films during the leadup to Soviet dissolution and Kazakhstan's independence. What of the generation of filmmakers born during the New Wave that grew up on their works and legacy? As a forerunner of the new generation, Adilkhan Yerzhanov articulated, per Rico Isaacs' 2018 book *Film and Identity in Kazakhstan*: “Kazakh New Wave' have become conservative, 'right wing and make films that follow the politics of the state'.

...they have become co-opted by the government” (pg. 234-5). So there exists not just a divergence between generations of filmmakers, but a rejection.

A subgroup has emerged within the new guard, making films that renounce the establishment co-opting. Stylistically and substantively serious films not made for profit/commercialism and unconcerned with mass appeal/approval – arthouse cinema. In her contributing chapter for the book 2013 *Cinema in Central Asia: Rewriting Cultural Histories*, Zvonkine writes:

But can we really speak of a movement here? Most of them refuse the name of ‘New New Wave’, even though several young directors claim common aesthetic positions and interests. It is not useful to force them into a group that they themselves do not feel exists [...] The first words of their motto are worthwhile remembering: ‘Nobody sees us, nobody hears us, but we do exist.’ Today, these films are ‘seen’ and ‘heard’” (pg. 183)

Consequently, these auteur filmmakers defy the state, and produce arthouse cinema on minimal to no-budget or only through alternative sources of funding to capture stories of human struggle in Kazakhstan that are gaining international attention, but which most Kazakhs will not see.

### **Research Question(s)**

A study presented in Isaacs’ book finds that average Kazakh audiences are still largely lukewarm to arthouse: “[...] the people whose lives the film sought to represent would not be interested in seeing these types of films and would perhaps prefer the escapist films that Yerzhanov and Abishev have rallied against [...]” (Isaacs, 2018, p. 220). On the rare occasions when Kazakh arthouse is screened domestically to the general public, there is a discomforted reaction because of how bluntly relatable or because of how metaphorically abstract the content is. But as Isaacs points out:

Yerzhanov has spoken of the country not possessing the ‘culture of the viewer,’ but he has also gone further in suggesting that he has ‘no concept of the audience’. What he is interested in, therefore, is making films that correspond to his own vision and interpretation of society [...] He is interested in constructing his own original cinematic language. It is a language which within its text offers a critique of the social reality of ordinary lives, but does so by expressing the absurdity of the current political and economic system. However, that there is such a limited distribution of the films brings to light the partial reach of their scope in shaping domestic attitudes [...] The reaction of Kazakhfilm and the Ministry of Culture to the work of Yerzhanov also demonstrated that even if film does provide a space for dissent [...] and the state is unable to control the production of such narratives, it can and does control and limit official domestic distribution, although not informal online distribution (Isaacs, 2018, p. 221)

If these filmmakers are steadfast in their convictions, and aware of the lack of support from the state and the domestic public, why continue to make these films? What motivates these filmmakers and what enables them to continue quality film art if the domestic signals in the background suggest that they should stop? Even films made with no regard for an audience exist to serve some broader purpose. This is confirmed by the efforts of Yerzhanov and his peers successfully entering international film festivals. And notably, the dissemination of these arthouse films abroad has not been suppressed by the state. So, if the state is continuing to deliberately suffocate the means of domestic distribution, why continue to make these types of films? If local audiences still are uninterested in viewing these types of films, for whom are these filmmakers now making their films for? And most importantly: what do these auteur filmmakers envision for the future of the Kazakh arthouse cinema, and how do they propose to overcome the dilemma of distribution and audience interest, if at all?

### **Justification**

While there is some literature examining modern art/independent Kazakh filmmakers and their works, this literature is usually examining the beliefs of the authors and the content of their works in

context of advancing some larger concept such as national identity or memory politics. However, less research has been undertaken to solely and strictly examine the attitudes of the creatives in crafting products with respect to the state and the audience. And more so, trying to ascertain how these authors are adjusting their own artistry with consideration of the future of their country and their industry.

Arthouse filmmakers are capturing what they argue are de-sanitized, real depictions of Kazakhstan. An interview Yerzhanov provided to Isaacs for his book details this further:

'Kazakh cinema has long been bourgeois. A bourgeois philosophy involves reconciliation with reality, so-called escapism – when eyes are shut to the shortcomings of contemporary society. By saying only those things that are allowed and do not affect anyone, so in Kazakhstan people are trying to produce melodrama or a historical film... I believe that to turn a blind eye to this problem and not to take on this movie is a crime.'[...] Yerzhanov explicitly sets out to confront the status quo in cinematic terms...instead offering up his interpretation of the reality of everyday lives of Kazakh citizens (Isaacs, 2018, p. 213)

By trying to preserve their ideal image, the state is inadvertently sending the works abroad to international attention and acclaim. While the average Kazakh citizen might not see their country's blemishes on the silver screen, foreign cultural elites have and are.

Conversely, these narrative dramas are seeking to reflect some ongoing, present imperfection. Right now, it seems that the power of advocacy in these alternatively financed micro-budget/guerilla-style arthouse films lies in its consumption by foreign elites. If this remains the case, then these government-subversive arthouse films have proven to be a surprisingly potent, albeit in unexpected ways, battlefield for determining the next steps in Kazakhstan's ongoing social development. And as such, it merits a closer study.

## II. Literature Review

There is not a large volume of pre-existing literature devoted to this topic of independent/non-state Kazakh arthouse cinema, especially when looking at contemporary independent Kazakh cinema. Yet, overall the film and entertainment industries continue to grow, as Rico Isaacs acknowledges in his article *Nomads, Warriors and Bureaucrats: Nation-building and Film in Post-Soviet Kazakhstan*: "Given 2012 broke box office records for Kazakh films in domestic cinemas, we can at the very least conclude that Kazakh cinema is on an upward trajectory in terms of the finances being invested and the importance it holds for both government agencies and independent studios in terms of furthering cultural development and offering a forum for broad debates and imaginaries regarding notions of nationhood and identity" (Isaacs, 2015, p. 403-4). However, the primary English-language scholarly texts that do acknowledge or concern themselves with contemporary Kazakh cinema do so within a larger framework such as trying to examine post-Soviet Kazakhstani identity formation and nationhood.

From this limited body of work on contemporary Kazakh independent art cinema, academics and historians such as Zvonkine and Isaacs have best identified the artist-state dichotomy via previously compiled surveys and interviews translated and synthesized. Zvonkine has shown light to the growing number of Kazakh independent filmmakers are attaining accolades and success disseminating their works and message abroad. As Knox-Voina states in her article *The Kazakh New "New" Wave*: "These are people who reject a reality that everyone else blindly accepts. They reject a system created by other people, an actuality that has no meaning for them" (Knox-Voina, 2010, p. 198). Their work helped identify the ongoing socio-cultural discourse and dilemma between globally successful, independent content creators and the state which is usually the subject of their content.

Based on the potential conclusions provided by the previous literature devoted to the topic there emerges a few concepts which, in place of the body of directly related material, can tangentially be compounded upon. First, examining alternatives to independent film distribution when auteurs are



uninterested or looking beyond domestic audiences – in particular the implications and recourses of global film distribution and finance and circulation in the internet era. And lastly, cosmopolitanism and film culture in a globalized world.

Furthermore, the internet age, and the generations that have grown up using it are in immense positions to be civil activists, or begin entering government. Per Conway's 2004 article *Digital Video, Microcinema, and the Rhetoric of Media Democratization*:

The ease with which filmmakers can upload their films to the Internet, though, leads to a situation where sheer quantity becomes an obstacle for viewers trying to find anything of quality, whatever their definition of 'quality.' This proliferation of films, Walker contends, has led to a somewhat paradoxical (and not all bad) redefinition of 'success': while many people find many of the films boring or unwatchable, filmmakers have the luxury of not having to measure success by the size of the audience they reach but by their ability to reach a select, niche audience of their own design. (p. 45)

Therefore, if these independent arthouse filmmakers are seeking to use their works to promote social change, the internet is a great asset they could utilize further. The question is whether these filmmakers subscribe to this potential or not. Most pervasive is Labayan and Souto's 2017 exploration of film activism and art collective spearheaded by Helena Lumbreras during Francoist Spain.

Critics have noted the effect of film collectives on the production and circulation of militant cinema in the 1960s and 1970s in countries including France, Italy, Sweden, Denmark, Belgium, and Greece. Lumbreras's cinematic work, both with and without the CCC [Colectivo de Cine de Clase], went beyond the films themselves and sought to establish a network between film-makers, the films' subjects, and civil society. Building this network implied working and collaborating outside the legal framework of late Francoism, and included those who assisted with production, projection, and distribution in myriad forms, from the supply of information and technical materials to arranging screenings in unofficial venues. Within the shifting legal framework of the time, the collective's production was precarious, and the films could not be legally screened in national exhibition spaces. (p. 339)

While it is difficult to quantify how much of a role the CCC had in dismantling the Francoist regime, scholastic analyses of these film collectives provide a robust alternative view to how independent cinematic movements can operate and thrive. While the overall compatibility of this historical film movement upon developments in Kazakhstan remains to be seen, the so-called "Partisan film" movement in Kazakhstan presents an opportunity.

The last node of research literature concerns cosmopolitanism and film culture in a globalized world. The consumption of films domestic and foreign, becomes one of cross-cultural and cross-ideological exchange. In his article, *What Do We Really Know About Film Audiences?* Christie cites the supposed "Britishness" of films made or featuring the UK (Christie, 2012, p. 227), but the same metric can be applied to Kazakhstani films, especially the demarcation between state and independent Kazakh film and its content portrayals of "Kazakhness." The supposed rejection of the independent art cinema by the public suggests an aversion to precisely how they are depicted.

Also of note is the role of international organizations or entities belonging to hegemonic/polar states in shaping and influencing the production of independent cinema. Christina Klein's entry *Public Culture* examines the history of post-Korean War cinema and its subsequent fostering of a "public culture":

Arjun Appadurai and Carol Breckenridge coined the term *public culture* to characterize the arena in which this happens and to call attention to the diversity of players, which include mass media industries, the state, and individual cultural producers. Their concept of public culture makes room for a critical engagement with consumption as a powerful imaginative act, one that can expand the horizons of possibility with sometimes emancipatory effects. It also makes room for foreign actors,

who often exert an outside influence in postcolonial societies. Public cultures outside the West thus frequently become incubators of what Appadurai and Breckenridge call a ‘new cosmopolitanism,’ as national, transnational, mass, and folk cultures interact with and cannibalize each other. (Klein, 2020, p. 56)

In the dictatorial republics of Korea, the revitalization of its cinema industry was greatly aided by the intervention of Hollywood, Japanese, foreign industries, as well as foreign-based organizations such as The Asia Foundation actively investing in the development of this cinematic industry in post-war Korea. With foundations such as the Soros Foundation being active sources of independent film financing in Kazakhstan, subsequent research would seek to identify and ascertain how much overlap exists with these parallels from the bottom-up perspective.

### **III. Research methodology**

The research is conforming to a descriptive, exploratory study design because, given the ongoing developments of contemporary Kazakhstan’s society and media, any input gained from industry professionals or local, reputable career critics would be descriptive. To start, independent arthouse cinema will be a summation of two definitions. First, independent cinema: “is any type of filmmaking that takes place outside the mainstream commercial film industry or films or filmmaking practices that claim a degree of autonomy in relation variously to industrial practices, filmmaking conventions, or political context” (Film Genres: Independent Film, 2015). Second, arthouse/art films are: “made primarily for aesthetic reasons rather than commercial profit, often of an experimental nature or having an unconventional or highly symbolic content, aimed typically at a limited audience” (Art film definition and meaning, 2021). Given the relatively uncharted field of Kazakh independent arthouse cinema and its relationship with both the Kazakhstani state establishment (government and film companies) and audiences (particularly domestic but also internationally), the collection of data would be contributing to an infant sub-field within Eurasian/Kazakh film studies and the conclusions found would be largely exploratory. This research is qualitative on the basis that its results are exclusively the personal thoughts and opinions of industry insiders. To pursue a more diverse interview sample the research is utilizing a purposive non-random snowball sampling implemented in the networking phase.

The main method for data collection for this research is conducting elite interviews. Given the relatively limited volume of work available on this topic and the ongoing, contemporaneous nature of this particular topic, the most authoritative and updated information is presented by the content producers themselves. The interviews are semi-structured in format. The emphasis is on enabling the interviewee to interpret the questions and provide unrestrained answers.

### **IV. Results**

At this time, the data collected from recorded interviews with 12 Kazakhstani film industry professionals – filmmakers (narrative and documentary), producers, and critics is still being analyzed though a few conclusions are emerging. Firstly, and most importantly, that the inter-relationship between independent and auteur filmmakers, the commercial establishment, the Kazakh state establishment, and the Kazakhstani viewing audience has already significantly changed. In 2019, the government of Kazakhstan passed a law “On Cinematography” which led to the establishment of the “State Center for Support of National Cinema”. This government financed Center signaled two changes: first, that the Kazakhstan government would no longer solely finance the Kazakhfilm company. And second, any filmmaker (commercial, government-backed, independent, and auteur) could pitch their ideas and if successful receive funding from the government. Since its creation, independent and auteur filmmakers have received state funding. Regarding the Kazakhstani audience,

these auteur and independent filmmakers acknowledge that their prestige and success internationally has become a necessary prerequisite for appealing to a domestic audience. Only when these films earn praise and prizes in prestigious international film festivals, and the filmmakers promote their accomplishments back in Kazakhstan, does the Kazakhstani audience become interested.

Parallel to this issue, the film industry in Kazakhstan (both from the commercial, state establishment side, but also the independent and auteur side) admits that their ability to compete is hindered by both an inconsistency in the quality of their productions, but also by a lack of international film industry language for Kazakhstani producers. To address this, better education should be pursued and particularly upcoming Kazakhstani film producers should consider viewing film distribution beyond the Russian-language sphere, but internationally.

Lastly, the issue for these independent and auteur filmmakers is that they are still dependent on finding sources of financing. While they are largely in agreement that the creation of the state Center is a positive step, more needs to be done. This includes more transparency in terms of who is approving funding, and why the Center chooses which projects it does and the amount of money to give to each project it selects. Outside of Kazakhstan, international organizations also are beginning to impose their own restrictions and limitations on what the film or documentary must address.

## V. General Discussion

The path to success and motivation for these independent and auteur filmmakers has changed now that there are more domestic sources of funding. But otherwise, they continue to send their films abroad because success there will improve their chances of success at-home. Based upon these initial findings, the case of Kazakhstan provides an interesting study towards the role of international organization and foundations in global cosmopolitanism as they provide funding to filmmakers on increasingly specific terms. And the establishment of this new state Center has interesting implications on how Kazakhstani auteur cinema can contribute to state development. Practically speaking, the new changes in the film industry from the government are still early enough in development that it is too early to form any concrete conclusions.

There were numerous limitations in this study. The largest being the difficulty of maintaining a diverse, well-represented sample of interviewees. Many filmmakers, especially older filmmakers declined to be interviewed – this included independent, and commercial filmmakers. And with the sporadic nature of professional filmmakers' schedules, several interviews did not come to fruition despite previous interest. Those who were asked to interview were also at the discretion of the interviewee who recommended and provided contact information for other prospective interviewees. This resulted in a limited sampling selection according to those who were willing to be interviewed. The researcher was unable to dictate the parameters of the interview pool. For future research, this researcher would advise interviewing female Kazakhstani filmmakers, and taking into account documentarians.

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## **“Returns to Schooling: Case Study of Kyrgyzstan”**

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### **Abstract**

Education, in theory, could be hypothesized to have a positive impact on the income of an individual. Despite the overwhelming evidence of a positive correlation between education and labor market competence, economists still prudent to link strong inferences about the causal effect of schooling. While a few studies have tried to identify the returns to education in developing countries, results may be different from those of high-income economies. This paper examines returns to schooling in Kyrgyzstan thus the goal of this paper is to validate empirically that increasing education leads to salary increase by estimating wage equations. Specifically sustaining aim of the study, research objectives are formulated as follows:

1. Consider recent related literature on the issue. Critical assessment of effectiveness conceptual models and framework. Contrasting the OLS and Instrumental Variable (IV) estimates, controlling for bias.
2. Explore a labor market and trends in education system of Kyrgyzstan. Investigating whether the indicators in Kyrgyzstan differ from other Central Asian economies.
3. Implementation of empirical analysis and reveal whether the returns to schooling differ for men and women?
4. Formulate estimated results into suggested and proposed policy recommendations, explicitly and implicitly underlying the beneficial implications for individuals.

## Introduction

Anticipating hypothesized positive effect of schooling on income of an individual, international studies in various periods have confirmed that highly-educated individuals not only earn greater wages and experience, but also work in resource abundant occupations confronting those who do not (Cohn and Addison 1997; Psacharopoulos 1985, 1994). Despite the overwhelming evidence of a positive correlation between education and labor market competence, economists still prudent to link strong inferences about the causal effect of schooling.

Turns out, social scientists' interest in this issue arose in the late 1950s by growth of estimation techniques which found that rising education levels could explain much of post-war US productivity growth, shrinking technological effect (Becker, 1964; Griliches, 1970). Recent studies of education and wage determination are almost always embedded in the framework of Mincer's (1974) human capital earnings function (HCEF). The theory of human capital focuses on the behavior of rational individuals who decide on their level of literacy to help achieve the best situation for them throughout their lives.

This paper examines returns to schooling in Kyrgyzstan, where latest study nearly related to current topic by Klycheva (2016) investigating efficiency of regulatory changes implemented 2010-2011 in Kyrgyzstan revealed that amendments did not strikingly reduced the gender wage gap the following years.

The goal of this paper is to validate empirically that increasing education leads to salary increase by estimating wage equations using data obtained from the *Life in Kyrgyzstan longitudinal survey of households and individuals in Kyrgyzstan* (LIK). The information from this database allows us to analyze the economic effects of education taking into account not only the amount received but also controlling for other individual factors.

## Literature Review

The benchmark model for the development of empirical estimation of the returns to education is the key relationship derived by Mincer (1974) and proposed human capital earnings function (HCEF). Numerous studies have found that Mincerian model provides vivid description of age-earning profile globally, including researchers in US and many other high-income countries in early 2000s, such as Card (1999) selectively reviewed latest studies of high-income countries, including US and UK and concluded with OLS estimates, the returns to schooling in high income countries fell in the range of 5.2 - 8.5%. Asian evidence of Psacharopoulos (1994) estimated world average of 10.1% compared to Asian average of 9.6%, as well as the 11.2–11.7% range for low and middle income countries. Whereas in other papers by Johnson and Chow (1997) and Liu (1988) for estimation of returns in China we considerably low, 3-4%. In general, considerably small amount of potential returns are subject to data limitations, well as sectoral differences in returns to human capital, since earnings are generally higher in the private sector, than workers in the state-owned sector.

Griliches (1977), Ashenfelter and Kruger (1994) criticize OLS estimates for biases due to existence of measurement errors and reveal effect of substantial downward bias from measurement errors and relatively small omitted ability bias. As omitted ability bias reflect as overestimation, while measurement errors presents an underestimation of true returns, subject to relative intensities of these bias. Well as Nordin (2008) also criticizes the standard returns to schooling estimates. He concludes that standard returns to schooling portrays the average returns to schooling, whereas the actual returns are subject to intrinsic abilities of an individual. In this regard, the actual returns could conventionally be significantly larger for highly able individuals and contrastingly lower for low ability individuals.

Consequently the model's simple estimation is subject to *measurement errors*, *sample selection bias* and *endogeneity* (Griliches, 1977; Heckman, 1979; Ashenfelter and Krueger, 1994). *Errors in*

*measurement* of education for Mincer equation that implies a single rate of return on education, where in theory and empirical evidence appear to reveal inconsistency.

*Ability bias* in Mincer specification, where the disturbance term captures unobservable individual factors as social environment, location, and family background may also influence the schooling decision, and hence induce a correlation between schooling and the error term in the earnings function (Harmon, Oosterbeek and Walker, 2003). If unobserved ability affects both schooling and wages thus OLS estimates will yield biased results, *s.t. endogeneity bias* (Griliches, 1977; Card, 2001). There are several elimination methods, however this paper utilizes instrumental variable two-stage least squares (IV2SLS) estimation approach, that affect schooling but not wages.

Sample *selection bias* may arise for several reasons, once there may be self selection by the individuals or data units being investigated, but also sample selection decisions by researchers are drawn in much the same way as self selection (Heckman, 1979). Selection bias as well appear when earnings only of those employed are observed, thus OLS wages function estimation is subject to biased estimates of the parameters

Noticeably, most IV estimates appear to be larger than the corresponding OLS estimates, suggesting that OLS may underestimate the true returns to education. Number of studies advocate the preceding results applying rather distinct IV instruments to control for endogeneity bias, as changes in schooling laws, proximity to college and reforms to educational system (Harmon and Walker, 1995; Card, 1993; Brunello and Miniaci, 1999; Ismail, 2007).

Other widely applicable instruments are parental or spouse education and distance to near college (Blackburn and Neumark, 1993; Maluccio, 1998; Trostel, Walker and Woolley, 2002). Current paper aims to eliminate the possible endogeneity bias in returns to schooling exploiting related model of Trostel, Walker, and Wooley (2002) where spouse's education refers to as an instrument, consequently defined in the following chapter.

## Methodology

The conventional method of estimating the rate of returns to education is Mincer's (1974) semi-logarithmic earnings function. The simple Mincerian earnings function, adopted by various researchers, can be presented as (Heckman, Lochner, and Todd, 2005):

$$\ln Y_i = \beta_0 + \beta_1 S_i + \beta_2 X_i + \beta_3 X_i^2 + \varepsilon_i + \text{other variables}$$

where  $\ln Y_i$  is the natural logarithm of wage for individual  $i$ ,  $\beta_0$  is a constant term,  $S_i$  is the number of years of schooling for individual  $i$  and  $\beta_1$  is the rate of return to one additional year of schooling;  $X_i$  stands for experience of an individual  $i$ , in linear and quadratic forms,  $\varepsilon_i$  is the random error term, assumed to be normally distributed with mean zero and variance  $\sigma_i^2$ , including possibly omitted other variables. For the purpose of study research objectives, experience in both cases would be replaced with age variable. Spouse's education is suggested as a possible valid instrument by Trostel *et al.* (2002) for examining robustness of the main findings, who explore the independence of wife's education from husband's earnings and its interaction with husband's education. These studies are counting on the assortative nature of marriage as married couples share common behavioral traits and they tend to share a common level of schooling (Pencavel, 1998).

IV estimation entails identifying a set of instruments  $Z$  which: is uncorrelated with  $\varepsilon$ , is correlated with the problematic variable  $Y$  and the variables in  $Z$  are not explanatory variables in the original equation. The 2SLS estimates:

$$\ln Y_i = \beta S_i + \delta Z_{1i} + \alpha Z_i + \varepsilon_i$$

where  $Z_{1i}$  is a vector of exogenous variables that determine individual earnings  $\ln Y_i$ ,  $Z_i$  is a vector of exogenous variables that influences the schooling,  $E(Z_i', \eta_i) = 0$ ,  $Z_{1i}$  is a subset of  $Z_i$  (Arabsheibani and Mussurov, *op.cit.*). For females sample selection, the labor force participation decision:

$$I_i = \theta P_i + u_i$$

where  $I_i$  is the endogenous selection process, where the individual decision of a woman to participate,  $P_i$  is a set of explanatory variables, such that  $(\varepsilon_i, u_i)$  is independent of  $P_i$ ;  $u_i \sim N(0, 1)$ ;  $E(\varepsilon_i/u_i) = \gamma_i u_i$ . Thus  $\ln Y_i$  is estimated by 2SLS, using instruments  $(Z_i, \lambda_i)$ . Identification requires that  $Z_2$  appear in the linear projection of  $S_i$  onto  $Z_1, Z_2$ , and  $\lambda_i = \lambda(\theta, P_i)$  in the selected subpopulation. The hypothesis of sample selection bias, allowing  $S_i$  to be endogenous or not,  $H_0: \gamma_i = 0$ , is tested using the usual 2SLS  $t$ -statistics for  $\hat{\gamma}_i$ . In essence, this estimation procedure is a mixture of the Heckman (1979) two-step procedure and standard 2SLS. Following Wooldridge (2002) education is excluded from female labor participation selection  $I_i$ , to avoid endogeneity of education and include all the exogenous variables as instruments in the selection equation. Model requires to have at least one variable to be included in  $P_i$  which does not also appear in  $Z_i$ . Thus, following Arabsheibani and Mussurov (*op.cit.*) additional dependent children variable or number of children less than five years old is added.

To check for the instrument validity, as suggested by Bound et al. (1995),  $F$ -tests on the excluded variables and report partial  $R^2$  from the first stage regression will be estimated. Well as Wu-Hausman test for endogeneity of schooling, to examine consistency of OLS estimates.

### Data

Original sample obtained from Life in Kyrgyzstan which is longitudinal survey. The survey was first conducted in 2010 and it has been repeated four times in 2011, 2012, 2013 and 2016. However, the data applied in this paper is related to 2011. The data was collected using stratified two-stage random sampling. Bishkek and Osh cities were part of strata along with 16 strata consisting of rural and urban parts of 7 oblasts. To be included in the sample individuals need to satisfy several criteria, one is to be continuously employed during the sample period and regularly receive salary for the work done. Individual survey variables include helpful information included in the empirical model on hours worked per week; individual's age; residence (city or village, north or south); gender; marital status; number of children in the household (with aging varieties of below one, between one and six, between seven and fifteen and between sixteen to eighteen); household's income.

However, years of schooling are not explicitly provided in the questionnaire. The information on schooling is presented by the question: "What is the highest degree you obtained so far?" The answer ranges from "Illiterate" to "PhD" also including primary, basic, secondary general, primary technical, secondary professional, university degrees in between. For the purpose of not distorting results and interpretation, sample includes only prime-age respondents from 16 to 63 for men and 58 for women (state retirement age, respectively).

Table 1 provides the information on time-variant and invariant characteristics for the sample comparative for all men and women in columns 1 and 2, and for married men and women in columns 3 and 4 respectively. The sample retained includes 2,406 working male respondents and 2,367 working females, all of the same age groups, positive wage identities at the time of survey. As sample descriptive statistics reveal, on average men are 0.6 years older than women, length of overall time spent in schooling is slightly greater for women, by 0.42 year, however, is considered negligible. Noteworthy, while leveling schooling years of time spent in particular educational institution, higher schooling degree coefficients were determined for both married and not married women sample, indicating higher attainment of women in university and postgraduate levels. Surprisingly, smoking habits mostly defined for women sample. Ethnical group representatives were larger defined by Kyrgyz women (presenting the sample reference category) and locational occupancy for non-married men greater in rural areas, whereas while in marriage conversely, greater for women. Eventually, proving gender wage determination empirically sample proves that on average all men and married men obtain higher wage rate in contrast to all and married women in the sample.

**Table 1.** Descriptive statistics of time-variant and invariant predictors by gender in 2011

Sample	All	All	Married	Married
Gender	Men	Women	Men	Women
Observations	2,406	2,367	1,740	1,668
Variable				
Log Wage	3.624 (0.84)	3.564 (0.752)	3.651 (0.870)	3.594 (0.758)
Age	37.521 (12,402)	36.812 (11,050)	41.835 (10,650)	38.366 (10,116)
Age <sup>2</sup>	15561.6 (954.81)	1477.2 (818.58)	1863.5 (877.67)	1574.2 (767.64)
Schooling	12.717 (3.045)	13.131 (3.249)	12.996 (3.063)	13.019 (3.152)
Basic	0.807 (0.272)	0.07 (0.255)	0.064 (0.246)	0.059 (0.236)
Secondary general	0.541 (0.498)	0.522 (0.499)	0.516 (0.45)	0.552 (0.497)
Primary technical	0.0719 (0.258)	0.038 (0.191)	0.076 (0.265)	0.039 (0.194)
Secondary professional	0.004 (0.061)	0.004 (0.065)	0.002 (0.042)	0.004 (0.059)
University	0.136 (0.342)	0.143 (0.350)	0.159 (0.367)	0.143 (0.350)
Postgraduate	0.166 (0.372)	0.222 (0.416)	0.181 (0.385)	0.202 (0.402)
Ethnicity	1.758 (1.525)	1.822 (1.594)	1.753 (1.532)	1.757 (1.523)
Rural	0.638 (0.481)	0.611 (0.488)	0.643 (0.479)	0.662 (0.473)
Smoking	1.608 (0.488)	1.949 (0.220)	1.560 (0.497)	1.955 (0.207)
Number of children below 6	0.370 (0.483)	0.383 (0.486)	0.434 (0.496)	0.448 (0.497)
Spouse's education	10.433 (5.639)	9.465 (6.235)	11.326 (5.001)	11.308 (5.061)

Note: Table indicates mean values; standard deviations are in parentheses.

## Results

Table 2, columns 1 and 2 depicts simple OLS estimates of returns to schooling obtained attainment. In general, OLS results for the Mincer earnings equation are in line with findings of the returns to schooling in developing countries (Psacharopoulos and Patrinos, 2004), discussed earlier in the paper contributing to the positive effect of schooling, age, as a proxy for experience, ethnical identity. Interestingly, that being Kyrgyz woman is not a meaning factor for measuring returns to schooling and thus insignificant. This might lead to a thought, that while in labor market, ethnical background is not a decision making factor for employers, both for men and women. Rural residence,



in contrast discourages monthly wages by 14.2% for men, however is a positive earning factor for women. While estimated returns are in line with Arabsheibani and Mussurov (2006) along with other transition economies in studies of Münich, D., Svejnar, J. and Terrell, K. (2005) returns are higher for women, almost 6%, compared to men, 4%, with high significance of both coefficients. This also can be proved by interpreting R-squared statistics by explanatory significance of regressors, being 4.7% for men sample, and 8.7% for women, respectively.

**Table 2:** Returns to schooling for the whole sample (separate for men, women)

<b>Gender</b>	<b>Men</b>	<b>Women</b>
<b>Technique</b>	<b>OLS</b>	<b>OLS</b>
<b>Variable</b>		
<b>Schooling</b>	0.040*** (0.007)	0.059*** (0.007)
<b>Age</b>	0.037*** (0.011)	0.073*** (0.016)
<b>Age2</b>	-0.0005*** (0.0001)	-0.0009*** (0.0002)
<b>Ethnicity</b>	0.039*** (0.012)	0.0002 (0.014)
<b>Rural</b>	-0.142*** (0.041)	0.079* (0.045)
<b>Constant</b>	2.497*** (0.219)	1.365*** (0.304)
<b>R-squared</b>	0.047	0.087
<b>Number of observations</b>	1833	1113

Note: Standard errors are in parentheses; Significance at 5% level

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Table 3 summarizes OLS and IV estimations for the sample of married men. In first column the simple OLS model is restricted to working married men. Estimations of Arabsheibani and Mussurov (2006) reveal increasing schooling coefficient for the overall sample of men and slight decrease for restricted sample returns, our both sample estimates contribute to the study and remain around 3.9 - 4% for the overall and restricted sample, respectively. IV first stage estimations consider exogenous instrument of wife's schooling, which can be testified as a valid instrument by examining estimations of first stage F-statistics and partial R-squared, when weak instruments tend to imply small estimations of first sage F-statistics. For the sample instrument of spouse's schooling appears to be reliable as suggested by the values of F-statistics being 104.1 from the first stage regression, implying that further bias of 2SLS relative to OLS do not exceed 10% omitting substantial bias for subsequent research. This is also true for the fact that estimates of return to schooling from IV estimates do increase and affect positively, as we move from column 1 to 3. For further reliance, instrument is being jointly tested along with additional instrument and with 2SLS method. Applying to the model additional instrument as smoking habits in line with spouse's schooling, for the first stage statistical estimations of F-test and partial R-squared support validity of estimations, with almost identical values of partial R-squared, though decreasing F-statistics, yet significant (Full estimates in Appendix, Table 2). 2SLS coefficient of schooling is almost equal to IV results. Exogeneity F-statistics for 2SLS are increasing, yet for both IV and 2SLS instruments are considered exogenous and again testified through J-test statistics and P-values, implying exogeneity at the 5% significance level.

**Table 3: Returns to schooling for the sample of married men**

<b>Technique</b>	<b>OLS</b>	<b>IV</b>	<b>2SLS</b>
<b>Instrument</b>		<b>Wife's schooling</b>	<b>Wife's schooling and smoking</b>
<b>Variable</b>			
<b>Schooling</b>	0.039*** (0.008)	0.047* (0.029)	0.055* (0.029)
<b>R-squared</b>	0.047		0.045
<b>Exogeneity F-test</b>		0.082	0.326
<b>P-value</b>		(0.775)	(0.568)
<b>J-test</b>			1.61
<b>P-value</b>			0.205
<b>Number of observations</b>	1433		

Note: Standard errors are in parentheses; Significance at 5% level

Full estimates in Appendix Table 2

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Estimated returns to years of schooling for the sample of married women are presented in Table 3. First column summarizes OLS returns to schooling for restricted sample of married women, indicating almost 6.7% increase for one additional year of schooling for married women, that is also greater than overall women sample, 5.9%. Column 2 depict 2SLS results considering endogeneity bias, coefficients of return to schooling for married women is at 8.4%, that is increasingly true when compared to OLS estimates of married women. Yet, this might be argued that high returns are overestimated and biased for sample selection, one might consider especially for women. In column 3, are Heckman selection equation estimates considering both endogeneity and selectivity bias simultaneously. For running this equation, first we must considered women participation results using probit equation. As column 4 in Appendix Table 5 shows, being Kyrgyz women, as reference category, reduces probability of participation. As sample considers married working women, probability of participating in labor force might be reduced as common customs adopted from the past for Central Asia. Also we observe negative rural coefficient, logically we may relate effect of urbanization, that attracts better qualified, well as paid, specialists in the large cities, thus women participation decision is driven toward urban areas. Having dependent child below six years old reduces participation, resulting in expected maternity and childcare leave after giving birth, while in marriage.

In column 3, controlling for endogeneity and selectivity, estimated returns to schooling are lower for both OLS, by 0.6% and by 2.4% for IV estimates. Naturally, there are some people who choose not to work and potentially, non-participating women on average are better off than those participating. Negative  $\lambda$  effect suggests assumes existence of selectivity factor, yet not strikingly significant, as noted by Rubera and Tellis (2014) that lambda for small samples may result an insignificant, even when sample selection bias is present.

**Table 3: Returns to schooling for the sample of married women**

<b>Technique</b>	<b>OLS</b>	<b>IV</b>	<b>Heckman</b>
<b>Instrument</b>		<b>Husband's schooling</b>	<b>Husband's schooling &amp; dependent child</b>
<b>Variable</b>			
<b>Schooling</b>	0.066*** (0.009)	0.084*** (0.017)	0.060*** (0.010)

<i>Mills <math>\lambda</math></i>			-0.063 (0.275)
<i>R-squared</i>	0.086	0.080	
<i>X<sup>2</sup></i>			57.51
<i>P-value</i>			(0.000)
<i>Log likelihood</i>			-1747.20
<i>Exogeneity F-test</i>		1.45	
<i>P-value</i>		(0.229)	
<i>Number of observations</i>		685	

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*Note: Standard errors are in parentheses; Significance at 5% level*

*Full estimates in Appendix Table 3*

*\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$*

As criticized earlier in the paper OLS estimates to be biased for existing of measurement and ability bias by Griliches (1977), Ashenfelter and Kruger (1994), our OLS estimates as well contribute smaller coefficients for both genders and considered underestimating true returns. OLS equations also reassure Nordin's (2008) critique of ability bias, that are also retraced for our sample when examining effect of instruments, imply positive effect possessing that an individual obtaining certain qualities is universally better off. Yet, OLS results almost contribute to the world average estimations by Card (1999) in range of 5.2-8.5%, though not comparable to Asian average of Psacharopoulos (1994) of 10.1%. While adopting estimation model of Trostel, Walker, and Wooley (2002) and implementing spouse's schooling as an instrument to control for endogeneity bias, we find that IV estimates are considerably greater especially for women compared to corresponding OLS results yet estimates for IV and 2SLS for women are 18% higher than OLS estimates, stating existence of downward bias of conventional OLS model designated by Trostel et al. (2002). We also noted that for the sample of married women, conventional IV method portrays greater coefficient of returns to schooling up to the point when we do control simultaneously for endogeneity and selectivity bias.

### **Conclusion**

Initially study was conducted for the purpose of examining effectiveness of conventional baseline models exploited universally for measurement of returns to schooling. Study estimates were based on the Life in Kyrgyzstan longitudinal survey, that in all its nature is compelling to conduct valid analysis. Empirical estimations contrasted conventional Mincer earning equation through OLS measurement model, implying underestimated true returns Trostel et al. (2002), down to controlling for ability, measurement and endogeneity bias while apply instrumental IV and 2SLS techniques, and investigating returns for gender characteristics.

Estimated results from the earnings equations are in line with initial expectations and do exhibit differences for both genders, contributing to universally defined expectations of greater returns for women, thus as originally it was described from sample descriptive statistics, that on average men do receive higher wages, compared to women from the sample. On average increasing years of schooling do increase expected returns, yet effect is more appealing for the women sample. This might hold for the fact, that educated women tend to be better off in monetary terms, compared to the same educational level of men, or alternatively might be interpreted that working men are more likely to engage in the job sectors that do not require successive schooling attainment. Nonetheless, locational preferences are greater for men and imply that on average working men based in urban areas tend to exhibit increasing returns.

Estimated results from the paper imply that universally, for both genders, OLS returns to schooling are not free of bias, Griliches (1977), Ashenfelter and Kruger (1994) and do not hold for individual abilities, while some can exploit better qualities, endogeneity bias, underlying exogenous estimation of schooling, (Griliches, 1977; Card, 2001). Existence of downward bias of OLS model are confirmed with estimation results for both men and women sample, on average indicating lower returns to schooling, controlling to all other factors.

To control for endogeneity bias, paper utilized instrumental variable IV estimations and 2SLS approach, affecting schooling. Paper results contribute to prior studies of Harmon and Walker, 1995; Card, 1993; Brunello and Miniaci, 1999; Ismail, 2007, controlling for endogeneity bias, revealing 18% increasing estimates for returns to schooling for women, rather than OLS results (IV, 2SLS).

To cover for selectivity, the results of Heckman selection model reveal that for our sample of married women we observe selectivity term that supports presence of upward bias in OLS by decrease of returns to schooling coefficient (by 0.6% for OLS) and (by 2.4% for IV) after correction (Heckman, 1979).

Throughout conducted estimations, analysis of gender inequality for Kyrgyzstan is still remains vital, yet indicating than returns to schooling increased with transition, as true for all transition economies in the region, by Arabsheibani and Mussurov (2006) results for Kazakhstan, indicate therewith greater returns well for women. Even though applied regulatory changes in Kyrgyzstan towards encouraging female labor participation are still vital, further policy recommendations for those in charge of the government will require to proceed cultivating amendments in labor markets, enhancing favoring conditions for females, well as in-depth core educational reforms in all levels.

Nevertheless, we believe that study contributes to a series of recommendations for scholars investigating the potential role simultaneous multiple sample bias existence in their future research.

## Appendices

**Table 1:** Description of the Variables

Variable	Description
Age	The age of a respondent (sample includes working ae population 25-54 years)
Age <sup>2</sup>	The square of an age of a respondent
Ethnicity	Ethnical background of a respondent (Kyrgyz as reference category)
Rural	Dummy locational variable, 0– if household is located in an urban area; if household is located in a rural area
Schooling	The number of years spent studying
Smoking	Smoking habits of a respondent, 0- not smoking, 1- smoking
Wage	The wage rate obtained by dividing earnings by hours worked last week (and usually by 4, since the majority of individuals receive monthly wages)

**Table 2:** Returns to schooling for the sample of married men

Technique	OLS	IV (1st stage)	IV (1st stage)	2SLS (1st stage)	2SLS (1st stage)
Instrument Variable		Schooling	Wife's schooling	Schooling	Wife's schooling and smoking
Schooling	0.039*** (0.008)		0.047* (0.029)		0.055* (0.029)
Age	0.034**	0.080	0.033**	0.095*	0.032**

	(0.016)	(0.054)	(0.017)	(0.055)	(0.017)
	-				
Age2	0.0004** (0.0002)	-0.0008 (0.0006)	-0.0005** (0.0002)	-0.0009 (0.0007)	-0.0004** (0.0002)
Ethnicity	0.032** (0.015)	-0.113** (0.049)	0.033** (0.015)	-0.104** (0.049)	0.035** (0.015)
	-				
<b>Rural</b>	0.194*** (0.049)	-1.557*** (0.161)	-0.178** (0.074)	-1.552*** (0.161)	-0.162** (0.074)
Instrument (wife's schooling)		0.160*** (0.016)		0.159*** (0.016)	
Instrument (smoking)				0.330** (0.153)	
Constant	2.62*** (0.342)	10.65*** (1.105)	2.524*** (0.481)	9.818*** (1.169)	2.432*** (0.476)
R-squared	0.047	0.16	0.046	0.167	0.045
Partial R-squared		0.068		0.071	
First-stage F-statistics		104.1		54.512	
P-value		0.000		0.000	
Exogeneity F-test			0.082		0.326
P-value			(0.775)		(0.568)
J-test					1.61
P-value					0.205
Number of observations	1433				

Note: Standard errors are in parentheses; Significance at 5% level

J-stat > critical value of  $X^2$ , we do not reject null hypothesis, at 5% Significance level

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 3:** Returns to schooling for the sample of married women

Technique	OLS	IV (1st stage)	IV	Probit	Heckman Husband's schooling & dependent child
Instrument Variable		Schooling	Husband's schooling	Participation	
Schooling	0.665*** (0.009)		0.084*** (0.017)		0.060*** (0.010)
Age	0.058** (0.024)	-0.104 (0.092)	0.058** (0.024)	0.077*** (0.024)	0.050* (0.030)
	-				
Age2	0.0007** (0.003)	0.0009 (0.001)	-0.0007** (0.0003)	-0.0007** (0.003)	-0.0007* (0.0003)
Ethnicity	0.001 (0.019)	0.018 (0.074)	0.002 (0.02)	-0.048** (0.021)	0.003 (0.020)

Rural	0.054 (0.058)	-0.845*** 0.216	0.081 (0.062)	-0.027 (0.068)	0.086 (0.117)
Instrument (husband's schooling)		0.329 (0.022)			0.006 (0.010)
Instrument (dependent child)				-0.362*** (0.068)	-0.018 (0.080)
Mills $\lambda$					-0.063 (0.275)
Constant	1.542** (0.498)	13.025*** (1.812)	1.260** (0.549)	-1.343** (0.438)	1.77** (0.817)
R-squared	0.086	0.297	0.080		
Pseudo R-squared				0.063	
X <sup>2</sup>				140.95	57.51
P-value				(0.000)	(0.000)
Log likelihood				-1049.235	-1747.20
Partial R-squared		0.256			
First-stage F- statistics		233.848			
P-value		(0.000)			
Exogeneity F-test			1.45		
P-value			(0.229)		
Number of observations	685			1661	685

Note: Standard errors are in parentheses; Significance at 5% level

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

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# **“The Flow of Foreign Direct Investment into Central Asia: Does FDI Stimulate Innovation? The Case of Kazakhstan”**

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## **Abstract**

Understanding the role of FDI for a national economy is significant since it serves as a catalyst of economic growth leading to prosperity. The main rationale behind this treatment is the belief that foreign investment generates externalities in the form of technological transfer. This paper studies the determinants of FDI inflow into CIS countries and whether this FDI inflow stimulates innovation in particular in Kazakhstan. Besides, the question of whether FDI stimulates innovation has received comparatively little attention, particularly in the CIS region. That is why it was essential to examine the key factors and determinants of FDI, the impact of FDI on innovation in Kazakhstan and on the country's economic development. In the scope of this paper, “innovation” encompasses not only “technological innovation”, i.e. the diffusion of new products and services through the economy, but also introducing a new organizational model in a firm, which as result would lead to introducing new products, services and technologies to the local market. Therefore, foreign direct investment can be crucial in stimulating innovation and bringing it to a country. In order to analyze this question of the thesis, it was decided to apply the statistical tool STATA and conduct linear regression analysis with several determinants related innovativeness and macroeconomic variables. As a result of primary analysis, the evidences obtained from the statistical analysis demonstrated that there was negative correlation being observed between FDI inflows and % of Innovative Goods and Services. On the other hand, regression results showed small positive relationships between these two variables. Hence, it leads to the conclusion that FDI inflows have contributed towards the economy's innovativeness, but the effect was considerably low than it was expected.

## **I . Introduction**

Foreign direct investment is defined as an investment from one country into another, which underlines acquisition of assets and business operations in a particular industry (Financial Times Lexicon, 2016). Understanding the role of FDI for a national economy is significant since it serves as a catalyst of economic growth leading to prosperity. Many countries even create special incentives for foreign investors or enterprises such as a lower income tax, import duty exemption, tax holidays, and subsidies for infrastructure. The main rationale behind this treatment is the belief that foreign investment generates externalities in the form of technological transfer. Apart from technological transfer, foreign investment leads to capital and employment inwards. For instance, when foreign companies introduce new products or processes to the domestic market, domestic companies may benefit from accelerated diffusion of new technology (Teece, 1997). Technological transfer may occur not only from direct foreign investment but also from domestic companies observing nearby foreign companies and indeed increasing productivity. In addition, in some cases, diffusion may occur when employees move from foreign firms to domestic ones. Therefore, in order to attract foreign investment and accelerate technological diffusion, CIS countries proceed to political, economic and legal reforms. According to Paswan (2013) and Arazmuradov (2015), the Central Asian countries are becoming leading FDI destinations since they present an abundance of natural resources. In addition, the Central Asian region has become strategically and economically important due to its location between Europe and most Asian economies such as China and India. Nevertheless, most FDI flows were directed towards extraction of natural resources such as oil and gas. Due to limitations of fossil fuels, most foreign investors have started leaving the Central Asian region. Moreover, Omri et al. (2014) argued that there is a positive correlation between FDI inflow and the increase in CO<sub>2</sub>; thus CIS countries



that attracted foreign investments had certain common characteristics. Central Asian governments that were mesmerized with high growth rates stemming from fossil fuel extraction now face a major challenge: diversification of the economy to decrease external shocks that occurred at the end of the second decade of the 2000s. Development of other economic sectors has become the main strategy of Central Asian countries.

Central Asian countries such as Kazakhstan, Kyrgyzstan, Turkmenistan, Tajikistan and Uzbekistan have different resources and model of economies. Comparing their similarities and differences will provide valuable information about determinants of FDI flows. Moreover, it will provide an opportunity to identify the potential of these countries to become leading FDI destinations. This work will analyze factors affecting FDI flows into the aforementioned countries and whether those capital flows stimulate innovation. To the best of my knowledge, there are plenty of research papers that focus on technology and knowledge transfer as result of FDI; however, only a limited number of studies focuses on CIS countries.

## **II . Literature Review**

Having discussed some statistical background of FDI inflow into the CIS countries, this paper will now focus on the main research question and discuss major findings from secondary data. Again, there are plenty of similar studies regarding the technology, knowledge and skills diffusion as results of foreign capital flow. However, these studies are limited in terms of time range, limitations of sample data, and regions (very few studies about FDI and Innovation in CIS region).

So, in general, what is an innovation? It is a broad concept, but it is usually defined as successful commercial application of knowledge in the form of new products or services (UNECE report, 2017). In the scope of this paper, “innovation” encompasses not only “technological innovation”, i.e. the diffusion of new products and services through the economy, but also introducing a new organizational model in a firm, which as result would lead to introducing new products, services and technologies to the local market. Therefore, foreign direct investment can be crucial in stimulating innovation and bringing it to a country. The main question is how to obtain a value chain from foreign investment and enhance innovation. What factors are the main drivers?

Chen et al. (n.d.) have assessed the impact of FDI knowledge spillovers on the innovativeness of the firms in China. The authors focused on facilitation of the knowledge spillovers by the Foreign Direct Investment leading to product innovation. The research work was based on new mechanisms of knowledge spillovers. In assessing knowledge spillovers, the resource-based view of the firms was applied. Such spillovers occur when joint ventures are formed between local and foreign firms as a form of FDI flows. Analysis was based on metadata consisting of 380 000 Chinese firms covering the period of 2000-2006. The results indicated that cluster-based locations of the foreign firms have benefits for Chinese local firms. It should be noted that concentration of the foreign firms should occur based on innovativeness rather than other financial indicators. Firm absorption was another key determinant of the innovativeness of the firms.

More research dedicated to innovation and FDI shows that high-technology firms were highly influenced by the cross-utilization of the resources in maintaining high levels of innovation (Liefner et al., 2013). The cross-utilization involves human capital and orientation towards constant research and development (R&D), which had a greater contribution to innovativeness of the high-technology firms in Shanghai. In other words, the legal structure of the ownership established based on the FDI inflows can be a significant determinant of a firm’s innovativeness. Furthermore, Fang and Mohnen (2010) assessed the role of FDI in innovativeness of the automobile industry in China. Due to opening the markets, the Chinese automobile industry has experienced increased FDI inflows. A Tobit model applied in the research model shows the share of innovative sales and R&D for the years of 2002-2003 and 2005-2006. Companies funded with a FDI share were found less R&D intensive in

comparison with local firms. Nevertheless, on the product level, FDI firms were found more innovative in comparison with local firms.

Another research work dedicated to the effectiveness of FDI inflows in measuring innovativeness was by Li et al., (2018). Study was aimed at metadata containing information from 30 provinces for the decade of 2000-2010. The results indicated that the regions had varied in terms of innovation efficiency caused by different states of FDI inflows. Moreover, FDI inflows served as moderators of innovation, contributing to the absorptive capacity of the local firms and developing additional assets. Masso et al. (2013) assessed the interrelationships between FDI and innovation in Estonia. In doing so, the authors focused on both inward and outward FDI flows as well as on inputs and outputs of both domestic and foreign companies in Estonia. Metadata included in the analysis focused on three databases of the Community Innovativeness Survey conducted among European countries. CIS3 consists of 3 161 companies, CIS4 had 1 747, CIS 2006 included 1 924 companies. According to Masso et al. (2013), the small size of the market and the insufficiency of competent human resources discouraged foreign firms from innovation. Moreover, comparing expenditures between foreign-owned and local firms, it was identified that the probability of spending more on innovation was higher for foreign-owned companies investing outward. This is due to the fact that foreign-owned companies could utilize already-established knowledge while expanding into new markets. Observations also showed that domestic multinationals and foreign-owned companies were more successful in innovation in comparison with local companies. Product-level analysis has provided opposite results since most domestic companies were better positioned than foreign companies in knowledge of production and rendering services. Productivity assessment showed that domestic multinationals as well as foreign-owned companies were better off in outward investing activities, which means that these companies were more heterogeneous while expanding into other markets.

FDI inflows can be one of the significant contributors to innovation in the manufacturing sector (Vahter, 2010). Innovativeness is quite often determined by the knowledge spillovers and has had a positive correlation with FDI among the Estonian firms. Hence, it is logical to conclude that FDI inflows can serve as knowledge facilitators developing innovation. As was mentioned, knowledge spillovers created by FDI inflows increased innovativeness of the companies.

Ola-David and Oyelaran-Oyeyinka (2012) had provided supporting evidence about the role of FDI in fostering innovation and technological advancement in African countries as Kenya and Nigeria. The authors relied on a binary regression model to determine factors contributing to engagement of the firms in product and service innovation. Kenyan and Nigerian local firms have been more focused on the innovation primarily because of the intensity of the competition due to foreign firms and obtaining international quality certifications. Findings suggest an indirect role of FDI in intensifying competition and boosting labor productivity to innovate to address competition among the local firms. It should be also highlighted that the form of the company ownership and utilization of information communication technologies played significant roles in assessment of innovativeness and its relationships with FDI. Johansson and Loof (2011) analyzed the impact of FDI inflows on the innovation and renewal among Swedish companies. The research work focused on two phenomena such as novelties being brought to the host countries by the FDI and multidimensional assessment of the innovation, its intensity and economic outcomes on regional and national levels. The principle of the research was to compare patterns and characteristics of multinational companies with domestic ones based on the metadata of Community Innovativeness Survey conducted among European countries. The authors discovered that FDI activities tend to be high in the case of innovation regions, particularly due to their higher concentration of multinational companies. Comparison of FDI firms with local ones showed that the first had higher intensity of the knowledge, higher levels of product technology and higher rates of innovation per employee. Erdal and Göçer (2015) studied the

effects of FDI on Research and Development innovations in developing Asian countries. As the world becomes more globalized, inevitably countries will be protected from the competition among economies for resources, signaling that FDI provides countries with sufficient capital, technologies and knowledge required for innovation in host countries. Panel data included in the analysis encompassed countries such as South Korea, China, Iran, India, Malaysia, Pakistan, Thailand, Singapore, Turkey and Saudi Arabia covering the period of 1996-2013. The findings suggest that intangible resources such as technology, expertise, knowledge and business processes brought by multinational companies are desired in developing countries due to the fact that they cover deficiencies in the host country. FDI investing in R&D laboratories can accelerate processes and introduce new products. High-tech R&D processes and registering of patents increase.

According to Sivalogathan and Wu (2014), FDI is considered the channel for the transfer of technologies that increase innovativeness of the host economy. The study was based on the South Asian economies and included metadata covering the period of 2000-2011. The results of the research showed that domestic innovation is often achieved with the combination of the resources such as knowledge, technology, and human resources. Furthermore, it was identified that R&D expenditure was a powerful determinant of the innovation capabilities of the firm. Loukil (2016) stated that countries motivating foreign investors to invest in them are not only concerned with the potential economic benefits but consider potentiality of knowledge spillovers that can increase productivity and exports. The analysis covered 54 developing countries for the period of 1980-2009. The main findings of the research were that simulating FDI inflows via policy changes is not enough by itself for economic development; local firms should also nurture absorptive capacity to access resources and knowledge of the multinational companies.

Crescenzi et al., (2015) concluded that domestic firms engaging in investment with multinational companies enhance their innovation competence. The major effect from the symbiosis was the heterogeneity in the internationalization as well as market engagement activities and ownership structure. One more important finding was the dynamism that is usually brought with the entrance of multinational enterprises. Such dynamism can determine the speed of internationalization among the local firms. Hence, it is concluded that less internationalized firms have fewer benefits in comparison with the firms with a more international scope of operations. This is due to the bargaining power of more internationalized firms in lobbying their interest and shaping the policies accordingly in the host country. Sekuloska (2015) stated that innovation-based FDI could improve a nation's competitiveness. FDI quality can stimulate innovation in the recipient country. One benefit of FDI was the possibility of creating new technologies. Inward FDI might be a positive contribution in quality improvement of the production infrastructure and establish R&D activities that would enhance the host country's competitiveness. The regression model attempted to determine interrelationships between FDI inflows and R&D activities. FDI made into sectors of economies did not stimulate R&D activities. On the other hand, quality and quantity growth of FDI had positive interrelationships with R&D activities. Hence, the study highlights the importance of developing mechanisms as well as models of attracting FDI. Moreover, the quality of FDI also was a significant aspect in measuring innovativeness (Sekuloska, 2015).

In conclusion, the literature review found ample implications of the potential models as well as variables that can be included in the measurement of interrelationships between innovation and inflow of FDI. The case of China has provided detailed information and has highlighted the importance of ownership structure (e.g. joint ventures). Moreover, an important precondition of the innovation diffusion was the knowledge spillovers from FDI companies. Knowledge and technology transfer were considered as the most important factor leading to innovation.

### III. Research methodology

This section of the thesis develops the research model assessing the degree of interrelationships between FDI inflows and innovativeness in Kazakhstan. In doing so, it was decided to apply the statistical tool STATA and conduct linear regression analysis with several determinants related innovativeness. The model contains dependent and independent variables among which a linear relationship is going to be explored.

#### Independent Variables

Independent variables included in the model are:

1. GDP growth rate (%): GDP
2. FDI growth rate (%): FDI
3. The share of Innovative products (goods and services) in relation to GDP (%): IGS
4. Patent Application growth rate (%): PA
5. The level of activity in the field of innovation (%):AI
6. Labor force growth rate (%): LABOR
7. Unemployment rate (%): UNEMPL

Taking into account the overall impact of FDIs on the whole economy in general and considering the importance of factors of production necessary for the innovation, such as labor force and unemployment levels, it was decided to develop a model that is more multidimensional to identify more interconnectedness among the variables. This would allow more in-depth analysis of the factors of production that are stimulated by FDI without which creating innovative products and services is not possible.

#### Variables explained:

1. *GDP growth rate (%): GDP*. Gross Domestic Product is the output produced by the economy that usually includes all finished products and services. The growth rate of GDP measures how fast the economy is growing. FDIs tend to have a significant economic impact on the country. We assume that real GDP growth is accompanied by an increase in innovational activities.
2. *FDI growth rate (%): FDI*. FDI is a major determinant of economic growth and correlates positively with innovation. Hence, this independent variable is crucial for the analysis. The share of Innovative products (goods and services) in relation to GDP (%): IGS This measurement assesses the percentage of total innovative products and services (finished), thus measuring innovation density in the economy.
3. *Patent Application growth rate (%): PA*. Patent Application is another measure included as a dependent variable. Patent Application provides with implications about the patent and intellectual property legislation in the country. Increased innovation caused by FDI inflows should increase PA.
4. *Labor force growth rate (%): LABOR*. Labor is one of the most important resources for an innovative economy. However, the growth of labor may not relate directly to innovativeness, which is more related to the quality of the labor force.
5. *Unemployment rate (%): UNEMPL*. Changes in the unemployment rate can influence innovativeness. It is assumed that FDIs are made into the economies that have natural and human resources. It can also provide information about how innovativeness can increase or decrease the level of unemployment.

#### Dependent variables

The growth rate of the volume of innovative products is an independent variable. Previous models assessing innovativeness relied on the aggregate expenditures on R&D. Nevertheless, this

indicator is more accurate in comparison with expenditures made on R&D since it represents finished and registered finished products and services. Expenditures on R&D may not provide a more precise measurement of innovativeness due to the time factor. R&D expenditures made in 2018 might not provide results until 2019.

Hence, the following linear equation was developed:

$$\text{LnInn}=\beta_0+\beta_1*\text{LnGDP}+\beta_2*\text{FDI}+\beta_3*\text{IGS}+\beta_4*\text{LnPA}+\beta_5*\text{LnAI}+\beta_6*\text{LnLABOR}+\beta_7*\text{LnUNEMPL}+U_t$$

Where:

- Inn- Volume of innovative products (%)
- Beta- variable elasticity
- Ln-natural algorithm of the determinants
- Ut- term of disturbance

The proposed model has shortcomings. First, it does not address the mode of FDI in the economy. Ownership structure can be a significant determinant of innovativeness, due to the possibility of knowledge spillovers when multinationals form joint-venture companies.

Second potential shortcoming could be the appropriateness of focusing on finished innovative goods and services as a measure of innovativeness. Some products or innovations may not be officially registered. This is considered as one of the most influential challenges since measuring innovativeness may not have more specific indicators that would fully reflect on the pace of innovation.

The third shortcoming that should be addressed is the methodology applied to detect whether a product is innovative. Statistical data on volumes of innovative products may not reflect the degree of innovativeness, due to a lack of state-level standards.

#### **IV. Results**

This section of the thesis work is dedicated to the analysis and interpretation of the research outcomes. As it was already mentioned, the research intended to analyze the contributions made by the Foreign Direct Investment inflows into the degree of a country's innovativeness by focusing on macroeconomic and innovativeness indicators of Kazakhstan. The metadata used in the analysis covered the period of 1993-2019, which was assessed using STATA statistical software.

##### **Interpretation of Statistical Results**

Statistical output of the metadata analysis includes descriptive trends such as mean, standard deviation, min and max variables. In order to avoid statistical errors, it was decided to focus on the algorithmic values. Analysis has revealed that the highest level of standard deviation was in the case of the FDI (LGFDI=1.247), whereas the lowest standard deviation was observed in the case of IGS (LGIGS=0.319). Dependent variable in the statistical analysis was the IGS (The share of innovative products in relation to GDP), whereas other variables such as GDP, FDI, PA, AI were considered as independent variables. Indeed, the analysis has also demonstrated that the maximum variable of the FDI was equal to 23.56 for LGFDI, whereas for LGIGS it was equal to 0.832.

Given the fact that STATA considered both logarithmic and non-logarithmic variables, as a proxy, logarithmic variables were chosen in correlation analysis between the independent and dependent variables. The following Table B represents major findings of the correlation analysis:

Table B: Correlation analysis of independent and dependent variables (STATA)

	FDI	GDP	UNEM	IGS	PA	AI	LABOR
FDI	1.0000						
GDP	0.1987	1.0000					
UNEM	-0.4540	0.0951	1.0000				
IGS	-0.2070	0.1490	-0.2053	1.0000			
PA	0.2563	0.0697	-0.0629	-0.2563	1.0000		
AI	0.3284	0.1093	-0.6576	0.5372	-0.0724	1.0000	
LABOR	0.5714	0.3596	-0.5430	-0.2877	0.3171	0.1527	1.0000
INN	-0.0031	0.2421	-0.1827	0.4267	-0.2178	0.2664	-0.0006

As it can be observed from the table, the correlation between chosen variables was both positive and negative. IGS has demonstrated negative relationships with variables as FDI (-0.2070) and UNEM (-0.4540), which can be interpreted as an increase in IGS would decrease the level of FDIs and UNEM (Unemployment growth rate). Surprisingly, it can be interpreted as rise in IGS will lessen the degree of FDIs and most importantly, it will lead to the decrease of unemployment growth rates. On the other hand, correlation analysis demonstrated positive interrelationships between dependent variable, Labor and FDI (0.5714) and IGS the level of activity in the field of innovation (AI) (0.5372). Overall, the statistical analysis demonstrated that selected independent and dependent variables have had different degree of relationships with each other.

### Regression Analysis

In this section, the results of the regression analysis will be discussed. Total number of observations made equals to 27. Following Table C represents information about the outcomes of the regression analysis. As it can be observed from the analysis, F-value was 2.00, whereas Prob>F equaled 0.1088. F-significance provides with the better interpretation between the selected data and the chosen linear model. Moreover, it should be noted that F-significance enables analysis of aforementioned relationships between the data and linear equation as it excludes the independent variables. Given the F-significance coefficient equaling to 2.00, it can be stated that selected linear model outperforms one that has no independent variables.

Table C: Regression Analysis Results (STATA)

Source	SS	df	MS			
Model	.995841167	7	.142263024	Number of obs =	27	
Residual	1.35132183	19	.071122202	F( 7, 19) =	2.00	
Total	2.347163	26	.0902755	Prob > F =	0.1088	
				R-squared =	0.4243	
				Adj R-squared =	0.2122	
				Root MSE =	.26669	

inn	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
fdi	-.0201374	.0090639	-2.22	0.039	-.0391083	-.0011664
gdp	.0103629	.0122468	0.85	0.408	-.0152701	.0359958
unem	-.0208889	.0346298	-0.60	0.554	-.09337	.0515922
igs	.5151137	.2524743	2.04	0.055	-.0133211	1.043548
pa	-.0614011	.2693634	-0.23	0.822	-.6251853	.5023831
ai	-.0056556	.028073	-0.20	0.842	-.064413	.0531018
labor	-1.389127	9.091663	-0.15	0.880	-20.4182	17.63994
_cons	-.2374885	.5502329	-0.43	0.671	-1.389139	.9141622

However, it can be also observed that R-squared of the analysis equaled to 0.4243, which means that 42% of the variation in volume of innovative products (INN) is explained by the independent variables. The low R-squared value suggests that the model does not explain much.

Notably, analysis of the coefficients shows that FDI, UNEM, PA, AI and LABOR have had negative relationships, -0.020, -0.21, -0.61, -0.005 and -1,389 respectively, whereas the coefficients of GDP and IGS were positive equaling to 0.010 and 0.515. Moreover, P-value analysis shows that all independent variables are statistically insignificant, except IGS, which is found to be significant at

the 5% level of significance. Moreover, for the sake of comparison, we ran a regression model by using logarithmic variables and as a result we have obtained completely different outcomes.

Table D: Regression Analysis Logarithmic Results

Source	SS	df	MS			
Model	1.23639973	4	.309099932	Number of obs =	9	
Residual	.069213472	4	.017303368	F( 4, 4) =	17.86	
Total	1.3056132	8	.16320165	Prob > F =	0.0081	
				R-squared =	0.9470	
				Adj R-squared =	0.8940	
				Root MSE =	.13154	

LGIGS	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
LGGDP	-.0218897	.0886263	-0.25	0.817	-.2679558	.2241765
LGFDI	.0597753	.0367833	1.63	0.179	-.0423516	.1619022
LGPA	-.4841479	.0973012	-4.98	0.008	-.7542994	-.2139963
LGAI	.2334749	.1495171	1.56	0.193	-.1816513	.648601
_cons	-2.263514	.9654846	-2.34	0.079	-4.944129	.417101

In general, in our logarithmic model most independent variables are statistically insignificant, perhaps due to the fact that number observations only 9, too small to permit hard-and-fast conclusions. Besides, adjusted R-squared of the regression results was considerably high equaling to 0.894 or 89.4%. Although this logarithmic model fits our sample data well, the sample is so small that is probably does not explain much about the statistical population

Moreover, the next step is to test model for the existence of heteroscedasticity, it is a major concern in the application of regression analysis, including the analysis of variance, as it can invalidate statistical tests of significance that assume that the modelling errors are uncorrelated and uniform hence that their variances do not vary with the effects being modeled. For instance, while the ordinary least squares estimator is still unbiased in the presence of heteroscedasticity, it is inefficient because the true variance and covariance are underestimated. The Table E below highlights the main results of the heteroscedasticity test. In this case, the conditional probability of homoscedasticity, .12, is too high for us to reject.

Table E: Heteroscedasticity test

```
estat hettest
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of INN
chi2(1) = 2.38
Prob > chi2 = 0.1233
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The analysis containing 27 observations between 1993 and 2019 was conducted using STATA statistical tool to analyze the relationships between different macroeconomic indicators including GDP, FDI inflows, Patent Application, Activities in the sphere of Innovation and Innovative Goods and Services.

As it was identified from the correlation analysis, there were negative relationships being observed between the FDI inflows and IGS (-0.2478) and PA and IGS (-0.9395). On the other hand, regression analysis demonstrated that the coefficient of FDI in the given model was equal to 0.059, which leads to the conclusion that in the particular case of Kazakhstan, the FDI inflows did not have substantial effects on the degree of innovativeness of the economy. Moreover, it can be observed that FDI inflows have had negative correlation coefficient with the IGS (Innovative Goods and Services).

## V. General Discussion

In conclusion, current thesis project intended to analyze the interrelationships between the FDI inflows being made into Kazakhstan and the degree of economy's innovativeness through application

of quantitative methods such as regression analysis. The evidences obtained from the statistical analysis demonstrated that there was negative correlation being observed between FDI inflows and % of Innovative Goods and Services. On the other hand, regression results showed small positive relationships between these two variables. Hence, it leads to the conclusion that FDI inflows have contributed towards the economy's innovativeness, but the effect was considerably low than it was expected. Therefore, it can be stated that most of the FDIs being made into the country after obtaining the independence, were motivated by the tangible resources rather than intangible resources such as technological information and human capital. In order to gain more detailed picture of the FDI impact on the country's innovativeness, it is necessary to take into consideration the following recommendations:

First of all, it is necessary to categorize the FDI inflows being made into Kazakhstan based on the economic sectors, which will provide with more accurate picture of the FDI breakdown. Such categorization is crucial for understanding the impact of FDIs on the sectoral level.

Secondly, it is necessary to address the government policies regarding the creation of investment climate for foreign companies with the focus on the absorption of foreign capital and its further utilization by the domestic companies. In fact, it was also argued that regional characteristics of the economy in country can serve as one of the determining factors for foreign capital investments. Hence, it is necessary to assess the regional policies for attracting foreign investments and further re-investment activities being carried out by local administrations.

Thirdly, it is recommended to develop country-specific factors that characterize each country. In other words, such individualistic approach can provide with more relevant information about the factors as well as processes shaping the innovativeness and economic advantage factors. Indeed, one of the challenges related to the measuring of innovativeness is lack of more effective measurement indicators of innovativeness. Hence, addressing such complexities will provide with more in-depth analysis of the FDI effect on the innovativeness. In fact, it will enhance the quality of the research data based on which policy recommendations can be made.

Overall, it can be stated that the undertaken research work demonstrated current challenges related to the FDI utilization as well as absorption in case of Kazakhstan. In fact, it enabled to study the research phenomena from different perspective and have fresher look on the FDI's role as a transmitter of the knowledge and information.

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**“Economic policy of Kazakhstan: low efficacy support of small and medium enterprises by the government and the its effect on economic growth”**

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**Abstract**

The objective of this paper is to outline what kind of relationships between the efforts of the government to support the SME and the economic growth of Kazakhstan does exist. In order to achieve the goal, the review of primary sources, reporting state programs developed to support the SME and the businesses participating in those programs was done. It provided statistical information about the type of businesses involved in, geographical locations and type of governmental support. Next, the short questionnaire of the SME owners was conducted to outline the awareness about governmental support, application and winning rates.

The primary source analysis revealed that the most widespread type of governmental support comes in financial form and the majority of SMEs in Kazakhstan are developing slowly, being not interested in partnership with other businesses. Furthermore, the analysis of 98 questionnaire responses revealed the prejudiced attitude towards the support programs in almost 60% cases.

Although 78 out of 98 SME owners applied to any program, only two of them won the “Damu” program and received low interest credit for establishment of their businesses.

Despite the international experience revealing the effectiveness of governmental support of SME for economic growth, it is not the same for Kazakhstan. There are a lot of support programs available; however, the blurred criteria of selection, unequal distribution of budget among the different regions with high probability of nontransparent competition led to the conclusion that there is no relationship between governmental support of SME and economic growth of Kazakhstan.

### **Introduction**

Analysis of the development of small and medium enterprises in Kazakhstan would aid in understanding the challenges of business establishment, factors affecting it as well as evaluating its current importance in the economic growth.

The Republic of Kazakhstan gained its independence in 1991 after the collapse of the USSR. During the Soviet Union period the economies of dependent countries were related to each other as well as to Russia, therefore its breakup led to a range of challenges related to organizing enterprises. For example, the northern part of Kazakhstan was delivering materials for production to southern Siberia, while the southern part of Kazakhstan was hugely relying on energy from Uzbekistan (Olcott, 2010, p. 129). From one perspective, it resulted in well established communication infrastructure, which had significant potential for international investments. From the other perspective, during the independence period and collapse of the Soviet infrastructure resulted in fragmented economies, which could not sustain themselves without the neighbouring countries such as Russia, Uzbekistan and others (Olcott, 2010, p.130). Therefore, in reality, there was a decline in the economy due to the fact that profit from the transactions of investments flowed to individuals rather than being reinvested.

Although GDP (Gross Domestic Product) slightly increased due to mining the natural resource, the country experienced industrial crisis, decline in agriculture and owned debts. In addition, Russia experienced the financial crisis in 1993 and as the majority of international trades were related to them, Kazakhstan had to deal with the consequences of this crisis, which affected the situation within the country significantly. For example, the official statistical data report that almost 45% of all businesses lost their money and the majority of industries collapsed by 1996 (Olcott, 2010, p.130).

The beneficial geographic position and fact of ownership of rich oil fields continued to attract, increased the investments from international companies and incremented GDP by 1998. However, this period is also known for the strong establishment of a small group of elite getting the benefits of developing the economy and refusing reinvestment. This enhanced decline in industry and agriculture, strengthening the dependence of the economy on export of oil crude (Olcott, 2010, p. 131). At the same time, complicated relationships between the ruble and tenge led to decrease of trade between Kazakhstan and Russia, so by 1999 there were only almost 30% of trade turnover (Olcott, 2010, p. 134).

Next, due to reforms in the economic system after the collapse of the Soviet Union the former governmental enterprises were privatized. On the other hand, the difficult economic situation led to establishment of new enterprises, which reflected the needs of the population such as food and clothing imported from abroad. In addition to the businesses founded by international owners, there was a noticeable shift of the economy towards the private sector (Tyrrall, Woodward & Rakhimbekova, 2007). Due to continuous bankruptcy of businesses across the country, the government of Kazakhstan started the introduction of structures, which could lend money to support the businesses. The governmental help was quite risky for the financial system as there was a need for continuous and low interest loans, while lending institutions such as National Oil Fund, Development Fund and others allowed juridically safer ways of investments (Gov.kz, 2019).

Although the establishment and strengthening of the small and medium enterprise (SME) sector was a long-term process, which depended on a wide range of factors, the trends of increasing the share of SME on Kazakhstani GDP could be observed. For instance, in the period of 3 years from 2016 to 2019 the Ministry of Economy of Kazakhstan allocated 247.1 billions of tenge to SMEs (Gov.kz, 2021).

Economy of Kazakhstan continues to rely on mining and export of natural resources (Alimbaev et al, 2020). Consequently, it is affected by the changes in price for them on the international level, such as the collapse of oil price in 2014-2015 (“Kazakhstan diagnostic paper: Assessing progress and challenges in developing sustainable market economy”, 2017). Due to this, as well as growing share of trade and transportation industry, the government started implementing the changes and initiating programs for support of business in order to diversify the economy. According to Felipe (2015), for example, South Korea’s governmental funding of SME sectors provided vital support in the form of venture capital, which had a significant impact on this sector. From the other perspective, in Kazakhstan the situation is different as there is a set of governmental regulations, which restricted the activity of SME and annulled almost all positive outcomes of the governmental support initiated earlier. This master thesis has an objective to reveal these controversies by examining existing government programs.

The small and medium enterprises have enormous potential and as it is stated, might affect the economic development of the country significantly (Felipe, 2020). While industrialization involves organizing the processing of raw materials, establishing communication with mining companies, it requires investments on acquisition of needed facilities and from a time perspective, it might take quite long to start its work. In comparison, small and medium businesses became a significant part of the economy and some enterprises already established themselves strongly in a market (Eniola & Ektebang, 2014). This is one of the reasons why adopted industrial - innovative development plans need to be implemented.

The main objectives of this paper are the following:

1. Drawing the attention to the importance of support of small and medium businesses in developing the economy of Kazakhstan and understanding the extent to which government support aids the maintenance and development of SME and thus affects the economic growth of KZ?
2. Answer the question whether the SMEs of Kazakhstan have benefited from the government support. The thorough analysis of cases where the governmental bodies intervened in the economies and how the control was done. It would also reveal the pathways of support and which of them can be adopted in Kazakhstan.

The industrialization of Kazakhstan was one of the most significant topics in the early independence period and mentioned in numerous presidential addresses to the nation. The former president of Kazakhstan, Nursultan Nazarbayev suggested that the state must develop similar to the Asian Tigers and emerge into Central Asian bars (Nazarbayev, 1997). Currently, industrial policies are less about industrialization, but more about economic growth of the state. The late bloomers of the industrialization wave such as Kazakhstan currently aim domestic policies oriented on economic growth. The development strategy of these are one of the most debated issues in the modern economical science given major controversies in the fundamental principles of it.

The former President, Nursultan Nazarbayev announced the course for industrialization and gradual development of independent domestic producers, the devaluation and economic and fiscal crises associated with first years created obstacles for that. Since the major part of Kazakhstan’s GDP is tied to natural resources export, the consequences of the crisis were not so pronounced for people, who rule and manage the companies related to these spheres of economy (Olcott, 2010, p. 129).

Likewise, the state of the economy recovered quickly after the 2008 economic crisis because of the world's dependence on natural resources and non-changing demand for them (World Bank, 2010).

Although the industry sector of Kazakhstan is quite strong because of hydrocarbon production value in the world, development of the service economy could be more effective in the future because of modernization and IT development processes (Nazarbayev, 2018). Therefore, Akorda considered this as a top-priority after President Nazarbayev announced that in his annual addresses. However, the resource curse and corruption level associated with states with oil abundance is likely to prevent the transformation of natural resources-related economies into service-based ones (Franke et al, 2009). The Government of the Republic of Kazakhstan understood the necessity of adoption of proper industrial policy and the industrial – innovative development plan. This plan was initiated in 2003 and is aimed to diversify the economic sector and one of the possible ways to achieve it is to support small and medium enterprises and delegate the provision of goods and services to them. Taking into consideration the fact that small and medium enterprises nowadays play a vital role in economic growth of the leading economies in the world, the main question faced by the economists: what measures can the government use to support the small and medium enterprises in Kazakhstan.

While the representatives of SME in Kazakhstan are offered unique opportunities by the government, these programs do not usually demonstrate absolute success. The difficulties and uncertainties in interpretations and implementation in government programs create obstacles for SME, which in general lack proper support by legislative acts and constitutional grounds.

In this master thesis, I focus on government programs initiated to support SME and identify their effect on the economic growth of Kazakhstan. The independent variables include the support of the government to the local SME such as quotas, audit moratoriums, and subsidies discussed below.

My hypothesis is as follows: the effectiveness of governmental support in terms of SME development in Kazakhstan is not well established

By 2021, the small and medium businesses have taken a significant share of the Kazakhstani GDP, reaching 32 percent (Satubaldina, 2021). In addition to this, mentioned above programs initiated by the government which were directed on development of diversified economy aided the development of the following research questions to be answered:

1. What kind of relationship between the efforts of the government to support the medium and small businesses and economic growth of Kazakhstan does exist?
2. What are the criteria and conditions for enterprises to be considered for governmental support?
3. Is there a variation among the SME types, which qualify for the application for government support?
4. How many SMEs applied to governmental support and what were the selection criteria?
5. How many SMEs obtained the support and which type of support was provided the most?
6. To what extent this support was implemented and resultful?

This study will contribute to the general knowledge of SME in Kazakhstan as its development is not widely studied in the existing literature dedicated to Kazakhstan's economy. Second, the coronavirus pandemics significantly jeopardized the situation with SME as for example, the restrictions related to social distancing resulted in limited work of businesses related to services and trades (EY, 2020). Consequently, supporting government programs during pandemics as well as during the "before COVID-19" life are extensively discussed in this work.

The economy of Kazakhstan has been relying heavily on natural resources for quite a long time; to be specific the oil industry takes a significant share of it. According to statistical data, Kazakhstan is among the top 15 countries in the world ranking for oil reserves (KazMunayGas, 2017). Despite owning proven 30 billion barrels of oil, Kazakhstan mainly depends on revenue coming from the export of the raw materials. Logically, as a result, there is a sensitivity to any minor changes of oil price on the international arena as well as supply from other countries and current demand. For

example, in 2015 Kazakhstan experienced a crisis when the price for oil dropped causing a default on the market of natural resources (WorldBank.org, 2015).

Although by 2017 the economy of the country recovered from the crisis, the government started to highlight the importance of diversification of non-oil industries and economy (WorldBank.org, 2017). Initially, the independent-era policies started to be implemented back in 1992, when Kazakhstan followed Russian example on price liberalization and privatization. Nazarbayev's government had a main issue of nation-building as well as maintaining closer ties with Russia (Pomfret, 2005). Next, the government of Kazakhstan also suggested projects related to conducting structural reforms to institutions aiming at economic development such as “100 Concrete steps” (since 2016), “Industrial - innovative development plan” (since 2020), “Kazakhstan 2025” (since 2021). One of the key aspects of those reforms was the fact that they were directed on cultivating the private sector as one of major players in the economical enhancement.

### **Literature review**

To identify the relationship between the concepts, it is essential to understand different variables, which allow the detailed analysis of the action and its consequence.

The independent variables are those, which can be manipulated within the scopes of the study. Those might be foreign direct investments, education index and others. The dependent variable is the one affected by the independent variable, such as governmental corruption, literacy rate or GDP.

The dependent variable used in this study is a rate of economic growth, which is represented by the GDP figures. Based on the literature, the majority of post-Soviet states with abundant resources tend to rely heavily on them whereas the SME sector constitutes a smaller share (Pomfret 2005; Franke et al. 2009). The extent to which SME contributes to economic growth is relatively understudied in the literature, because the government started to support them quite recently.

According to Owusu et al. (2017), increased financial investments serve as the main index of availability of financial resources for economic advancement. A sufficient amount of finances might possibly end up in a positive outcome on the survival and growth of small companies, while at the same time without financial assistance the small and medium enterprises would find it challenging to achieve favourable results. Owusu et al. (2017) examined the basic elements in the successful mission of SMEs. The results suggested that the basic factors that determined SMEs' efficiency are the explicit amount of financial resources. Moreover, limited financing into small and medium enterprises will result in the obstacle for the business expansion and therefore, deterioration of economy. Overall, it is important to identify the link between the government and operation of small and medium enterprises.

From one perspective, every change in the economic situation led to creation of reforms or programs focusing on stabilization. For example, the echoes of devaluation of national currency in 2013 can be seen in developing the state programs aimed at improving the economic policy of the Republic of Kazakhstan. Throughout the 2013-2019 period nine state programs were developed: *State Program for Infrastructure Development*, *State Program for Development of Agroindustrial Complex*, *State Program for Healthcare Development*, *State Program for Development of Education and Science*, *State Program for Industrial and Innovative Development*, *State Program for the Functioning and Development of Languages*, *State Program “Information Kazakhstan - 2020”*, *State Program for the Development of Productive Employment and Mass Entrepreneurship* and *State Program on Combating Religious Extremism and Terrorism*. From this list, some programs were oriented on the support of local enterprises. One of them is the *State Program for Industrial and Innovative Development*. The Program was established in 2015 by the Ministry of Investment and Development of the Republic of Kazakhstan. The program has the funding of 878.3 billion tenge to achieve its goals.

The main targets relevant to the topic of diploma work are reaching 30% enlargement of investments in such economy sectors as manufacturing, services and agricultural processes. This is obviously an increase in investment into small, medium and large enterprises located in the Republic of Kazakhstan. Which, consequently, will lead to growth of GDP to approximately 15% and the share in advance active facilities might expand to nearly 20%. Another program related to the improvement of small and medium enterprises is *The State Program for the Development of Productive Employment and Mass Entrepreneurship*. The program is under control of multiple ministries, such as the Ministry of Education and Science, the Ministry of National Economy and Agriculture and the last, but not the least the Ministry of Labour and Social Protection of the Population. The budgeting is supported with 135.8 billion tenge. The policy has three important aims: firstly, ensuring the professional and technical training; secondly, augmentation of mass entrepreneurship; thirdly, advancement of employment and work flexibility (Sembiyeva et al., 2020).

As for another type of assistance for SME, special laws are implicated as well. For example, there was the decree proposed by President of Kazakhstan Kassym-Jomart Tokayev who signed an ordinance on the introduction of a three-year moratorium on inspections of small businesses. This is reported by the press service of the Ministry of National Economy of the Republic of Kazakhstan. From January 1, 2020 to January 1, 2023, the central state and local executive bodies will stop inspections, preventive control and supervision with visits to small businesses, including microenterprise entities. The official decree does not apply to the prevention or elimination of violations that may potentially pose a significant threat to the health and lives of the population, the environment, the rule of law and public order; a direct or immediate threat to the constitutional order and national security.

Aside from state programs listed in previous paragraphs, there are also several national programs, which also contribute to the development of SMEs in concordance with state programs. *The joint-stock company "Damu"* is an entrepreneurship development fund, which was created with the government decree in 1997. The fund provides three types of financial support to the MSEs: preferential lending through second-tier banks within the framework of targeted programs for regions and individual industries, microlending through the microcredit organizations; reduction of the interest rate on business development loans issued by banks; and granting of a partial guarantee as a pledge security for bank loans. The major important targets of the fund are as follows ("*Damu*" Entrepreneurship Development Fund" | Electronic government of the Republic of Kazakhstan", 2021):

- the MSEs with the great potential are guaranteed the access to investments;
- increase in the availability of credit resources for private enterprises;
- assuring the most reasonable distribution of credit resources which may be achieved by maximal coverage of private enterprises;
- facilitation of economic variety and enhancing competitiveness in the field of SMEs;
- augmentation of supportive ways for SMEs that are capable of expanding domestic products manufacturing, using innovative technologies and boosting the competitiveness of their products;
- improving the professional skills of private businesses and promoting the entrepreneurship among the population

Another national organ involved in the improvement of MSEs is the *National Chamber of Entrepreneurs "Atameken"*. The program gives its support not only to small and medium enterprises, but also to large companies. The chamber, ("*National "Atameken" Chamber of Entrepreneurs*" | Electronic government of the Republic of Kazakhstan", 2021)

- depicts the concerns and gives protection to entrepreneurs' rights,
- monitors the businessmen's activities,

- encourages the internal production,
- enhances the professional skills and provides vocational education,
- stimulates the export activities
- attracts financial support.

No less significant program to mention is *The State Program of Support and Development of Business “Road Map of Business 2025”*. The program is developed as a method of accomplishment of the “Kazakhstan-2050 Strategy” which was established by the President of the Republic of Kazakhstan in 2012. The plan of action is directed in four orientations (“Business Road Map 2025 State Business Support and Business Development Program | Electronic government of the Republic of Kazakhstan”, 2021):

- Maintenance of novel business-enterprises especially in small towns and rural areas
- Promoting the entrepreneurs working in the principal economic sectors (Healthcare, Education, Information Technologies, etc)
- Minimizing the exchange-rate risk of SMEs (Subsidising the interest rates)
- Non-commercial support for SMEs

The programs have its strengths in promoting the competitiveness among labor force of Kazakhstan. Moreover, it gives opportunities to reduce regulation and administrative barriers to business development and offers the favorable tax and customs policy. (“Об утверждении Государственной программы поддержки и развития бизнеса “Дорожная карта бизнеса-2025” - ИПС “Эділет””, 2021)

In addition, inspections can be carried out if they were initiated by the entrepreneur himself in relation to his own activities, as well as on the grounds provided for by the Criminal Procedure Code. The moratorium does not apply to prosecutors, customs, counter-tax inspections, as well as inspections of subsurface users, preventive supervision with sanitary and epidemiological examination of products.

### **Theoretical framework**

The major purpose of this study is to analyse the ability of the government of the Republic of Kazakhstan to diversify and boost the economy through support of small and medium enterprises and how it could be done. Even though the government admits the fact that the contribution of SME to the GDP could increase if the government introduces supporting measures, the share of this sector of the economy in relation to the volume of overall industrial production remains not as significant as desired.

It is highly likely that a successful development of business may facilitate the consumption level, which directly correlates with overall Kazakhstan GDP value according to the basic macroeconomic principles. As for December 2020, the consumption level showed 58.8% of GDP, which accounts for a significant level of dependence between it and economic growth perspectives. Any business at the initial stage requires external support, especially the funding sources. In fact, the first place where they can find investments is the commercial bank. The true cost of borrowing from second-tier banks is very high, in comparison with government grants due to growth of inflation rate and devaluation of tenge. For instance, taking the loan from “BCC” bank will result in return of approximately 300% of the borrowed sum. While the state grants offer significantly lower interest rates and ensure the covering of bank commissions for the taken loans (Kovalenko, 2018).

In addition, the other aspect of the issue is related to the question of the importance of SMEs in the economy. The main idea behind this problem is to address the dependency on the natural resource sector, the possibility to overcome the problem and to reduce the economy’s dependence on the oil industry. In other words, the objective of the government is to identify properly which sectors, services and goods should be under control of small and medium private companies and accordingly receive

assistance from agencies. Besides, there is another important issue which is required to be addressed - that is to indicate whether there is a strong need for the government's investment into the small and medium enterprises and how it will affect the economy.

In fact, the first thing, which should be assessed with the help of methodology, is the difference between the contribution to the GDP from small and medium enterprises which receive support from the government and those which did not receive any support. It should be done through the collection of data from open sources provided by KazStat and the other official state agencies, which publish the economic data. Moreover, there is a need to collect data connected with operations and productivity of SMEs such as revenue, amount of labour force employed, turnover and similar relevant information throughout the different times, especially those, which were connected with economic reforms. This could be done through the questionnaires among the business holders. The above-mentioned information will be collected from primary sources, but in addition, the secondary sources such as governmental reports on SMEs financing and functioning should be looked through.

### **Methodology**

In recent events, the development of SME is one of the top priority objectives for the government of Kazakhstan given its potential contribution to the economic growth rate of Kazakhstan and overcoming the negative aspects of coronavirus pandemics-related restrictive regulations. Content analysis and desk review of the existing types of support is one aspect of my research agenda. The major method to examine the effect of the government subsidies on the economic growth via supporting SME is building the data based on the following initiatives:

*State Program for Infrastructure Development,*  
*State Program for Development of Agro-industrial Complex,*  
*State Program for Healthcare Development* and others.

These were challenged by the lockdown measures, which restricted the time at which SME could function. As a result, employees were asked to leave their workspaces and stayed without any compensation. The inability to work created difficulties in generating profit to distribute among the management who further lost their incentive in sustaining their business.

Furthermore, as it was already mentioned, the government of Kazakhstan made the development of specific laws implying subsidies and assistance for the SME representatives. I will review these to identify whether it is feasible and relevant to the current settings. The data would be used from the zakon.kz, National bureau of statistics and akorda.kz official websites.

In fact, there is not enough available or relevant information regarding the effectiveness of financing. That is why the main aim of this methodology is to construct and develop theoretical and methodological ways of collecting the information for the purpose of analysis of SME financing on behalf of the government and other financing institutions.

As it has been mentioned in the previous parts of the paper the main theory behind the research is to identify how the government will choose the industry and companies to finance and based on what criteria should the government support small and medium enterprises. In addition, the purpose of the methodology lies in the effectiveness of project financing as one of the factors of stabilizing the economy and ensuring the stable economic growth should be measured through the research.

The first thing, which should be assessed with the help of methodology, is the question concerning the reasons behind financing of such types of companies. That is the government always faces the problem of resource allocation due to budget constraints. Therefore, it is very crucial for the government to properly identify the companies within industries, which should receive financing, in order not to spend the money blindly and not to waste it. In fact, the question regarding the criteria for choosing the companies to finance should also be analysed.



Moreover, there is a need to collect data for proper classification from the lending agencies. This could be done through the questionnaires among the business holders. The above-mentioned information will be collected from primary sources, but in addition, the secondary sources like reports of government on SMEs financing and functioning will be looked through. Next, the questionnaire will be sent to the owners of SME using the internet in order to access the referral to such programs, interest and the awareness of the existence of such programs. It would also be beneficial to outline the trend in support- whether the government has the 'preferences' in financing specific types of business. The interview would be more preferable, however due to the pandemics caused by COVID-19, the remote and online questionnaire is a safe way, which would also allow to cover more businesses and regions. Although the survey can include a wide range of questions, to increase the probability that it will be answered till the end, it would combine multiple choice questions, yes/no type and some open ended questions. In addition, the questionnaire would be anonymous with questions that would not de-identify the respondents and non-profitable.

Questions to be used in interview are the following:

- How many people are working in your enterprise?
- What is the focus of your business?(trading /production/ logistics/service/others)
- Have you ever heard about the Governmental support programs? (Yes/No)
- If yes, then have you ever applied to such programs? (Yes/No)
- If not, what is the main reason why you did not apply?
- Have you ever received any support from the government? (Yes/No)
- Were you surprised with the results of the contest? (Yes/No)
- Why yes or why no?
- If yes, then what type of support did you receive? (subsidies/financial lendings/ investment/ education/other, please specify)

This questionnaire was created using SurveyMonkey platform and spread on different social media.

The design of the study was qualitative case study. It is generally used to find associations between exposure and outcomes in objects observed in a given time period. Here the objects were business holders (holders of Limited Liability Partnership, Individual Entrepreneurship, etc...), exposure (applications for participation in governmental programs contest), outcome (received support/not received support). The data was collected through a questionnaire shown in the previous paragraph over the period of 2 months from September, 2021 to October, 2021. Study sample included 98 participants. The questionnaire had an appropriate consent form and the participant had a right to withdraw from the study at any moment. The data obtained from the study is entirely confidential, no names, address or other private information were used, the participants were notified about it in the consent form. What is more, the questionnaire was constructed in 3 languages: Kazakhs, Russian and English. After the analysis of results was finished the data was deleted forever.

Finally, secondary sources would be used to reconcile the data from the primary research with the scholarly opinion. For such purposes, works on the SME effect on economic growth would be used focusing on both Kazakhstan and other post-Soviet states.

### **Results and data analysis**

For most countries, the sustainable development of the economy and improving citizens' level of life are the main objectives and Kazakhstan is not an exception. Taking into consideration the importance of the oil specter in the current economy of the government, the state officials understand the need of diversification in order to ensure expansion of the non-oil sector, increase in labour productivity, increase in export of non-oil sector products and others. Therefore, the development of the sector of small and medium enterprises as a means of diversification is one of the key aspects of many governmental programs. Moreover, SME development will lead to creation of other industries,

reform of the existing industries and their growth with subsequent labor force increase (Kameyama et al, 2001). There are several programs developed by the government as to support SME. Those include “2020 business roadmap”, “Productivity 2020”, “Employment 2020” and others, adopted under the other major strategy of the country “Kazakhstan 2050”, one of the main goals of which is to increase competitiveness of business objects.

Many scholars, such as Longhi and Keeble (2017) consider that the support of small and medium enterprises started in 1990, at that time a legal framework aimed to develop the activity of business objects started to emerge. Many laws regulating the activity of SME were adopted and this sector started to grow. Nevertheless, the experience of other developed countries who successfully integrated SME into the economy showed that without the state support, SMEs are more likely to become bankrupt rather than become a stable part contributing to the GDP of the country. On average out of every 10, only 2–3 remain to function. That is why, as SME can be considered as a stabilizing tool, these companies are still considered as very risky businesses. This happens due to the fact that SME are more vulnerable to any market changes, as compared to large enterprises. As a result, it is difficult for them to manage economic shocks due to lack of enough resources.

In fact, as compared to international level, the amount of SME in Kazakhstan is quite significant. Although, according to the official statistical data, the annual increase in the number of registered small and medium enterprises starting from 2002 has reached 15-18% and as of September 2008, the number of active SMEs was equal 666,908 the number of people employed exceeded 1.9 million people. Other scholars report that there was an annual increase of GDP by almost 20%, employment by 10% from 2002 up to 2013. So, in 2013 the number of SME per 100 working age population was almost 12, which was approximately the same for developed countries such as Sweden.

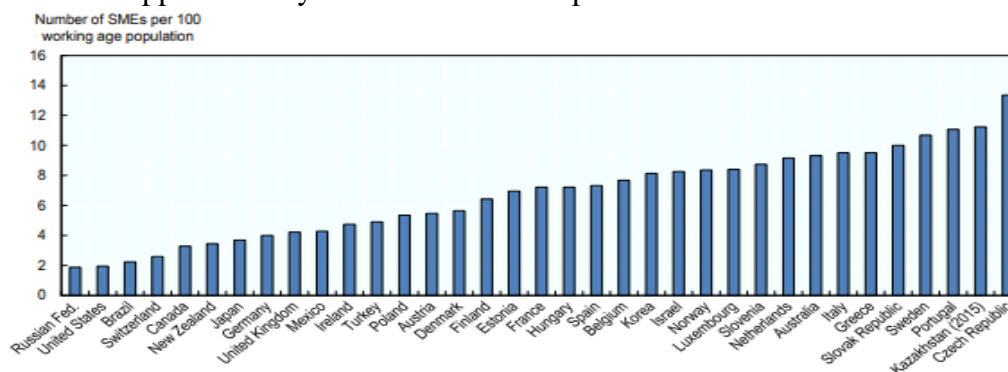


Figure 1. Number of SME per 100 working age population. Source: OECD (2016)

On the other hand, the situation was not stable, as for example by October 1, 2009 the total number of registered entities was 294,905 units, including 279,471 units with fewer than 50 employees, the number of operating legal entities was 187,452. (Moroz, n.d). Which means that as there was a decrease from 2008 to 2009, the financial crisis significantly affected the viability of SME, therefore the significant proportion of businesses had to close.

Although these numbers can be interpreted as insufficiency of necessary conditions for the development of SMEs, in reality, the economic growth of SMEs is rather a multifactorial process and therefore the governmental support is not the determining one. However, the fact of decrease in the number of registered entities and the presence of inactive companies forced the government to initiate the support programs for such enterprises.

As it was revealed, the support was presented not only in the form of financial payments, but in a range of different options such as subsidies, moratoriums, development programs. To be specific, the assistance is provided in such areas as:

- Creation of conditions for using of state financial, statistical, material, technical and information resources, as well as scientific and technical developments and technologies
- Development of state and regional development programs
- Creation of simplified procedures for registration and liquidation
- Establishment of optimal tax regime
- Establishment of various lending program

And the list is not full, as proper applications as well as situation within the country and international arena might contribute by expanding the options of assistance. For example, the financial crisis of 2008 led to the development of anti-crisis development programs and the support or maintenance of small and medium enterprises was provided in the following ways:

- Provision of credits and guarantees for the purpose of prevention of depletion of working capital of SMEs
- Alleviation of tax burden and deferring tax payments
- Access of small and business enterprises to financial resources, provision of working capital, the restructuring of credit debt, the expansion of guarantee schemes and the improvement of conditions for the repayment of existing loans;
- Implementation of financial support for small and medium-sized businesses in ensuring the implementation and completion of existing investment and innovative projects with high commercial attractiveness in order to provide an opportunity in the near future to enter the market with new products and services that have high demand

Moreover, assistance is exercised through other various means like substantial financial support provision, organization of business network centres, creation of activities of business incubators, transfer of state-owned objects through lease or trust agreement. Although, it may be seen as the above-mentioned measures undertaken by the government lead to the popularization of SME and these enterprises are actively expanding, the statistical data on allocation of budget on different types of policies reveals unequal distribution.

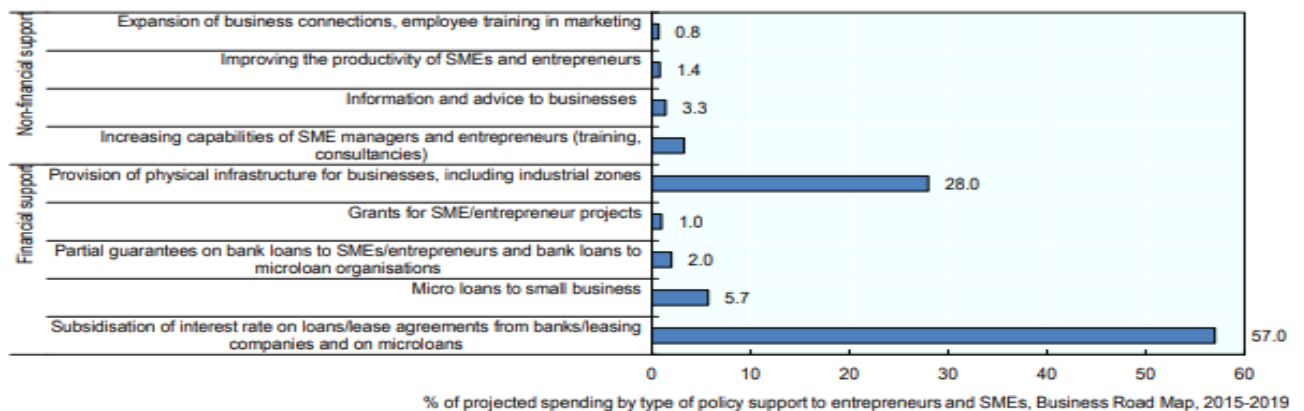


Figure 2. Allocation of Budget in Business Road Map 2020. Source: OECD (2015).

From Figure 2 it can be seen that there is a shift towards financial types of support, while non-financial ones have significantly less attention. In turn, it might be interpreted that ironically it is easier for the government to provide funding to overcome the obstacles on the way of developing business, rather than providing educational components such as consultations or training. On the other hand, this might be another indicator of corruption level in the country. For example, one of the surveys of Kazakhstani businessmen revealed that they consider corruption to be one of major challenges in developing business. Moreover, Kazakhstan was ranked 131 out of 176 countries in the transparency

index of Corruption Perception. In other words, the financial type support might be preferred due to benefit to specific governmental representatives (OECD, 2018).

Furthermore, despite the range of support programs that exist, the functionality and availability of the funding might be another issue. The *joint-stock company* "Damu" which was described before has supported SME by lending almost 1700 billion Kazakhstan Tenge (KZT). It might seem quite impressive, but in fact the program was available only for a limited number of SME, which is quite small in comparison to the total number of enterprises experiencing financial difficulties (OECD, 2018). In other words, the SMEs faced significant competition in order to participate in support programs. To be precise the statistical data from the report provided by Damu revealed that more than 61 thousand SMEs were involved in the range of governmental support programs (damu.kz, 2019). Simple calculations represent that it is only 4% of all registered SMEs in Kazakhstan. Thus, there is less than 5% chance of receiving support from the government.

Nonetheless, the quality of development falls far behind the global indicators. Currently, SMEs constitute only 32% of Kazakhstan's GDP. In comparison, the average share in the world is 63%. Moreover, the share of people employed in SMEs constitute approximately 36% of the overall national labour market. As a result, in relation to the scale of the national economy as a whole, the popularity of entrepreneurship in Kazakhstan is steadily increasing, but the pace of activity is quite small - the levels of entrepreneurial activity in the Republic of Kazakhstan are two times lower than the world average: 63% in GDP and 47% of the number of employees ("Основные показатели развития предпринимательства в РК за январь 2017 года", 2017). In other words, although the SME in Kazakhstan is on stage of developing and its importance in relation to economic stability is growing, the government cannot face the needs of this share in terms of support.

Moreover, the statistical data proves that government programs do not fully reveal the full potential of this sector and the development of the SMEs sector is still not effective as planned, which in terms represents lack of education and experience in this area. In turn, this points to the lack of governmental support in the form of education and network creation in SME. That is why, the main purpose of future research is aimed to analyse and identify the main drawbacks and problems, which affects and breaks the development of the SMEs sector.

Next, as there are controversies in regards to whether it is justified to allocate governmental budget to support the small and medium enterprises, the analysis of other countries was done to see the prospective opportunities as well as disadvantages of it. For example, Beck, Demircuc-Kunt & Levine reviewed the impact of SME on economic growth by comparing different studies conducted by scholars from different geographical areas (2005). First, the authors say that scholars agree that the turnover of small businesses is high; therefore, they create the job positions and destroy them quite quickly, overall not affecting the employment rate. Next, there is a portion of small businesses, which were established to maintain life, thus have low development potential. Moreover, the governmental support programs create competition between the enterprises, which in turn motivates them to increase productivity. However, small businesses tend to be less efficient in increasing productivity, while the medium sized businesses are more diligent. On the other hand, the SMEs generally tend to use high technology innovations more frequently in comparison to large corporations and this improves the communication with other companies-producers. (Beck, Demircuc-Kunt & Levine, 2005).

Interestingly, the correlation between economic growth and SMEs in different countries revealed that those are more important in countries with lesser degree of ethnic splitting, stable economies. However, countries with transition economies pay less importance to SME. Also, historic variabilities such as religion, cultural aspects as well as business environment itself found to be significant factors in defining whether SME support would lead to economic growth (Beck, Demircuc-Kunt & Levine, 2005).

Although the importance of SME on the economic growth in developed countries is clear, as it was mentioned, the programs, which are aimed at supporting SME, are of narrow focus and specific. For instance, figure 2 reported by OECD reveals that the majority of expenditures from funds goes on provision of physical infrastructure for business and on subsidies on interest rate on loan agreements from banks. It means that the potential development of SME would come from acquisition of something material, which can be bought, rather than other terms of development. One of the studies by Kurmanov et al revealed that SMEs in Kazakhstan are less likely to use or implement innovative products in their businesses (2016). Next, they outlined that Kazakhstani enterprises have very low innovative activity (less than 10%) and the reasons are the low potential to use the innovative technologies and lack of financial assets to acquire those technologies (Kurmanov et al, 2016). Ironically, the reports provide the information that funds are spent on provision of infrastructure, while international studies reveal that Kazakhstani SMEs lack those.

From the perspective of programs of governmental support to SME it was decided to analyse one of the reports provided by Damu (damu.kz, 2019). The report provides information about the development of SME in different regions. According to this report, the number of lending ways of support has decreased from 2018 to 2019, while the number of subsidies increased. Despite the increase in the number of SMEs supported, the amount of money decreased in a majority of regions. In addition, it is significant to mention that there is a tendency of increase in the overall number of registered SME and increase in number of operating SME (damu.kz, 2019). With the purpose of researching the transition of operating and non-operating businesses, it was decided to study the profitability of businesses and their activity.

One of the reviews based on the data reported by the Ministry of National Economy of Kazakhstan represented the information about the distribution of businesses, entrepreneurial activity by the regions (finreview.info, 2020). The calculations outlined that 20% of all SMEs in Kazakhstan make more than half of the profit (60%) of the entire sector. In other words, more than 1 million enterprises are developing slowly. Moreover, there is an unequal distribution of SME in regions. So, figure 3 reveals that there is a greater number of operating enterprises in Nur-Sultan, Almaty city, Atyrau region and Mangystau region. Moreover, governmental support is unequal too.

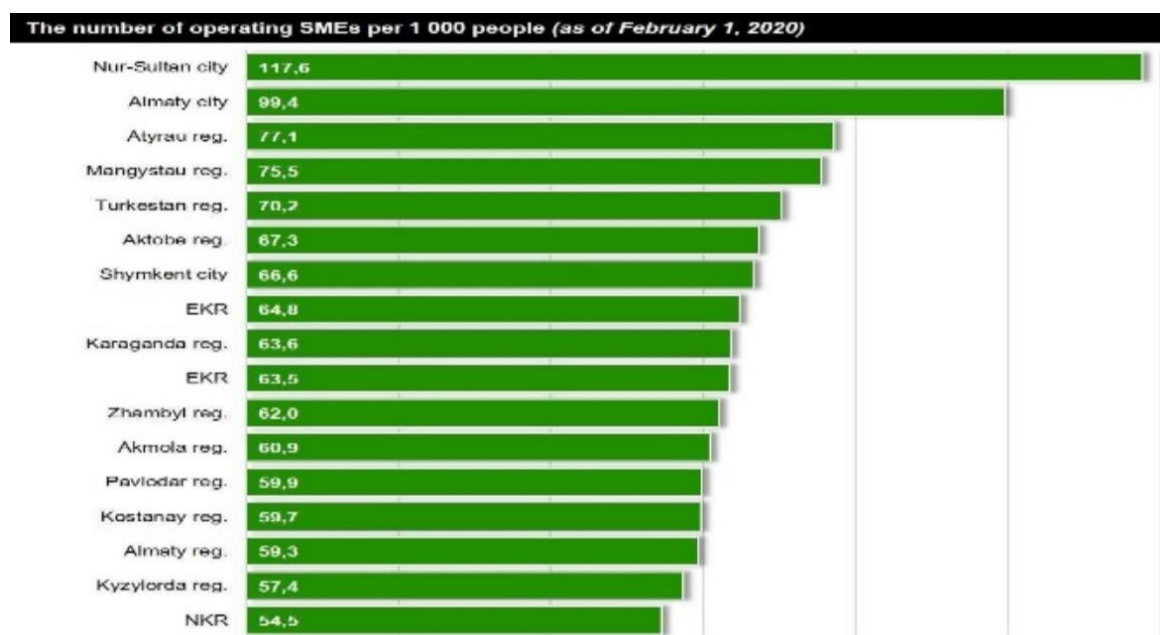


Figure 3. Number of operating SME per 1000 people by 1.02.20 (finreview.info 2020)

Next, the analysis of SME in regions revealed that entrepreneurs here are more likely to maintain a small form, individual type and less likely to form partnerships with other enterprises. As a result, there might be poor relationships between the enterprises and low motivation to grow to international level. For example, in 2019 there were more than 1 million 100 thousands of individual entrepreneurs and farms, in comparison to less than 3000 medium sized businesses in Kazakhstan ( Financing SMEs and Entrepreneurs 2020: An OECD Scoreboard, 2020). Moreover, the growth of the total number of bankruptcies is quite interesting. In 2018 almost 3500 announced the bankruptcy of their businesses and in comparison with previous years, the number increased (Financing SMEs and Entrepreneurs 2020: An OECD Scoreboard, 2020). It goes along with a statistical report published by Damu, which shows that almost 83% of SME remained operating by 2020. Although it is not clear whether those inactive businesses received the support of the government, the application to any program does not include the regulations in regards to inactive ones and still accepts their regulations.

To analyse the situation from the perspective of SME owners, the survey was conducted specifying the demand on governmental support and attitude towards it. Overall, there were 98 responses from owners of businesses with the average number of workers being 23, ranging from 10 to 116. The areas of the business range widely, including trage of products, clothing, production of bakery products, national items as well as service of technical support and cleaning services. Although all of respondents are familiar with any type of governmental support or programs aiding the business and 78 out of 98 applied to it, only two of the companies won the contest of Damu fund. As a result, they had the opportunity to receive low interest credits from financial institutions. Answering the question of why the owners of SMEs did not apply the governmental support, more than a half of the respondents replied that they do not believe in it. Moreover, 71 out of 78 respondents were not surprised by the results of the contest. According to one of them, those contests are fake and used to launder money from funds and the winners are relatives and friends of the organizers of those programs.

As it was mentioned above, the competition for governmental support is quite high and there are only 4% of SMEs involved in any of those programs. The real numbers are not spread when information about funds are provided and can be found in annual reports provided, which is less likely to be searched and read by the business community.

Although the response rate was quite low and 98 is not statistically significant to make conclusions in regards to the attitude of business owners towards the governmental support, it is useful to understand the perspective of businessmen. For example, people were familiar with governmental support programs and they applied to any of them. However, after the announcement of the results, they were not surprised as they expected this outcome. One of the most popular explanations of such logic was the idea that probably the relatives/closest/ friends won the results. Such behaviour can be explained by the long-term distrust towards the government in Kazakhstan and negative perception of the political bodies (Isaacs, 2011). In other words, people were not trusting the government in a ‘fair contest’, but rather a chance of luck. Another possible reason is human error in the application procedure. It is clear that the bureaucracy related to preparation of the documents needs close attention and minor mistakes can lead to unacceptance of application by the program.

The strengths of the study include the facts such as: 1) Intensive investigation of details of the cases. For instance, most of the participants expected their failure. Because, they thought that winning places were already sold to “beneficial” ones; 2) The study can potentially open new insights if further research, as the topic is broad and in fact there are too many SMEs in Kazakhstan; 3) The secondary sources used during literature review and data analysis are exceptionally credible and printed in high impact factor journals. While the primary sources were taken from official governmental websites.

On the other hand, there is no research without limitations. The primary limitation of this study is the lack of statistical power, as only 98 participants gave consent to answer the questionnaire form.

Moreover, this research as every other case study designed research was obviously time-consuming, it took lots of time to construct a proper questionnaire, spread it via social links and analyse the data obtained. Other possible disadvantages may be the presence of Hawthorne effect: when people presumably change their opinion after they become aware of being under the study. Furthermore, it is necessary to remember about the researcher bias, as the author's own beliefs can impact the correct analysis.

### **Conclusion**

Overall, the master's thesis examined the trending and controversial topic: "Economic policy of Kazakhstan: Government support of small and medium enterprises and the economic growth". The main hypothesis of the research was: the effectiveness of governmental support in terms of SME development is not well established. The hypothesis statement was supported by the analysis of "Damu", "Atameken" and "Business Road Map" program reports and partially by the results of the questionnaire.

Overall, the development of the sector of small and medium enterprises is one of the main aspects of many governmental programs. Which is quite a multifactorial process and governmental support does not play the key role. It is already known that SMEs are more vulnerable to economic changes in the country, as compared to large enterprises.

The support offered by the government is significantly diverse and can be represented as: creation of conditions for using of state financial, statistical, material, technical and information resources, as well as scientific and technical developments and technologies; development of state and regional support programs; creation of simplified procedures for registration and liquidation; establishment of optimal tax regimens; establishment of various lending programs.

The "*Damu*" program allocated almost 1700 billion Kazakhstan Tenge (KZT), which may seem as an impressive fund, but in fact the program was available only for a limited number of SMEs, which is quite small in comparison to the total number of enterprises experiencing financial difficulties.

To address the issue from the other perspective, the survey was conducted using a specially designed questionnaire. Which specified the demand for governmental support and attitude towards it. The questionnaire was completed by 98 responses from owners of businesses with the average number of workers being 23, ranging from 10 to 116.

The study gave the evidence that people distrust the funds from the government, and majorly rely on their own capabilities. The interesting feature found during the research was that Kazakhstani businessmen tend to think that corruption is the major challenge in developing business. Because, they think that only "relatives" can possibly win the state fund.

The main possibilities of future research are proposed to examine and define the major pros and cons, which affect the development of the SMEs sector.

What is more, the SMEs faced significant competition in order to participate in support programs; only 4% of all registered SMEs in Kazakhstan had a chance to win the competition. Therefore, less than 5% of SMEs received support from the government.

The relevance of his topic in the current period is that during COVID-19 pandemics, the governing body will try to increase the government support of SMEs, but only a low number of businesses will not grow significantly as the government cannot give support to everyone. Thus, it is necessary to change the tactics of support offered by the government, such as involving educational support, expansion of business connections, provision of physical infrastructure, subsidization of interest rate.

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## **“Drug addiction among the youth of Republic of Kazakhstan”**

Nursipatova Botagoz, ID 20181744 (MPMA)

### **Abstract:**

This study is dedicated to issues related to drug addiction in Kazakhstan, as well as observation and analysis of the world experience in fighting with this phenomenon. The drug situation in the republic has been developing quite rapidly in recent years. At present this problem can entail the emergence of a number of serious threats to the national security of our country.

The main purpose of the study was to identify the key prerequisites and reasons for the spread of drug addiction and drug trafficking in Kazakhstan, study the world experience in combating these phenomena, and develop practical recommendations for improving the mechanism of combating and countering drug addiction and drug trafficking.

It was decided to conduct a survey among drug addicts in the city of Almaty undergoing treatment at the City Center for Narcology of Medical and Social Correction. In addition, a survey was conducted in the form of a survey of relatives of drug addicts who are being treated in a correctional institution. According to the survey, drug addiction is a problem for young people. Most of those who have tried drugs (98.6%) tried them for the first time before the age of 29, and the first try, as a rule, falls on the age of 16-29 (82.1%). Moreover, for the first-time drugs were offered to them by friends (47.5%), acquaintances (25.0%), colleagues at work (12.6%).

Despite the fact that only a small part of the population has acquaintances among drug addicts, one cannot ignore the fact that 26.9% of the inhabitants of the region have ever received an offer to try drugs in their lives. It should be noted that in case of receiving such an offer, an unequivocal refusal should be expected from 97.4% of the population.

### **Introduction**

The main purpose of the study was to identify the key prerequisites and reasons for the spread of drug addiction and drug trafficking in Kazakhstan, study the world experience in combating these phenomena, and develop practical recommendations for improving the mechanism of combating and countering drug addiction and drug trafficking.

We all must admit that drug addiction has a negative impact not only on a person's life, but also on society as a whole. The social consequences of drug addiction in every country are: the level of social activity, manifested in the loss of a person's ability to work would be the main problem of a result of the systematic use of drugs.

If we try to analyze the life of a drug addict, we can notice that most of the drug addicts do not work anywhere and they live at the expense of their relatives or sometimes are engaged in dishonest and criminal activities in order to get money to satisfy their hunger for their addiction. Many drug addicts become elements of a criminal structure. Some of them have violations of the employment contract, because the level of professionalism is falling down, and they may have difficulties in performing ordinary tasks due to consequences of a drug on their perception.

The negative social consequences of drug addiction are also manifested in the destruction of family relationships. People who suffer from drug addiction usually do not get married. And if they do get married, then it soon falls apart. Sometimes, it happens that drug addicts form a "family" of drug addicts. This makes it easier to use drugs in a safe environment with a person that you trust. Usually such a “family” has its own refuge in the form of a basement, empty house, and they have their own specific ways of getting money and drugs.

The importance of the research is connected with the development of practical recommendations for improving the mechanism of combating and countering drug addiction and drug trafficking.

### **Literature review**

Drug addiction came from medicine in the following sequence: opiates for pain relief, barbiturates as sleeping pills, analgesics, psychostimulants, tranquilizers, hallucinogens used in the United States and other countries in psychological and psychedelic therapy.

In modern society there are conditions conducive to the spread of addictive behavior. The possibility of easy and immediate enjoyment, which becomes a lifestyle, impoverishes emotions, motivation for learning and interesting work, meaningful leisure. All this can be replaced with entertaining TV shows, computer games, fast sex, alcohol and drugs.

Geographical location, intensive development of transport infrastructure, "transparency" of borders with most of the neighbouring states and a stable socio-economic situation within our state contributed to the fact that Kazakhstan has become an advantageous "transport corridor" for the transit of narcotic drugs and psychotropic substances from the countries of South-West Asia and Afghanistan to Russia, then to Europe and countries of other continents.

The volume of drug trafficking and the scale of drug abuse in Kazakhstan continues to grow, not only endangering the health of the population but also destabilizing the economic, political and social situation, the process of economic reforms carried out by the state.

There is an intensive restructuring of the drug market towards the displacement of poppy straw and drugs of the cannabis group by more highly active, expensive and most dangerous for health narcotic drugs and psychotropic substances, such as heroin, opium, supplied mainly from the countries of the "Golden Crescent", as well as cocaine, crack, LSD, amphetamines coming from Western and Eastern Europe and Russia.

At the same time, the number of certain categories of persons who constantly use narcotic drugs and psychotropic substances tends to decrease.

The largest share among drug-related crimes continues to be attributed to crimes related to the illegal manufacture, acquisition, storage, transportation, transfer of narcotic drugs or psychotropic substances, committed without the purpose of sale.

In Kazakhstan, drug addiction is quite "young". Almost 85% of drug addicts are people from 20 to 39 years old.

Addiction to drugs in 80% of adults was recorded between the ages of 12 and 17 years. Law enforcement agencies of the Republic of Kazakhstan confirm this trend. As part of the ongoing measures to combat the illegal sale and consumption of drugs, constant measures are being taken. Referring to the data of drug control officers, we can say that the real indicators of the dynamics of the growth of drug addiction among young people in our country are 5-8 times higher than the recorded cases. The main persons involved in the distribution and use of drugs are young people 13–25 years old.

In terms of overdose mortality in 2019, Kazakhstan ranked 33rd among 99 countries of the world (kursiv.kz, 2019). Unfortunately, in the republic there is a small amount of scientific research aimed at a deeper and more detailed study of this problem. Synthetic drugs in Kazakhstan have become a separate scourge among young people (Buzina, 2015). Moreover, their distribution is carried out not only through offline dealers - they can also be easily purchased via the Internet. Such interest of young people in the use of drugs obliges the state to draw up state programs and stop the development of this negative trend, which is the cause of the degradation of young people.

Scientific research and analysis of domestic criminal statistics show that there are two main groups of people in the area of drug trafficking: drug abusers and drug distributors.

There is also a certain intermediate group of people between them who both abuse drugs and distribute them.

The main emphasis in the fight is on drug users, while drug traffickers remain unpunished, beyond the line of justice. This only increases the rates of drug crimes committed, and does not eradicate crime.

At the same time, researchers of drug addiction problems believe that, despite the difficulties in classifying countries according to the level and forms of drug addiction, their comparison makes it possible to single out some general patterns of development of the drug situation. One such method of classifying countries is by dividing them according to their place in the cycle of production, distribution and sale of narcotic drugs.

The problem of drug trafficking is closely related to other problems (migration, smuggling, etc.). According to international organizations such as Interpol, up to 78% of illegal migrants are associated with drug smuggling, the proceeds of which cover the financing of other illegal operations - from arms smuggling to organizing terrorist organizations. Scientific research and analysis of domestic criminal statistics show that there are two main groups of people in the area of drug trafficking: drug abusers and drug distributors.

There is also a certain intermediate group of people between them who both abuse drugs and distribute them.

There is no doubt that the actions of persons distributing narcotic drugs, psychotropic substances, their analogs pose a threat to public health much greater than the actions of persons involved in the orbit of non-medical drug use.

Further complication of the situation in Afghanistan, the growth of internal, primarily economic and foreign policy, problems in some countries of Central Asia, as well as a consistent decline in the production of opiates in the "Golden Triangle" while maintaining its high consumption in the world - all these factors in the near future are even greater will aggravate the drug situation in Kazakhstan and become a threat to explode the balance of power in the region.

Based on the above, the following actions are the most interesting from the point of view of Kazakhstan's specifics.

1. Suppression of the development of own production of drugs like "heavy" and synthetic drugs. The development trend of the drug industry in the world testifies to the colossal complication of the global map of drug production and consumption.

2. Suppression of the transit of drugs, precursors and technologies for the production of synthetic drugs. This is the main task of the anti-drug program of any drug transit country, which is associated with a real threat of an increase in drug addiction.

3. Concentration of efforts of anti-drug policy to suppress drug use. The accumulated experience of countries prioritizing drug supply suppression (combating drug trafficking) clearly demonstrates its lower effectiveness in comparison with the policies of countries that localize efforts to prevent consumption (Toybaeva, 2019).

Sociological research data also confirm the development of the trend towards the use of "hard" drugs. Thus, the majority, namely 45.7% of the respondents, said that the drug addicts they met "smoke hashish, marijuana or the leaves of other plants containing drugs." 31.6% of the respondents say that the drug addicts they have met recently use drugs injected into their bloodstream. 17.9% of respondents have encountered so-called toxic addicts who sniff gasoline, acetone, glue or other strong-smelling chemicals." 13.7% of the survey participants who had to deal with drug addicts said that the drug addicts they met use various medications with narcotic effects. In other words, almost a third of the drug addicts whom the survey participants had to meet take so-called "hard" drugs, which are injected into the blood intravenously with the help of medical syringes.

On the whole, all the tendencies above indicate that the complication of the drug situation in the republic has been developing quite rapidly in recent years. At present, and even more so in the perspective of its development, this problem can entail the emergence of a number of serious threats to the national security of our country.

M.S. Ashimbaev (2014) in his research with other authors "Narcotization of society", states that adolescence is known as the age of increasing protest against moral norms and principles in adult society. Since there is an unambiguously negative attitude towards drugs and drug addicts in adult society, adolescents choose drug use as one of the forms of protest.

M.S. Ashimbaev stated the shocking statistics of drug addicts were presented. According to the data, two thirds of drug users are young people aged 15 to 25. Compared to the 1997 data, the number of adolescents who have tried drugs increased almost 4 times. The Drug Situation in The Republic of Kazakhstan and its Coverage in The Educational Process", T. Baizoldanov (2017) also states that according to statistics, the number of drug addicts is growing every year. However, the sociological study revealed a slight decrease in drug users among adolescents in comparison with the data obtained in the 2009 questionnaire survey.

Then 5.8% of the respondents admitted to using drugs. In the course of the last sociological survey, 2.9% of drug users were identified (of which 55% were boys and 45% were girls). However, despite the fact that the survey was anonymous, confessing to drug use takes a certain amount of courage. Therefore, there is reason to believe that the percentage of young people who use drugs in reality may be higher.

Analysis of foreign experience at the research of "The Drug Situation in The Republic of Kazakhstan" by G.M. Toybaeva (2019), shows that the most effective primary prevention programs are programs that teach adaptive lifestyle, communication skills, critical thinking, the ability to make independent decisions and the ability to firmly say "no" to psychoactive substances.

However, according to Toybayeva, there is no agency providing a full and comprehensive prevention program and our country needs the joint efforts of law enforcement agencies, educational institutions, health care institutions, public organizations and young people themselves.

The growth of drug use in Kazakhstan is a phenomenon, like our neighbors, objectively related to the "Afghan factor" and the growth of drug smuggling, but it has some specifics. Kazakhstan is distinguished, in particular, by the fact that, despite the soft rules and wide availability of drugs, most local consumers are not addicted to heroin or morphine, but are "lovers" of their derivatives. cannabis (like 75% of all addicts). According to the experts of the UNIDCCP, cannabis does not have such a negative impact on the gene pool as, for example, opiates. However, the trend towards the use of "stronger" drugs is now very characteristic of the domestic market: heroin, which a few years ago was a rather exotic drug in Kazakhstan, is now clearly ahead.

A sociological survey conducted with the support of the United Nations showed that a fifth of the country's population aged 15 to 49 years has tried drugs at least once. 4.5% of the surveyed Kazakhstanis use them from time to time, 2.1% systematically. A generalized portrait of a Kazakhstani drug addict looks like this: an unemployed 27-year-old man. At the same time, psychological and sociological studies show that in the mass consciousness of Kazakhs, even among young people, there are practically no beliefs or stereotypes that approve of drug use. The "average" Kazakhstani drug addict most of the time made the decision to "inject and forget" already in adulthood (25-27 years old), and not out of curiosity, but rather out of desperation.

In the process of preventing drug addiction and smoking among young people, it is necessary to switch from mandatory methods to voluntary and conscious methods, which is impossible without creating a certain infrastructure on the ground, with direct telephone lines, with consulting services. Anonymously, with the creation of social services and specialized clinics.

An important place in the prevention of drug addiction should be given to schools and universities, where there is a great potential for preventive work. At the same time, a compromise is needed between the involvement of administrative resources and the form of school autonomy, because it is impossible to solve the problem without the direct participation of young people themselves. Meanwhile, according to official statistics, about 10 thousand drug addicts were registered in Kazakhstan in 1986. Today, according to relevant organizations, the number of users of drugs and psychotropic drugs is about 50 thousand people. Thus, over the past 7 years, the number of users of drugs and psychotropic substances has increased almost 5 times.

The seriousness of the current situation and its significance are also confirmed by the results of a sociological study conducted under the auspices of the Institute for Strategic Studies of Kazakhstan under the President of the Republic of Kazakhstan in all regions of Kazakhstan, the cities of Nursultan and Almaty, of which 12,000 people are over 18 years old. The overwhelming majority of survey participants consider the threat of drug addiction and drug trafficking to be one of the most serious. In particular, 30.3% of respondents called drug trafficking the most serious problem for Kazakhstan today.

### **Research methodology**

There are four main methods of empirical sociological research: document analysis, observation, polling and social experiment. They share the dependences on the states of the facts of consciousness, as well as the way of fixing them. The bulk of empirical information in the study of the presented research methods, based on obtaining information about the respondents, one or another vital phenomena and events of public life.

The great importance of these methods was, first, organizational advantages (it is always easier to organize a survey than to carry out any other method of sociological research); secondly, the relative cheapness; thirdly, the content and universality of the information obtained by the survey method (using the survey method, you can get any information on a variety of problems, which cannot always be documented or recorded through observation); fourth, use the use of technical means to process the data obtained as a result of the survey.

The questionnaire survey in our research was carried out in three stages:

1. The preparatory stage, which includes the development of a survey program, drawing up a plan and a network schedule of work, designing a toolkit, piloting it, multiplying the toolkit, drawing up instructions for the interviewer, respondent and other persons participating in the survey, selection and training of interviewers, questionnaires, solving organizational problems.

2. Operational stage - the questioning process itself, which has its own stages of phased implementation.

3. The resulting stage is the processing of the information received.

Based on the structure of the method, its characteristics are determined, which provide for a number of requirements for the initial documents of the questionnaire, the questionnaire, the respondent and the instrument itself (questionnaire, questionnaire).

As part of the study, it was decided to conduct a survey among drug addicts in the city of Almaty undergoing treatment at the City Center for Narcology of Medical and Social Correction. In addition, a survey was conducted in the form of questionnaire relatives of drug addicts who are being treated in a correctional institution.

### **Results**

The problem of non-medical drug use is directly related to the problem of spending free time. Not all localities have opportunities for good rest in accordance with the needs of the population, in this case, the drug is a substitute for rest, a replacement for new and vivid impressions. According to

the survey results, only half of the respondents (51.4%) have opportunities for an interesting pastime in accordance with their ideas, 26.5% of them - in full. At the same time, men (55.5%) and young people aged 14 to 17 (60.3%) note the presence of all conditions for an interesting rest more often than others.

In order to spend their free time in an interesting way, half of the respondents (51.6%) lack entertainment facilities: 21.4% need cinemas, 14.8% need shopping malls, 7.7% need new cafes, restaurants, 4.0% - in new nightclubs and bars, and 3.7% - in new Internet clubs. Almost the same number of respondents (33.1%) note that they lack sports facilities: a new sports club (25.7%) and a swimming pool (27.4%). Another 30.4% of respondents need a new park.

Basically, residents of the municipal districts of Almaty region are waiting for the opening of new sports and cultural and entertainment institutions, while respondents from urban districts do not have enough green areas - parks.

According to the survey results, drug addiction is a problem for young people. Most of those who have tried drugs (98.6%) tried them for the first time before the age of 29, and the first try, as a rule, falls on the age of 16-29 (82.1%). Moreover, for the first-time drugs were offered to them by friends (47.5%), acquaintances (25.0%), colleagues at work (12.6%). The conclusion is that in most cases there are intermediaries between retailers and end consumers - friends, colleagues and acquaintances of the consumer himself. Thus, citizens themselves stimulate each other to use drugs. Accordingly, the main place for the use of drugs is common places - house territories, entrances (43.3%) or apartments (houses) of friends and acquaintances (20.5%).

### **General discussion**

Monitoring of the drug situation in the Almaty region indicates that today the level of drug addiction in society remains quite low in the region, although the estimated prevalence of drug use is 0.6%, which, according to the criteria for the state of the drug situation given in the methodological manual "Methodology and procedure for implementing monitoring, as well as the criteria for assessing the development of the drug situation in the Kazakhstan Republic and its constituent entities", corresponds to the "tense state of the drug situation."

Despite the fact that only a small part of the population has acquaintances among drug addicts, one cannot ignore the fact that 26.9% of the inhabitants of the region have ever received an offer to try drugs in their lives. It should be noted that in case of receiving such an offer, an unequivocal refusal should be expected from 97.4% of the population.

The main reasons for the spread of drug addiction can be divided into three groups: the first group of reasons is a value crisis in society, the loss of vital landmarks (the sum of answers is 78.9%); the second - not fully effective control of state bodies over the territory under their jurisdiction (81.2%); and the third reason is economic instability, crisis (50.1% of responses).

The results of the study showed that the most effective measures for the prevention of drug addiction are the expansion of work with young people (33.9%), toughening of punishment for drug crimes (up to execution) (33.0%), physical culture and sports activities (32.1%), lectures and talks in educational institutions (28.2%) and compulsory treatment of drug addicts (23.9%).

Many teens have a tough time dealing with sadness or other unpleasant feelings experienced during adolescence. It is understandable that they may think having a drink or a little Marijuana can offer relief. The best way to deal with stress, however, is to seek emotional support or find someone to talk to.

If a teen has already tried quitting or reducing use and failed, then it's important to seek treatment as soon as possible.

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## **“The role and future of the subject “Self-knowledge” in educational policy of Kazakhstan”**

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### **Abstract**

The present research work investigates the implementation of educational policy in Kazakhstan in the field of knowledge of soft skills on the basis of analysis of goal, objectives, and rationale of the school subject “Self-knowledge”. The main question this work is dealing with is - “What is the impact of “Self-knowledge” in the school curriculum of Kazakhstan?”. Due to complexity of the topic that involves psychology, pedagogy and policy analysis, the study defines concepts in the framework of the Kazakhstani educational system using comparative analysis with similar related topic cases of foreign educational policy. Middle and high school teachers (N = 5) and middle school students (N = 57) were randomly assigned to participate in the empirical experiment (online survey and questionnaire) with an aim to test implementation and participants’ overview of included innovations and relevance of subject’s content. The present work defines the gap between set goals and provided means of the said school subject, emphasizing the ambiguity of the role of “Self-knowledge” subject.

### **Introduction (and objective)**

In the framework of the strategy “Kazakhstan 2050”, Kazakhstan has set social adaptation of schoolchildren and students as one of the objectives of education. The former President of Kazakhstan made an emphasis on developing a generation of youth that would be prepared for a competitive environment of future employment. Following the trend of developed countries, the subject “Self-knowledge” (“Ozin-ozu tanu”) was introduced in 2010 to the educational process of preschool organizations, secondary schools, colleges, and pedagogical higher educational institutions, as a soft-skills training. Being a compilation of psychology and pedagogy, this subject was launched with the



aim to be the basis of spiritual and moral education of the young generation. Furthermore, the current research work is aimed to achieve following objectives:

1. Research background and make an analysis of mission, goal, and objectives of the subject “Self-knowledge”.
2. Conduct an empirical experiment (survey and questionnaire) among schoolteachers of the subject and middle school students from different country regions with an aim to test implementation and overview of included innovations.
3. Prove or disprove actuality of the subject “Self-knowledge” in the school curriculum and educational policy of Kazakhstan as a tool of soft skills training.

According to official data, the main goal of the subject is to form an integral, spiritually enlightened person - a citizen of the Planet, capable of realizing his knowledge and skills (<http://ozin-ozit-anu.kz/p/goal>). Since its introduction, the subject went through three stages of development – preparatory, experimental and implementation (<http://ozin-ozit-anu.kz/p/history>). However, “Self-knowledge” as a subject does not have clear indicators of successful implementation or any intermediate results apart from the number of students and educators involved in the conduction of the subject. The question to be arisen: what is the impact of the subject in educational policy of Kazakhstan?

### **Literature review (case analysis)**

Due to the change of status of Personal, Social, Health and Economic Education to compulsory in UK schools for adolescents in 2020, London School of Economics and Centre for Economic Performance conducted research on Widening the High School Curriculum to Include Soft Skill Training. The significance of this case holds in several reasons: a) The paper contributes to literature that considers interventions that roll out in adolescence; b) It has direct contribution to UK public policy; c) It contains a precise measurement (calculations) for such complex concepts socio-emotional role, general behavior, mental health, self-esteem, etc. In the framework of the research was conducted a 4-year-long experiment with the measurement of income and outcome results from *Healthy Minds* (soft skills training) curriculum in 34 high schools in England. Calculation consisted of 87 items that measure both psychosocial and physical health of students. The study provided evidence on soft skills training’s positive impact on students’ physical health and socio- and general behavior, and zero impact on emotional wellbeing. One of the main arguments of *Healthy Minds*’ effects was the evidence of impact on career aspirations. Most students tend to choose work which involves “people-skills” and shift from more competitive occupations. Furthermore, the findings have shown a notable decrease in the number of male students of soft skills training in choosing traditional male work. However, the study has overlooked gender differences in educational process with inconsequential favoritism to male students. In addition to the study's limitations, the research was conducted only in disadvantaged schools. Therefore, leaving the question of successful distribution of principle measures of non-cognitive skills in a more varied school environment open. Overall, the work of LSE and Centre for Economic Performance succeeded to present the positive potential influence for later adolescence interventions to promote soft skills training and impact career aspirations.

### **Research methodology**

To provide answers corresponding to the main questions of the study, it was decided to conduct an empirical experiment among both teachers and students of the subject “Self-knowledge”. The goal of the experiment was to collect constructive feedback to test implementation and overview of the subject. The conditions for the research were a) diversity of occupation (teacher, student) and background of participants (years of teaching experience, geographical location); and b) anonymity of participants. The collected data was analyzed using a qualitative evaluation method.

Teachers (5) of the subject with pedagogical experience with the average of 15 years were asked to give one out of three options (Agree, Disagree, No answer) to 10 point-based statements. The statements were concerned with different aspects of teaching the subject such as understanding the overall goal, participants' professional viewpoint on the content, structure of the subject and effectiveness of its implementation. The structure consisted of 3 options for participants to choose from – Agree (1 point), Disagree (2 points), No answer (0 points). Therefore, results presented in total amount of 20 implying that any outcome below 10 points would be an indicator of unclear overview of the subject, whereas results of below 10 points would be an indicator of disagreement on behalf of educators.

Adolescent students of two different middle schools from Almaty city (30) and Aqmola region (27) were randomly chosen to participate in an online questionnaire with close-ended questions (Yes, No, No Answer). Participants were asked the same 5 questions that were concerned with mainly student's experience as the subject's learner and the ability to implement findings onto real life situations.

### **Results and findings**

Methodology of the research work aims at revealing the position of important actors in implementation of the project - school teachers. The constructed questionnaire, presented in the Appendix #1, is concerned with different aspects of teaching the subject such as understanding the overall goal, professional viewpoint on the content, structure of the subject, and effectiveness of modern implemented in "Self-knowledge" teaching methods (e.g. no-grade policy); three open-ended questions, presented in the Appendix #1, asks respondents to share personal experience on student resistance and give professional opinion on the content of textbooks and notebooks, and appropriateness of methods used considering local mentality and established social norms in terms of educational process.

Participants have commented on several significant factors of the educational process. For example, all interviewed teachers agreed that the subject has a potential to positively influence the future development of soft skills training in educational policy. However, 2 out of 5 participants scored points above 10, indicating that chosen methods used for all grades are ineffective due to age difference and the attitude of parents and school administration towards the subject undermines the outcome of teaching soft skills.

The survey has revealed a pattern that teachers without specialization in psychology consider the subject good in all aspects, whereas teachers with larger amounts of teaching experience and background in psychology are dissatisfied with the content of the subject. If we generalize survey outcomes, it could be said that the implementation and acceptance of the subject are poor due to weak conceptualization.

The questionnaire conducted among middle school students consisting of 5 close-ended questions (Appendix #2) have shown different results compared to each other based on geographical location on 2 aspects dealing with educator's psychology education background and the ability of students to express their emotions during lessons. Many interviewed city students (40%) claim that they either disagree or do not understand the concept of the subject. With a school psychologist as the subject's teacher (100%), most students (43.3%) could not give answers on whether they feel free to talk about their feelings and emotions during "Self-knowledge" lessons. Moreover, more than a half (66.7%) of respondents state that they do not find conducted lessons useful for their daily life situations. The questionnaire for small-town middle school students has provided findings like their city peers on the matter of struggling to understand or agree with the subject's concept. Although all small-town students' subject teacher does not possess psychology degrees or a position of a school

psychologist. Though most (58.8%) feel safe to talk about their emotions during lessons, do not implement (74.1%) lesson findings into their real-life situations.

Considering limitations in means of time, availability and number of respondents, the sample is not big enough to draw conclusions and prove or disprove the mentioned theory. However, the pattern findings of the research point to learners' dissatisfaction or incomplete understanding of the subject, as well as emphasizing the difference of the subject's implementation due to class' size and location. To generalize the collected data, it can be concluded that the learning process has failed on the stage of acceptance of the subject's significance and potential benefits to learners' soft skills development.

**General Discussion** (Summary, conclusion, and recommendations)

The research of the “Self-knowledge” subject has shown the ambiguity of its pursued goal and objectives. The conceptualization of the subject, due to complexity of chosen topics, is overall weak; the content of the subject has no concrete conceptual basis and does not differentiate based on students' grade/age. Though being a modern intervention into a standardized school curriculum, the subject has no accessible data on intermediate results and impact on learners' soft skills development to measure effectiveness of the subject. Moreover, the absence of data on preliminary scientific research on actual stakeholders may explain the lack of connection between theoretical and practical means and youth's needs, as well as discrepancy between set goals and its applicability into learners' career aspirations and agility in the future employment.

It is important to note that the research work has a set of limitations: a) the size and diversity of the sample and overall dependency on inaccessible data; b) complexity of concepts involving various frameworks; c) peculiarity of relatively new modern approach in educational policy. Along with its weak points, the study has provided the contribution in several spots. The research has underlined the issue of the subject's educator's psychology background both in teachers' survey and students' questionnaire, as well as the difference in foreign practice in the same field (soft-skills training of adolescent students). It also partially covered students' unheard dissatisfaction with the subject. In fact, most of the disagreements are concerned with methods used being not age-appropriate and not fitting the real classroom practice. It was identified that the subject's content and methods play a role of the obstacle in terms of making trustworthy connections with students and arousing their interest in the subject.

To improve further research, it can be advised to use bigger and more diverse samples of not only teachers and students, but also parents (or guardians) and school administration to determine the impact and the role of the subject played in modern classrooms. Furthermore, the research of the subject's effectiveness highly depends on the strong conceptualization of both – objectives and means that are provided by the subject's goal. Therefore, it is plausible to use successful foreign cases of developed countries in their preliminary research practice and measurement of educational process' outcome.

*Appendix #1*

**The list of statements (questionnaire):**

Statements	Answers		
#1 I understand the goal of “Self-knowledge” as a subject in a school curriculum.	Agree	Disagree	No answer
#2 I agree with the built sequence of content of textbooks and notebooks.	Agree	Disagree	No answer

#3 I consider the subject as important as other subjects in the curriculum.	Agree	Disagree	No answer
#4 I am sure in future development of “Self-knowledge” as soft skills training.	Agree	Disagree	No answer
#5 My students benefit from the subject in terms of improvement of soft skills and self-awareness.	Agree	Disagree	No answer
#6 I agree that performance during “Self-knowledge” classes should not be graded.	Agree	Disagree	No answer
#7 Absence of homework does not influence students' attitude towards the subject.	Agree	Disagree	No answer
#8 Subject positively complements students' overall academic performance.	Agree	Disagree	No answer
#9 “Self-knowledge” develops soft skills required for future employment.	Agree	Disagree	No answer
#10 I observe the results of work on a regular basis.	Agree	Disagree	No answer

**The list of open-ended questions (survey):**

Questions	Answers
Do methods of teaching, used in the “Self-knowledge”, fit into local mentality and established norms of educational process? Why/Why not?	1.
Have you encountered resistance and / or rejection by the student (s) in relation to the subject?	2.
How, in your opinion, can the subject, its logic, direction and / or content of the textbook / notebook be improved? Why?	3.

*Appendix #2*

**The list of close-ended questions:**

Statements	Answers		
#1 Do you understand the objective of the subject clearly?	Yes	No	No answer
#2 Do you agree with the subject's content?	Yes	No	No answer
#3 Is your teacher of the subject a school psychologist?	Yes	No	No answer
#4 Do you feel safe expressing your emotions and feelings during lessons?	Yes	No	No answer

Do you implement lessons findings into your real-life situations?	Yes	No	No answer
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**“Steel consumption and economic activity in Kazakhstan. Long run and short run cases.”**

Torabekova Aigerim, ID 20190931 (MAE)

**Abstract**

The purpose of this research is to examine the short-and long-term relationships between steel consumption and economic activity by examining the sensitivity of steel demand to changes in national income. Findings reveal no relation between steel use and economic growth in Kazakhstan. In other words, concurrent changes in income do not affect steel consumption, and changes in steel use do not impact concurrent economic growth.

**I . Introduction**

Steel is the one of the most important materials in construction, automobile industry, machinery, and infrastructure of the cities. Steel stimulates economic growth during industrialization. “Rice of the industry” or steel industry is the main that creates the basis of a national economy (Huh, 2011). Consequently, it will affect economic development of country. Also, steel is totally recyclable, has a long lifespan, and uses comparatively little energy to manufacture when compared to other materials. In recent decades, the steel sector has made significant efforts to reduce pollution. Producing one tons of steel today requires just 40% of the energy it did in 1960. [8] Even more dust emissions have been minimized. Consequently, the demand for the steel will not be fall if will not be only rise in the further periods. The simplest conclusion states that the relationship between steel consumption and economic activity could be linear, nonlinear, or nonexistent at all. Moreover, based on the other economists’ research papers that have be done for the same topic the relationship has been found in the U-shape, S-shape.

If we look at history, the main users of steel were European and developed countries. After World War 2, East Asian countries led in steel consumption since the 1970s, South-East Asia countries have also become the main consumers of steel. Over that period, developed countries switched to the high technology and service sectors, which replace the metallurgic sector without decreasing economic activity. The geographical differences play a crucial role in the changes in steel use from 1970 till 2013 among countries.

The leader countries in this industry are in two groups:

- developed countries: European countries, UK, USA, Japan, South Korea, Australia.
- developing countries: BRICS (Brazil, Russia, India, China and South Africa) and South-East Asia (including Thailand, Malaysia, Indonesia, Philippines and the Singapore). The countries of the second group overtook the developed countries in steel use, production and export.

Kazakhstan ranked in the third place in the consumption and production of the steel in the CIS giving way to Russia and Ukraine. In the countries of Central-Eastern Europe, a period of transition from a centrally controlled economy to a market economy was accompanied by greater volatility in the intensity of steel consumption. A steady trend in indices of steel use intensity has been observed

since the regulations of a market economy were formed, and it has been at too lower level than during the period of a centrally controlled economy (Rebiasz, 2006). In Kazakhstan the transition from a centrally controlled economy to a market economy in the early 90s decreased activity of the steel industry and including its consumption that rises the imported steel made goods (foreign competition).

However, despite the rich mineral resources of Kazakhstan, the metallurgical industry is sensitive since it is focused on raw materials. The lack of processing in the metallurgical industry is the main limiting factor for the development of high-tech and knowledge-intensive sectors of the national economy, such as mechanical engineering, transport and construction industries. Meanwhile, the underdevelopment of mechanical engineering and the transport industry negatively affects the competitiveness of other industries, such as oil refining, chemical, woodworking, construction, and agriculture. The state is taking remedial measures. The metallurgical industry is one of the main industries supported by the state. In 2020, financing for the metallurgical industry (11 investment projects) amounted to 11.4 billion tenge, of which the Development Bank of Kazakhstan JSC financed three large investment projects. [9]

According to the last economic activities in the world, there arises question: Should the Kazakhstan continue to produce iron and steel products? Should we open the business in the steel and iron industry? These kinds of questions are interesting in these days. Also, the country's commodity (raw) development model is important reason. Therefore, the relationship between the steel consumption and economic activity (i.e., GDP) is an important indicator which could help to valuate this situation. Moreover, it could be helpful in the forecasting of steel use.

The goal of this paper is to identify the relationship between the economic activity and steel use. Does steel consumption during industrialization causes economic growth in a region? Do economic activity causes rise in steel consumption? Or do they cause the of each other developments? In this paper we would try to find the answer to that question. Results can provide knowledge for policymakers on current behavior, industrial structure, and dynamics that will help them build industrial policies that will support the country's economic growth trends. In general, from my point of view, such kind of researches are necessary, since Kazakhstan follows the commodity development model. We will use papers that explore the same question in the developed and developing countries that lead in steel industry.

In the literature on steel consumption and its relationship with economic activity, the main approaches are *the intensity of use model* (Roberts 1990 (US), Crompton and Paul 2000 (Japan), Rebiasz and Bogdan 2006 (Polish), Warell 2009 (61 countries), 2015 (26 OECD countries)), *the theory of cointegrated processes* (Labson 1993 (US, UK and Japan), Ghosh 2006 (India), Huh 2011 (Korea), Evans 2011 (UK)), the *Bayesian vector autoregression model* (Crompton, Paul 1999 (South-East Asia)), and *the expanded S-curve model* (Gao 2019 (11 developed countries)). This paper will use the methodology from the research papers of Ghosh 2006 (India) and Huh 2011 (Korea).

In this paper we will observe the analysis and works of other researchers in Literature Review in Section 2. In the Section 3 Methodology part will be discussed the models and be described the data. Then Section 4 will represent the analysis. Finally, will be done the conclusion in the last Section 5.

## **II. Literature Review**

### **Steel consumption in the World**

The share of the metallurgical industry in world trade is 7.5%. The industry consists of 10 sectors, the leaders of which are ferrous metallurgy and production of ferrous metallurgy. The largest producers and exporters of metallurgical products are the developed countries of Europe and North America, as well as large developing countries with the necessary raw material base. [5]

In the table 1 and 2 given the top 10 steel-using countries for the 2019 and 2020 years consequently. The first 8 places do not change during the 2 years. Also, the fact volume of the steel consumption in 2020 founds the higher than the expected volumes except the last two countries in the list. The China is in the first place in the steel consumption of 907,5 million tons in 2019 and 995,0 million tons in 2020.

Table 1. Top 10 steel-using countries 2019, SRO June 2020, finished steel products

Countries	million tons			y-o-y growth rates, %		
	2019	2020 (f)	2021 (f)	2019	2020	2021
China	907,5	916,5	916,5	8,5	1,0	0,0
India	101,5	83,3	95,8	4,9	-18,0	15,0
United States	97,7	75,3	79,5	-2,1	-22,9	5,7
Japan	63,2	51,1	54,6	-3,4	-19,1	6,8
South Korea	53,2	46,5	49,2	-0,9	-12,7	5,9
Russia	43,5	39,1	41,7	5,0	-10,0	6,5
Germany	34,9	27,9	31,3	-12,0	-20,0	12,0
Turkey	26,0	26,8	29,3	-15,4	3,0	9,3
Italy	25,0	20,5	23,9	-1,2	-18,0	16,6
Vietnam	24,3	25,0	25,8	9,0	2,8	3,3

Note: f - forecast

Source: World Steel Association (2019) [1]

Table 2. Top 10 steel-using countries 2020, SRO June 2020, finished steel products

Countries	million tons			y-o-y growth rates, %		
	2020	2021 (f)	2022 (f)	2020	2021	2022
China	995,0	985,1	985,1	9,1	-1,0	0,0
India	89,3	104,3	111,4	-12,9	16,7	6,8
United States	80,0	92,3	97,5	-18,0	15,3	5,7
Japan	52,6	58,0	59,2	-16,7	10,2	2,1
South Korea	49,0	53,4	54,2	-8,0	9,1	1,5
Russia	42,4	43,4	44,7	-2,6	2,4	3,0
Germany	31,2	34,3	38,8	-11,3	10,0	13,3
Turkey	29,5	34,5	37,0	13,0	17,0	7,2
Vietnam	23,3	23,9	25,1	-4,0	2,4	5,0
Mexico	21,7	24,5	25,6	-12,1	12,9	4,3

Note: f - forecast

Source: World Steel Association (2020) [2]

Metal consumption has traditionally been regarded to be directly tied to economic growth, which determines the amount of activity in metals-intensive industries such capital equipment, construction, transportation, and consumer durables and were assumed to have a natural and permanent trait of consistent long-term increase in consumption, closely connected to the pace of economic expansion. Meadows et al. (1972) wrote on this alleged link between metals consumption and economic activity has prompted concerns about the earth's ability to sustain ongoing economic expansion in the twenty-first century through the provision of mineral products. Later several

researchers proposed that expanding metals consumption was no longer a corollary of economic expansion. Labson and Crompton's (1993) failure of formal testing for a long run common stochastic trend between metals consumption and economic activity validated this conclusion.

The intensity of use hypothesis has gained favor as an explanation for metals consumption patterns through time as a result of the apparent collapse of the traditional understanding of the relationship between metals consumption and economic activity (see International Iron and Steel Institute, 1972). In the intensity of use technique, the disaggregated character of the analysis, in which steel consumption is predicted for multiple end use sectors, is one important advantage. It was most likely further classified into U () and S (Gao et al., 2019) shaped intensity of use.

We could divide the papers related to the analysis between steel use and economic activity into two groups. The first group's aim is to make forecast for steel use or steel demand, while the second group aimed at the identification of the relation between the steel consumption and economic growth of certain country.

- The first group interested in the *forecasting of steel use or steel demand*. To realize it they got into account four different approaches.
  - *A single linear econometric equation* explains fluctuations in consumption using an index of steel prices, industrial production, and a temporal trend as a measure of technical advancement,
  - The estimation by a *vector autoregression (VAR) model* of Chen et al. (1991). To extrapolate future values of all variables, this method uses past correlations between variables in a set of dynamic, linear equations.
  - The next approach is traditional view of the *steel intensity of use* by Roberts (1990). The disaggregated aspect of the analysis, in which steel consumption is predicted for multiple end use sectors, is a major advantage of this approach. It further probably gets into U and S shaped intensity of use.
  - The last approach is the *ARFIMA* approach for modelling steel demand.
- The second group is focused on the deeper identification of *relation between steel use and economic activity*. To realize it the researchers used the theory of cointegration.

### **1. The methods that used in the forecasting**

Roberts (Roberts, 1990) aimed in his research to create a methodology for predicting metal consumption. The derived equation in his paper serves as a foundation for explaining past metal usage and forecasting future needs. He concluded that metals are in greater demand as the economy grows, but as production technology improves, metals are used less frequently. The overall consequence appears to be a halt in metal demand.

East Asia was the major steel user during the post second World War period, namely China, Japan, Korea and Taiwan. Moreover, the strong growth in steel use that started in 1980 in South-East Asia countries should be continue to 2005 depending on the assumed rate of GDP growth. Thailand is the largest steel user, followed by Malaysia, Indonesia and Philippines. Singapore is the lowest steel consumer than others. (Crompton, 1999)

The aim of the Crompton's (Crompton, 2000) paper was to forecasting the trend of crude steel use in Japan. This paper's most fascinating discovery is that cyclical increases in Japanese investment expenditure appear to lead to considerable increases in the steel intensity of domestic production, and thus steel use.

Rebiasz (Rebiasz, 2006) explored the steel consumption and its future trend in Poland. Outcomes showed the rise of the steel use from 8350 thousand tons in 2003 till 9520 thousand tons in 2008. Simultaneously, during the period under consideration, one should expect a progressive decline in the intensity of steel used.



Warell (Warell & Olsson, 2009) found that the trend and developments of steel use in the world has the inverse U-shaped form of the intensity of use curve. Based on the U-shape the steel use in the fast-developing countries, China and India, eventually will start to decline. The paper investigated the intensity of steel use curve in three models: The traditional model, the time trend model, and the time dummy model.

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The Crompton's findings show that per capita GDP is the most important indicator of steel consumption, but investment spending, as well as rates of industrialization and urbanization, are also significant factors. The presence of a gradual and continual decline in steel consumption is due to improvements in material use and substitution. As a result, over the period 1970-2012, per capita steel use has fallen by up to 50% for the 26 OECD countries. The positive relationship between steel consumption and GDP is evident in the base year 2008 (Crompton, 2015).

The expanded S-curve model is designed to serve as a foundation for estimating crude steel demand in different economies or at different stages within the same economy. Using a mathematical model and critical thresholds, the expanded S-curve can be divided into four transition sections: Slow growth, accelerated growth, decelerated growth, and zero or negative growth (Gao et al., 2019).

## **2. Relationship between steel use and GDP. Cointegrated relationship**

Labson (Labson & Crompton, 1993) tested the relationship between the steel use and economic growth for cointegration. Results show that cointegration in metal demand and income is immaterial. The data converted to logs on the base of arguments of Campbell and Mankiw that they will be better represented in log-linear form.

The analysis of cointegration and Granger causality between steel use and economic activity in India shows the absence of cointegration but existence of unidirectional Granger causality from economic activity to steel use (Ghosh et al., 2006).

Steel consumption induces economic development during industrialization. Except for the US, steel industries in Korea, Japan, Germany, and China have higher production inducement coefficients than the average manufacturing coefficients and the average coefficient of all industries around the world. The engine of economic development is the manufacturing sector, including the steel industry, but in the US the rise of manufacturing is stagnant. The conflicting conclusions about the relationship between steel use and economic growth may depend on country-specific data, level of industrialization which shows the share of the manufacturing industry in the economies. The outcomes of causality tests may differ depending on the types of steel products and the corresponding steel-consuming industries. Furthermore, the output of the appropriate steel-consuming industry is most directly linked to the consumption of a certain steel product. In Korea growth in income is responsible for developing steel consumption (Huh, 2011).

In his paper Evans (Evans, 2011) showed that the fractional integration and cointegration gives a better understanding about the stochastic nature of steel use. Innovations will have a permanent effect on both steel and economic activity.

### **Steel consumption in Kazakhstan**

The metallurgical industry in Kazakhstan has become one of the leading sectors of government attention after oil production. The main areas of specialization of the enterprises are the production of ferrous metals, ferroalloys, as well as the production of all basic non-ferrous metals. [5]

### **Steel consumption in Kazakhstan for the last 2 years (2020-2021)**

The high devaluation due to the fall in oil prices led to an increase in demand in the automotive market in March, however, with the introduction of quarantine, the market fell into complete decline, almost all dealerships stopped working. The construction sector showed weak dynamics in the first

quarter due to the traditional seasonal factor, and a decline is expected in the second quarter due to quarantine measures. Developers are still fulfilling the conditions and agreements, but in the future, due to a reduction in investment, as well as a slowdown in the supply of building materials, a reduction in the workforce, a decline in the industry performance is expected. The economic recovery directly correlates with the resumption of the positive situation in the oil sector, as well as with the end of quarantine restrictions.

**Construction**

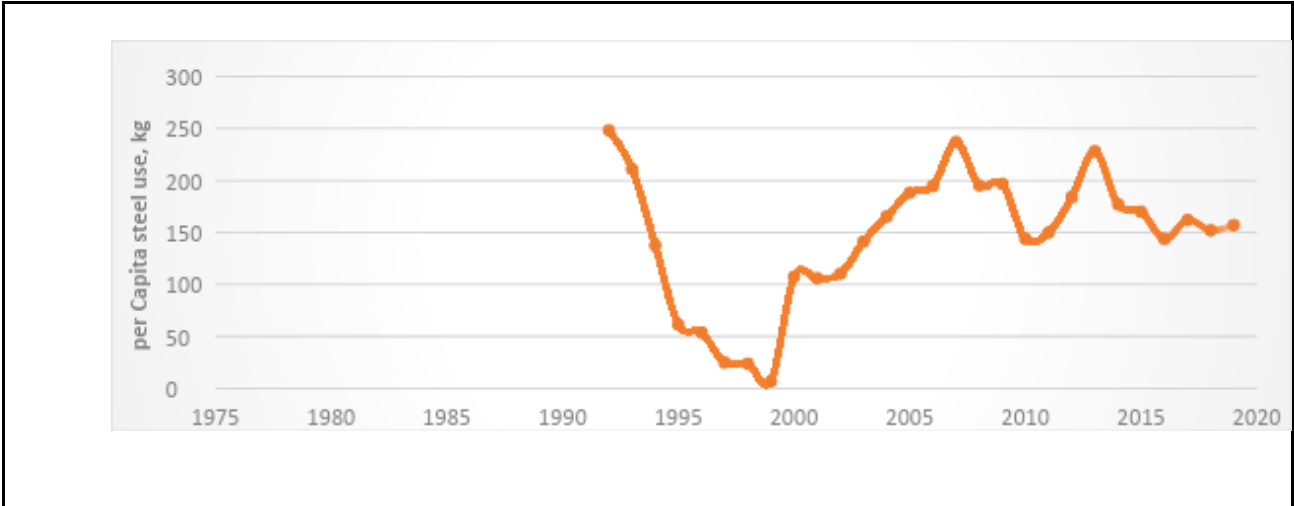
Supporting the construction industry and demand is key to the economic recovery during the crisis. Not a single mortgage program has been cut or stopped. The stable operation of the construction sector also entails the development of related industries. Despite the crisis period, prices for new buildings rose in March due to the devaluation caused by the fall in oil prices. In the long term, government programs will remain the main source of demand for housing. Developers are still fulfilling the conditions and agreements, but in the future, due to a decrease in investment, as well as a slowdown in the supply of building materials, a reduction in the workforce, a decline in the industry performance is expected.

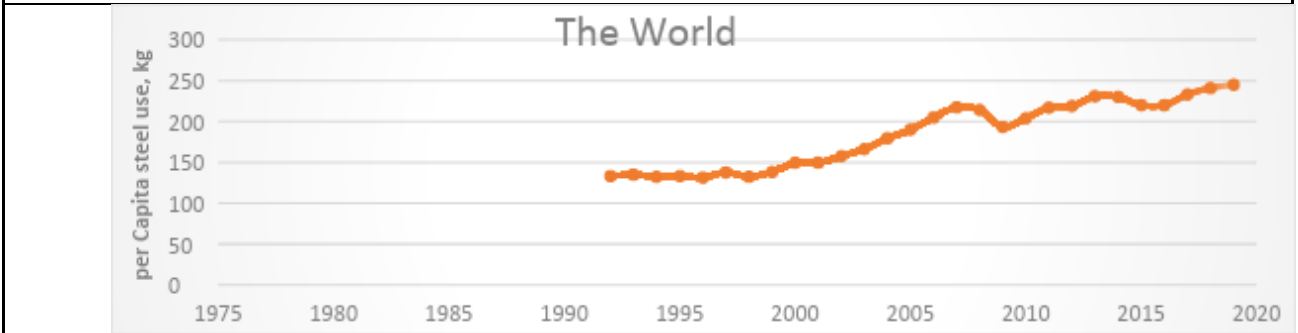
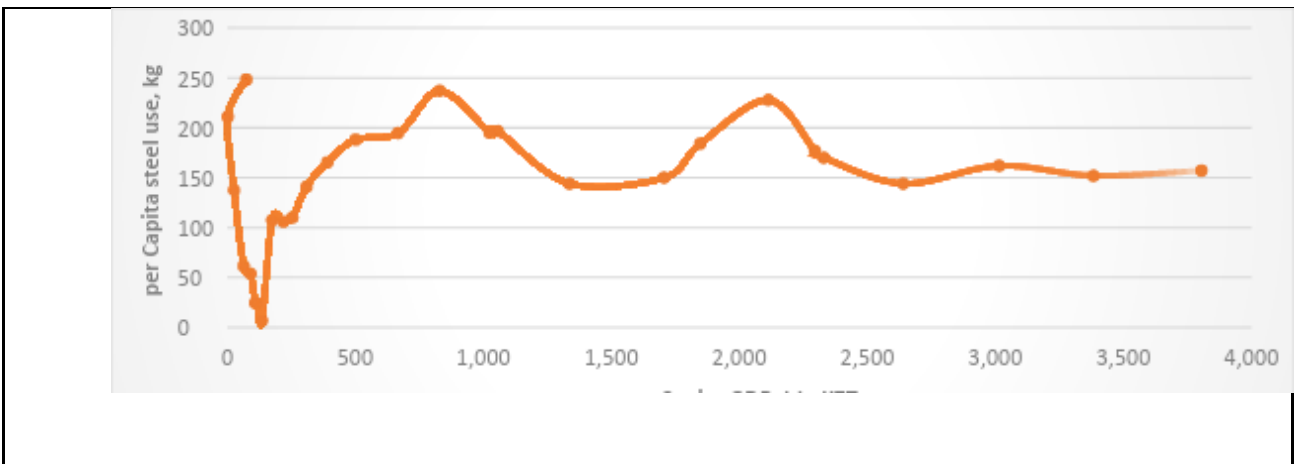
**Machine Engineering**

In Q1, currency devaluation encouraged consumers to invest in car purchases, revitalizing an already well-growing market

**Pipe industry**

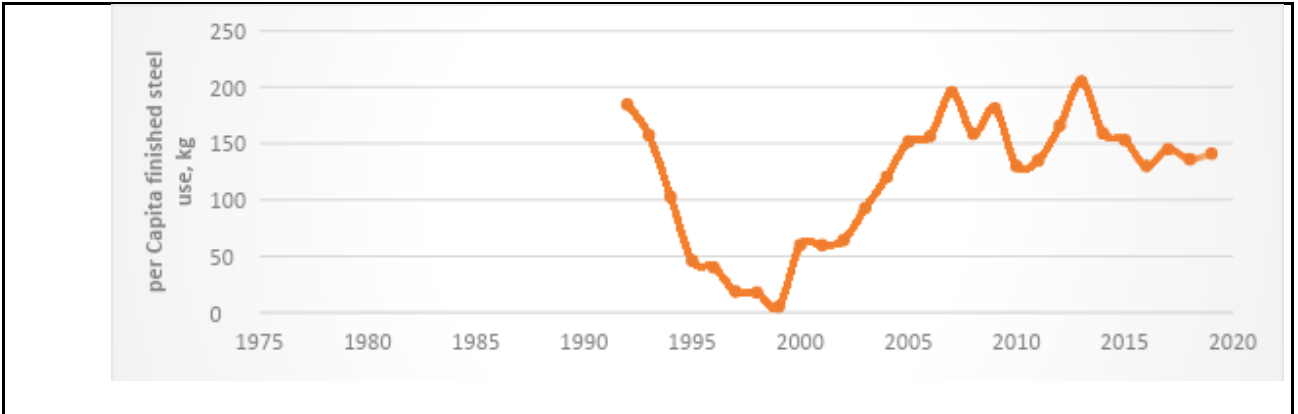
In Kazakhstan, the main driver of growth in strip purchases is the implementation of housing programs in the construction sector. The industry is supported by government funding.

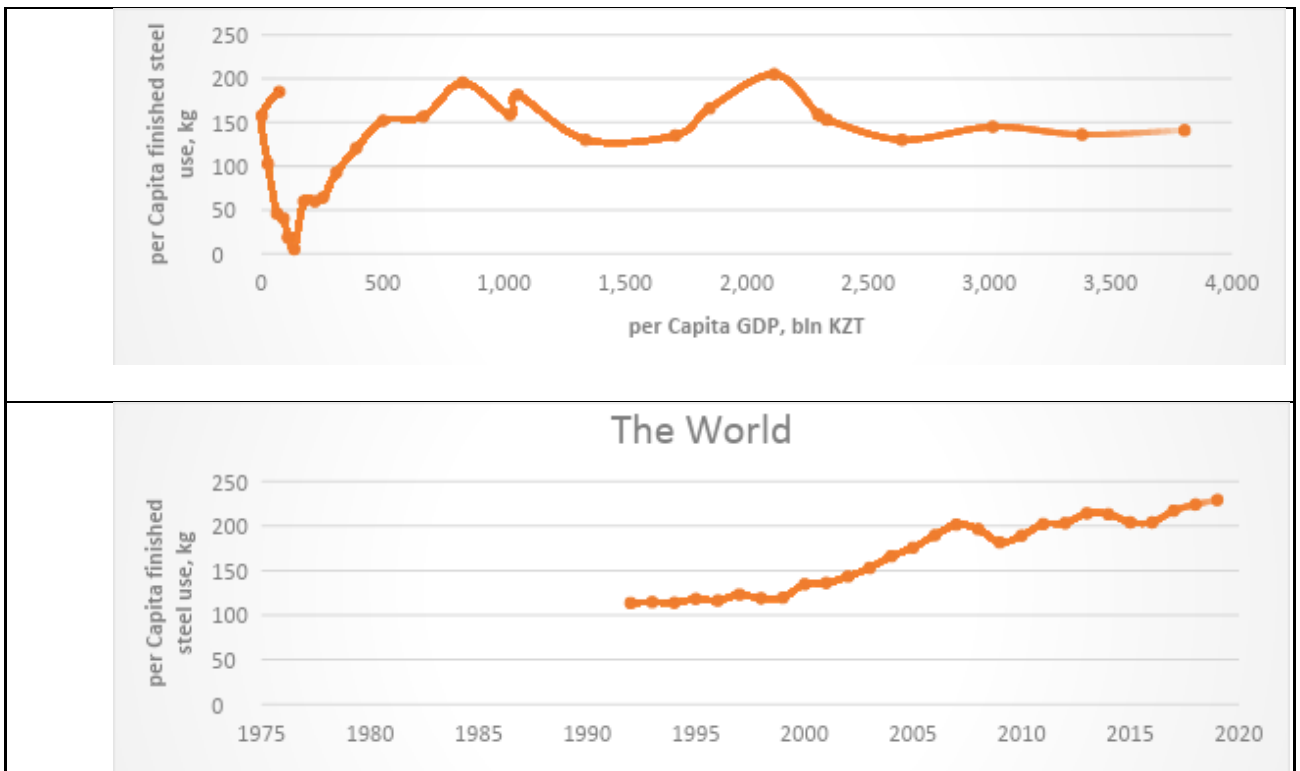




**Figure 1.** Per capita crude steel use and GDP of Kazakhstan for the last 30 years. GDP data is from the Agency for Strategic planning and reforms of the Republic of Kazakhstan Bureau of National statistics. Apparent crude steel use data from the World Steel Association.  
**Source:** compiled by the authors based on data.

From the Figure 1 can be seen that the graph of the per Capita steel use in kilogram is unstable trend over the last 30 years. The trend had fallen sharply from the beginning of 1990 years till the end of given decade. The bottom of the trend coincides with the Asian financial crisis. After was the sharp rise in 2000 and continued grew evenly till the 2007 by getting the highest top of the trend with the 237 kilograms steel use per Capita. The stable increase harshly fell in 2008 due to the financial crisis in the World. The next peak was in 2013 with the 228 kilograms per capita. The following trend decreased up to 150 kilograms possibly due to the double depreciation of tenge to dollar in 2014, 2015 years. The World trend of steel consumption rises stable over the last 30 years except the 2008 year of the World financial crisis.





**Figure 2** Per capita finished steel use and GDP of Kazakhstan for the last 30 years. GDP data is from the Agency for Strategic planning and reforms of the Republic of Kazakhstan Bureau of National statistics. Finished steel use data from the World Steel Association.

**Source:** compiled by the authors based on data.

The trend of finished steel use is same as with the crude steel consumption.

### III. Methodology

#### Data description

The null hypothesis would be that there is no relationship between the steel use and economic activity in Kazakhstan, when the alternative hypothesis states that the relationship exists. If the latter hypothesis is true, the next step would use this relationship in other countries to predict steel consumption in Kazakhstan.

The annual data are taken from the following sources: GDP from the stat.gov.kz and the Steel Consumption from the World Steel Association. The data are collected in year period. We have two types of Steel Use as a Dependents variable: Apparent Use and True Use. Also, Crude Steel Use and Finished Steel use in tons and in per Capita. For the independent variable is GDP in tenge and USD dollars, and in per Capita format.

Statistical analyses are carried out by software statistics STATA (Version 14 for Windows).

Table 1. Variables, period and their sources

Variables	Decryption	Period	Sources
SU, tonnes	Apparent Steel Use (crude steel equivalent)		
SUW, tonnes	Apparent Steel Use (crude steel equivalent) World		

SUPC, kilograms	Apparent Steel Use per Capita (kilograms crude steel equivalent)	1992- 2019	World Steel Association (1999, 2000, 2010, 2020) <a href="https://www.worldsteel.org/steel-by-topic/statistics/">https://www.worldsteel.org/steel-by-topic/statistics/</a>
SUPCW, kilograms	Apparent Steel Use per Capita (kilograms crude steel equivalent) World		
FSU, tonnes	Apparent Steel Use (finished steel products)		
FSUW, tonnes	Apparent Steel Use (finished steel products) World		
FSUPC, kilograms	Apparent Steel Use per Capita (kilograms finished steel products)		
FSUPCW, kilograms	Apparent Steel Use per Capita (kilograms finished steel products) World		
TFSU, tonnes	True Steel Use (finished steel equivalent)	2009- 2018	
TFSUW, tonnes	True Steel Use (finished steel equivalent) Total 74 countries		
TFSUPC, kilograms	True Steel Use per Capita (kg finished steel equivalent)		
TFSUPCW, kilograms	True Steel Use per Capita (kg finished steel equivalent) Total 74 countries		
GDP, bln tenge	GDP on income basis in million tenge	1992- 2019	<a href="https://stat.gov.kz/official/industry">https://stat.gov.kz/official/industry</a>
GDP, bln US dollars	GDP on income basis in million US dollars		
GDP per capita, bln tenge	GDP per capita on income basis in million tenge		
GDP per capita, bln US dollars	GDP per capita on income basis in million US dollars		

### Methods and Models to be applied

In paper was used the Engle and Granger (1987) theory of cointegrated process. It suggests the vector error correction model and vector autoregression model in order to analyze variables that may individually include stochastic trends. In accordance with Engle and Granger, if two or more time series are particularly joined but several linear combinations have a small order of integration, in that case the series are cointegrated. This represents that despite the non-stationarity of individual series, there exists some cointegrated vector of coefficients which form the stationary linear combination of them. In other words, if two variables are jointed, there could be a causal connection at least in one direction, the trend of causality could be identified by the vector error correction model. Within the Error Correction Model System, can be differentiate between a long-term relationship between two variables — the direction where the two variables move upward together — and the short-term dynamics — the relationship between the long-term trend's deviations. Typical Granger causality tests

on the grounds of vector autoregression model can be used to detect the short-term causality between two variables when two series are combined first order but not cointegrated (if bivariate cointegration test is rejected). (Huh, 2011)

In order to test stationary series, would be used the Augmented Dickey and Fuller (ADF) test taking into account two cases: trend and constant, and constant but not trend.

The testing way for the ADF test with a time trend is as follows:

$$\Delta y_t = \alpha + \beta t + \gamma y_{t-1} + \sum_{j=1}^p \lambda_j \Delta y_{t-j} + \epsilon_t \quad (1)$$

where  $\alpha$  is a constant,  $\beta$  is the coefficient on a time trend, and  $p$  is the lag order of the autoregressive process. Making  $\beta=0$  matches to model a random walk with a drift. The unit root test would be conducted under the null hypothesis  $\gamma=0$  against the alternative hypothesis of  $\gamma<0$ .

The PP test is also used in analysis of time series to test the null hypothesis under the no stationary. Although the ADF resolved this problem by adding lags of dependent variables in the test equation as regressors, the PP test allows a nonparametric adjustment to the t-test statistic.

The optimum variable lag lengths are important not only for unit root tests but also for tests of causality based on the vector error correction model (VECM) or vector autoregression model (VAR), since these tests are strongly dependent on the lags. For choosing optimum lag lengths would be used Akaike's information criterion (AIC), Schwarz's Bayesian information criterion (SBIC).

Johansen's approach evaluates the VECM by maximum likelihood by different assumptions related the trend or intercept parameters and the number of cointegrating vectors after that carry out likelihood ratio tests. Johansen suggests two variants of tests for number of cointegrating vectors. The Lambda-max tests the null hypothesis that the rank of cointegration is equal to  $r$  against the alternative that the rank of cointegration is  $r+1$ . While the Trace test tests the null hypothesis that the rank of cointegration is equal to  $r$  against the alternative that the rank of cointegration is  $k$ . (Johansen & Juselius, 1990)

There will be a causal link in at least one direction if two variables related to steel consumption and economic activity are cointegrated. The causal direction could be discovered by VECM, which has long-term cointegration vectors. VECM can be expressed as follows:

$$\begin{aligned} \Delta SU_t &= 1 + ECT1_{t-1} + \delta_1 \Delta SU_{t-1} + \theta_1 \Delta GDP_{t-1} + u_{1t} \\ \Delta GDP_t &= 2 + ECT2_{t-1} + \delta_2 \Delta GDP_{t-1} + \theta_2 \Delta SU_{t-1} + u_{2t} \\ ECT1_{t-1} &= GDP_{t-1} - 1SU_{t-1} \\ ECT2_{t-1} &= SU_{t-1} - 2GDP_{t-1} \end{aligned} \quad (2)$$

where  $SU$  is a variable linked to steel use and  $GDP$  is a variable linked to economic production activity.  $\Delta$  shows a difference symbol and  $ECT$  is the error correction term received from cointegration that is normalized accordingly to each variable. Furthermore,  $u$  is a serially uncorrelated random error term with a zero mean.

Since  $ECT$  provides details on long-term equilibrium relationships between two variables, if the calculated coefficient is statistically significant, this means that there is a long-term causal relationship between two variables. It also offers details on the trend of causality in the long term. For instance, if 1 is significant but 2 is insignificant, circumstances imply a unidirectional causality that runs from economic activity to steel consumption. On the contrary, 2 is significant but 1 is insignificant, it suggests a unidirectional causality running from steel consumption to economic activity. In the case of when both 1 and 2 are statistically significant, this means that the bi-directional causal connection exists between variable pairs in the long-run.

Since coefficients and show the adjustment speed conversely to a long-run equilibrium relationship, they suggest Granger causality for the short-term dynamic cycle between two variables. If the null hypothesis ( $1=0$ ) is rejected, it suggests that the production of industry results in the short-term consumption of the steel products.

If the data is not cointegrated, the standard VAR may use Granger causality tests to only display the short-run trend of causality between variables. In this case the evaluation equations shall be as follows:

$$\Delta SU_t = 1 + i = 12(\beta_1 i \Delta SU_{t-i}) + i = 12(\gamma_1 i \Delta GDP_{t-i}) + u_1 t$$

$$\Delta GDP_t = 2 + i = 12(\beta_2 i \Delta GDP_{t-i}) + i = 12(\gamma_2 i \Delta SU_{t-i}) + u_2 t \quad (3)$$

From (3), if the null hypothesis ( $\gamma_1 = 0$ ) is rejected, it shows a unidirectional short-term causality moving from economic activity to consumption of steel. If the estimated coefficient ( $\gamma_2 = 0$ ) is significant, it suggests the opposite unidirectional causality among variables.

#### IV. Results

##### Unit root test

Dickey-Fuller test for unit root						
Variable (y)			1% Critical Value	5% Critical Value	10% Critical Value	
			-3.736	-2.994	-2.628	
Log_SUPC	-2.246 (Test statistics) 0.1899 (p-value)	N = 27	Do not reject the null hypothesis p-value is not significant			Non-stationary
Log_GDPPC	-1.208 (Test statistics) 0.6700 (p-value)	N = 27				Non-stationary
Log_FSUPC	-1.931 (Test statistics) 0.3177 (p-value)	N = 27				Non-stationary
Log_TFSUPC	-1.622 (Test statistics) 0.4717 (p-value)	N = 9				Non-stationary
Log_GDPPCUS_N	-0.818 (Test statistics) 0.8136 (p-value)	N = 26				Non-stationary

Phillips-Perron test for unit root						
Variable (y)			1% Critical Value	5% Critical Value	10% Critical Value	
Z(rho)			-17.268	-12.532	-10.220	
Z(t)			-3.743	-2.997	-2.629	
Log_SUPC	(Test statistics) 0.1771 (p-value)	N = 27				Non-stationary

Log_GDPPC	(Test statistics) 0.8052 (p-value)	N = 27	Do not reject the null hypothesis p-value is not significant	Non-stationary
Log_FSUPC	(Test statistics) 0.3052 (p-value)	N = 27		Non-stationary
Log_TFSUPC	(Test statistics) 0.4184 (p-value)	N = 9		Non-stationary
Log_GDPPCUS_N	(Test statistics) 0.8058 (p-value)	N = 26		Non-stationary

<b>Dickey-Fuller test for unit root for the first difference</b>						
Variable (y)			1% Critical Value -3.743	5% Critical Value -2.997	10% Critical Value -2.629	
d.log_SUPC	-6.316 (Test statistics) 0.0000 (p-value)	N = 26	Reject the null hypothesis p-value is significant			Stationary
d.log_GDPPC	-15.634 (Test statistics) 0.0000 (p-value)	N = 26				Stationary
d.log_FSUPC	-6.274 (Test statistics) 0.0000 (p-value)	N = 26				Stationary
d.log_TFSUPC	-2.172 (Test statistics) 0.2166 (p-value)	N = 8	Do not reject the null hypothesis p-value is not significant			Non-Stationary
d.log_GDPPCUS_N	-4.377 (Test statistics) 0.0003 (p-value)	N = 25	Reject the null hypothesis p-value is significant			Stationary



<b>Phillips-Perron test for unit root for the first difference</b>						
Variable (y)			1% Critical Value	5% Critical Value	10% Critical Value	
Z(rho)			-17.200	-12.500	-10.200	
Z(t)			-3.750	-3.000	-2.630	
d.log_SUPC	(Test statistics) 0.0000 (p-value)	N = 26	Reject the null hypothesis p-value is significant			Stationary
d.log_GDPPC	(Test statistics) 0.0000 (p-value)	N = 26				Stationary
d.log_FSUPC	(Test statistics) 0.0000 (p-value)	N = 26				Stationary
d.log_TFSUPC	(Test statistics) 0.2029 (p-value)	N = 8	Do not reject the null hypothesis p-value is not significant			Non-Stationary
d.log_GDPPCUS_N	(Test statistics) 0.0003 (p-value)	N = 25	Reject the null hypothesis p-value is significant			Stationary

### Cointegration

The simple OLS model of the variables shows that there is no cointegration and relationship between the steel consumption and economic activity.

### V. General Discussion

The purpose of this research was to examine the short-and long-term relationships between steel consumption and economic activity by examining the sensitivity of steel demand to changes in national income. Findings revealed no relation between steel use and economic growth in Kazakhstan. In other words, concurrent changes in income do not affect steel consumption, and changes in steel use do not impact concurrent economic growth.

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## “Attitudes of Kazakhstani Online Media towards Healthy Eating Coverage “

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### **Abstract**

The mass media in Kazakhstan provided limited coverage of the topic of healthy eating. This research attempted to find out the place and newsworthiness of healthy eating topic on the agenda of online Kazakhstani media. The research explored the attitudes of editors-in-chief of online media from 10 districts of Kazakhstan towards healthy eating coverage. This research was guided by the agenda-setting theory and the news values theory. The methodology includes a mix-methods and qualitative data collection methods such as anonymous semi-structured interviews with open-ended questions for editors-in-chief. The purposive non-probability sampling method for selecting the interviewees and a snowballing technique for finding additional subjects were used. Three main themes emerged from the interviews with editors-in-chief: 1) attitude and interest of the owners of media outlets in healthy eating coverage; 2) the role of online media in society and its educational function; 3) challenges of cooperation with health departments and respective public agencies. The connection between media owner's interest in the topic of healthy eating and the actual coverage of this topic was established as well as the lack of financial and human resources to cover the topic of healthy eating. The research showed the need for better coordination between public health agencies and international organizations with mass media for popularization of healthy eating; journalist trainings on better coverage of nutrition related topics, and development of writing and speaking skills of nutrition experts for clearer and simpler communication of nutrition knowledge through the media to the public.

### **Introduction**

World Health Organization (WHO) defines a healthy diet as the ration that includes fruit, vegetables, legumes, nuts and whole grains. A poor diet is globally associated with the growing number of chronic or non-communicable diseases (NCDs) such as heart attacks and strokes, and diabetes, among others (WHO n/a). Excess body weight, increased cholesterol level, and low intake of vegetables and fruits are among the leading risk factors in Kazakhstan (WHO Report, 2019, p. 9).

To live a healthier life, the population needs to be aware of healthy and poor eating habits. To this end, the Ministry of Health developed the *Densaulyk* Healthcare Development State Program for 2016-2020 and for 2020-2025 to strengthen the health of children, adolescents, and youth, among others, by preventing diseases in line with the UNICEF Health Strategy for 2016-2030 (Timoshenko, 2019). The program, however, does not provide for the ways and methods of its communication to the public, and the media play no role in disseminating it.

The mass media in Kazakhstan include printed and online magazines, newspapers, radio and television as means of public communication that influence the world today and shape the vision of the future. The penetration of social media and the Internet is high, with 15.47 million Internet users and an 81.9% internet penetration rate as of January 2021 (Zhusupova 2021).

The WHO recommends that countries implement mass media campaigns on obesity prevention and healthy diets to reduce fat, sugar, and salt consumption and promote the intake of fruit and vegetables (WHO 2017, p.11).

With regards to Kazakhstan, it is not clear whether online media here contribute to public awareness on healthy eating habits or promotion of healthy eating behavior. This research is keen to explore the role online media play in educating the public on the topic of healthy eating.

## **Research Problem**

Online media in Kazakhstan provided limited coverage of healthy eating, and the focus of this research is to find the reasons behind it. No studies have been carried out in Kazakhstan on how the media see themselves as a contributor to better public health, on the role they play in shaping public attitudes toward healthier eating habits. This research attempted to find the attitudes of editors-in-chief of online media in Kazakhstan towards the topic of healthy eating coverage.

## **Background and rationale**

Kazakhstan's diet is full of fatty meats (including camels and sheep), dairy products, and simple carbohydrates such as pasta and pastries (Hays 2008). As a study of the global burden of disease in 2015 suggests, ischemic heart disease and stroke after poor dietary habits have been the leading causes of the increase in the rate of disability adjusted life years lost in Kazakhstan between 1990 and 2010 (Vos et al., 2020).

Media coverage of the topic of healthy eating in Kazakhstan has been limited to lifestyle stories, scandalous articles, or recycled news mainly from Russian or foreign media. The media as such have not been a major contributor to public awareness of the topic of healthy eating. The level of public health literacy remains relatively poor (WHO 2018, p.24).

A total of 4873 mass media outlets are registered in Kazakhstan, including 3541 periodic outlets, 184 TV channels, 79 radio channels, and 802 news agencies and network editions. They include 4606 local and 267 foreign media outlets (Information Committee of the Ministry of Information and Public Development of the Republic of Kazakhstan 2020).

Online media have a prominent role to play in society; they can bring about major changes and improve the social situation as they influence the social, civil, cultural, and economic lives of citizens. People get influenced by the media when they are persuaded, directly or indirectly, to use a specific product or support a political ideology or a party (Paul et. al., 2013).

Therefore, the media shall be engaged in health promotion campaigns. But how important is the topic of healthy eating for online media in Kazakhstan? Is it enough for the Ministry of Health to run its campaigns without engaging the media? The media is accessible to people of all walks of life and thus with health-related messages may reach a considerable portion of population, especially now, at times of coronavirus pandemic, when most of them moved online.

## **Research Purpose**

The purpose of the research will be to explore the attitudes of the editors in chief of online media in Kazakhstan towards the healthy eating coverage. It is also important to find out whether online media are able to get verified and credible information from specialized departments and institutions as the basis for their reports and to what extent they are engaged in the healthy eating promotion.

## **Research Questions**

1. What attitudes do editors-in-chief of Kazakhstani online media have towards healthy-eating coverage?
2. What is the level of cooperation between health departments and specialized nutrition institutions such as the Kazakh Nutrition Academy and the Kazakhstan Center for the Formation of Healthy Lifestyles and online media?

## **Theoretical framework**

This research will be guided by agenda-setting theory and news value theory. Mass media serve the public by providing information on education, products and services, disasters, and political events. The media help to build public opinion on a particular issue, disseminate health and education

programs, establish social contact and linkage, and serve as the bridge in crisis and political communication. The media can help bring about changes in the beliefs, opinions, or attitudes of people about social, economic, political, and other issues (iEduNote 2019).

### **Literature Review**

This research explored studies and reports on nutrition and healthy eating related topics and media coverage published between 2010 and 2020. Two main WHO reports were selected: Tackling NCDs: Best Buys and Other Recommended Interventions for the Prevention and Control of Non-communicable Diseases, 2017 and Better Non-communicable Disease Outcomes: Challenges and Opportunities for Health Systems. Kazakhstan Country Assessment, 2018. Two nutrition studies available for Kazakhstan were reviewed. Country reports from Central and Eastern Europe such as Bulgaria, Estonia and Romania were studied as they share recent history and, to some extent, food cultures and customs with Kazakhstan. Germany and the United Kingdom were selected as developed countries that enjoy a more advanced level of online media and nutrition science development. The review of nutrition journals was done to show their medical focus on nutrition. Studies from the United States on the need for the media to engage in healthy eating promotion were drawn as an example.

In its 2017 report, the WHO states that non-communicable diseases (NCDs) that include cardiovascular disease and diabetes, among others, have been a major concern and a target for international organizations such as the World Health Organization, etc. NCDs are the cause of some 36 million deaths worldwide (WHO 2017, p. 4).

The updated Appendix 3 entitled 'Best Buys' to WHO's Global Action Plan includes interventions to combat NCDs, including implementing the global strategy on diet, physical activity, health, and marketing of foods and nonalcoholic beverages to children (WHO 2017). The recommendations, inter alia, include 'reduce salt intake by reformulation of food products to contain less salt and setting target levels for the amount of salt in foods and meals', 'implement a mass media campaign on healthy diets, including social marketing to reduce the intake of total fat, saturated fats, sugars and salt, and promote the intake of fruits and vegetables'. (WHO 2017, p.11) WHO that the health literacy of the population is relatively poor (WHO 2018, p.27).

In Kazakhstan, there have been a few reports on nutrition-related topics, however, their focus differs from that of this research. Kazakhstan National Center for Public Health, together with the WHO Europe Office, published a report titled 'Monitoring Food and Beverage Marketing to Children through Television in the Republic of Kazakhstan' (WHO 2019). It explored the exposure of children to marketing for food high in saturated fat, free sugars, and/or salt on TV. The report could not have been used as this research focused on the content provided by online media with regard to healthy eating, not TV advertisements.

In 2019, the Kazakh Nutrition Academy, Aman-Saulyk Public Fund and ALMAU University conducted a study on students' nutrition among 1,049 respondents. The study showed that students frequently consume fast food and soft drinks and calls for nutrition awareness campaigns at learning institutions (Karasayeva 2020). The topic of the study fits well with the focus of this research, however, it was a survey of student eating habits, not the coverage in the online media of healthy eating.

### **Methodology**

Qualitative data collection method such as semi-structured interviews with editors-in-chief of online media were used. The research sought to collect the opinions of the editors-in-chief on the topic of healthy eating coverage. The editors-in-chief from online media outlets across Kazakhstan were sampled for the interviews using the purposive sampling method. A snowballing technique was used to identify more references. Data was collected to understand online media attitudes towards the

healthy eating coverage. The interviews were anonymous, recorded at Zoom, each lasting 40 minutes on average, transcribed using the software at <https://speechtext.ai/ru>, and double-checked manually to ensure 100% accuracy. After the coding, 18 interviewees from 10 districts of Kazakhstan were selected for the results and discussion section.

Eighteen interviews were analyzed to identify common themes in the answers provided by the editors-in-chief. As a result, two main themes emerged:

1. attitude and interest of the owners of media outlets in the coverage of healthy eating coverage;
2. challenges of communication between health departments and specialized institutions such as the Kazakh Nutrition Academy and the Center for the Formation of Healthy Lifestyles and on-line media.

## **Discussion**

### **Theme 1: Attitude and interest of the owners of media outlets in the coverage of healthy eating**

The online media can report on the topic of healthy eating if it is within the interests of the media owner. “If the founders who pay salaries and maintain the staff have interest in nutrition, this topic will be at best covered occasionally, and never in the worst-case scenario” (Interviewee 7). Most of the editors-in-chief interviewed claim that they would have covered the topic of healthy eating had they had more financial and human resources to afford spending time on it. Otherwise, they have other more important topics on their agenda to cover. Therefore, the interviewed editors-in-chief would let the stories that have a high number of views appear in their feed, and, in case they lack the content, may complement with healthy eating stories recycled from Russian media.

The media fulfils its information function and is responsible for presenting credible and verified information to the public. The media is in a position to share information, not to pursue the goal of educating people.

*“The society may not ask: why you, the media, do not educate us? Why have we become fat and diabetic? The media makes people aware, contains some educational aspects, makes people think wider, and brings elements that contribute to social development”* (Interviewee 6).

In some cases, health stories have not received good feedback from the public. The media alone do not have a big budget to cover it, and the state does not help. Nutrition-related stories may not have generated public interest, as they were done poorly.

### **Theme 2: Challenges of cooperation with public agencies such as health departments and relevant bodies.**

Public bodies such as the Kazakh Nutrition Academy and others maintain poor contact with online media. The media do not receive regular press releases to stay abreast of nutrition-related activities. Experts and doctors usually lack the ability to easily explain complicated topics to the public through online media. Sometimes they are willing to share their knowledge but do not know how to do it in a way as to make it interesting for the readers.

*“If the journalist is not interested in the topic of healthy eating, he will not search for this information, it shall be on a surface, accessible with one click, so that a journalist can call and seek clarification”* (Interviewee 15).

The Ministry of Health shall be very interested both in adopting the programs and in assigning speakers, program makers, and scholars to substantiate the program’s statements.

*“Many of them do not want to talk to us, they have some fear. We appeal to health departments in the case of serious problems, such as bad hospital conditions. But the officials do not want to talk to us, even the press service”* (Interviewee 4).

## **Results**

This is the first study in Kazakhstan to explore the attitudes of the editors-in-chief of Kazakhstani online media toward the topic of healthy eating. The topic is not very popular as such among online media. While some of the media do their best to share at least some information, others do not see it as a topic that would drive traffic to the web site and neglect it. Still, there are some on-line media that write articles on healthy eating. However, they are written in a more scandalous and sensational way. It is usually sketchy and fragmented information that was recycled from Russian or foreign media.

The owners and founders of media outlets tend not to be interested in the topic of healthy eating, and this prevents the media from covering this topic. The media needs to generate profit and to have money to pay the salaries to the staff, the bills, the rent, etc.

The media provides education and information to society. Interviews and feature stories are the tools for indirect public awareness on specific topics. However, most interviewed online media remain in the position that it is not their job to provide education on the topic of healthy eating to the public.

The topic of healthy eating seems to be of interest to people in general. However, sometimes the media has a tight budget and do not have the human and financial resources to cover this topic. In some cases, it is the lack of journalistic creativity to approach the topic of healthy eating from a different perspective and make it fun and interesting to read. To illustrate, the popular concept of storytelling can be used here to portray a person who was once sick and then recovered thanks to healthy eating. Such stories have an inspiring and encouraging effect on the public at large.

Cooperation with health departments and their respective agencies remains a challenge. It is the boring language of press releases that prevents journalists from writing more about the topic of healthy eating. But the primary reason is the lack of content as such and lack of action on the part of public agencies towards the media. Although the topic of healthy eating may be of some interest to the media, the need to allocate time to search for specific publications or research studies may prevent their further actions. It is more logical if institutes such as the Kazakh Academy of Nutrition or the National Center for the Problems of Healthy Lifestyle would approach the media and provide them with expert information on the topic of healthy eating, present the media with the results of their studies or programs, if any.

Research has shown that the topic of coverage of the healthy eating topic by online media in Kazakhstan is not sufficient and requires further engagement of the respective health departments to work together with the media and popularize a healthier lifestyle, including healthy eating as a component.

## **Conclusion**

Healthy eating is an important topic that requires further popularization in the online media of Kazakhstan. The media must promote itself as a powerful tool for public awareness of healthy eating among all age groups. Feature articles and expert interviews can become a source of credible and verified information on healthy eating. This will help the public shape a new attitude towards food and rethink their eating habits. Cooperation between the Ministry of Health, health departments, and respective agencies and international organizations shall be mainstreamed. The government should engage the online media in popularization of its health programs that contain a component of healthy eating. The media, on the other hand, shall take a more serious approach to health eating and promote its coverage at different discussion platforms such as press conferences, seminars / webinars, and workshops. The media shall show interest in the topic of healthy eating and request specialized institutions such as the Kazakh Nutrition Academy and the National Center for Healthy Lifestyle Problems to provide expert opinion for media publications.

## Research Limitations

This research has some limitations in the methodological and research design. Purposive sampling may be subjective and do not provide the representativeness of the sample. The researcher has little control over the method. The representativeness of the sample is not guaranteed in both cases. The probability of a researcher bias is pretty high both in purposive sampling and in the snowball technique. The representativeness of the results shall be considered in the context of restrictions of research design and methodology. Further research is required to include a greater number of editors-in-chief from all districts of Kazakhstan representing printed media, TV, radio, and social media.

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## **BANG COLLEGE OF BUSINESS**

### **“Corporate social responsibility influence on SME companies' performance and its merit during financial crisis”**

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#### **Abstract**

This paper's aim is to investigate the relationship between Corporate Social Responsibility and companies' performance in Kazakhstan, focusing mainly on small and middle enterprises. Since CSR activities are not uniformly reported, the research was carried out empirically, through a questionnaire. Answers were gathered from business owners/managers from a variety of companies in different industry sectors.

The paper contributes to the knowledge on small business owners' attitude towards CSR, how much impact it has on companies' financial performance perceived by owners, and what factors they consider when engaging (or not) in CSR activities during financial crisis.

We begin with an overview of the CSR definition development throughout the years, and how the practice came to Kazakhstan. Then, we focus more on recent crisis impact on SME businesses, and state our hypotheses to test during the research. After that, we analyze preliminary results from the research, from all the answers collected up to date, and test our stated hypotheses. At the end of the paper, our conclusions and suggestions for further research are given.

## **Introduction**

Corporate Social Responsibility (CSR) is a practice that is often requested from businesses without the name being mentioned at all. Partially this stems from the vagueness of the definition itself, which allows various interpretations of what is included under the CSR umbrella.

Given the importance of this concept, the discussions around it become more and more busy. In Kazakhstan, the concept is repeatedly brought to attention by government officials (National Chamber of Entrepreneurs of Kazakhstan, 2015). CSR came to Kazakhstan in the 1990s with the rise of foreign investments. Part of our country's strategy of developing CSR is adopting established practices from other countries. However, in practice only large companies that are already working with foreign partners display high levels of awareness of CSR concept and various ways they could apply it. Smaller companies have little to no awareness of the concept, and government representatives can't always help with that. (Kabatova, 2016).

Because of that, our study focuses on Small- and Medium-sized Enterprises, and their attitude towards CSR. Since businesses' main goal is to maximize their profits, at the core of their reasoning to practice CSR would be the effort to improve company's financial performance, so our study would also explore that relationship. Finally, at the time of the study the world economy is still recovering (or, arguably, still in the middle of) the COVID-19 pandemic-related crisis, and the companies can compare their attitudes towards CSR – a useful, but costly practice – before and after the pandemic started.

## **Literature Review**

### **Corporate Social Responsibility – history**

Corporate Social Responsibility history, by its very definition, is closely linked to the history of the corporate form. Early mentions of various practices that we might recognize today as Corporate Social Responsibility examples, could be found way back at the time of the Industrial Revolution, and even prior to that. However, in some cases historians have expressed difficulties defining which cases belong in the realm of Corporate Social Responsibility, and which ones show merely the social responsibility of individual entrepreneurs. (Carrol, 2008)

When discussing CSR history (Murphy, 1978) defines four major CSR “eras” that explain general attitude towards social responsibilities among business entities. Timeframes are not fixed since it’s hard to define particular dates when one attitude replaced the other; but we can use Murphy’s definitions to follow the general trend.

First era covers all corporate history before the 1950s. During that time, social responsibility is mostly present in the form of philanthropist endeavors, donations to charities, etc. Closer to the end of this era, at the beginning of the 20th century, modern definition of the Corporate Social Responsibility slowly started to take form. Companies were moving from concentrating only on profit maximization to finding balance between market demands and taking care of their employees. This process has culminated in (Bowen, 1953) defining specific set rules for corporations to follow in order to fulfill their social responsibilities: “the obligations of businessmen to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society” (Bowen 1953, p. 6). This point in time is generally understood as the beginning of the modern history of Corporate Social Responsibility.

Afterwards, in 1953 began the second “era” (Murphy, 1978). Companies become more and more aware that their businesses hold a certain amount of power and each decision has the potential to have a noticeable impact on the community around them. Some research suggests that this developing awareness was at least partly caused by the societal context of that decade, and evolving protest culture in particular. Companies' attention was at times forcibly brought to the issues society was worrying about, and they were pressured to follow society’s expectations by environmental and antiwar campaigns (Waterhouse, 2017).

When researching CSR history, one has to remember that most of the research on this topic is understandably USA-centric. (Murphy, 1978) is no different - his definition of CSR eras is largely dependent on the milestones of the US history. Society was expressing deep concern with demographic and environmental issues - and companies have started to pay more attention to ecology, human and labor rights, etc. They had to, since the public had little to no confidence in companies’ ability to fulfill society’s needs. This attitude peaked in 1969, when a major oil spill in California caused massive protests in the USA - which in the end resulted in coining the term “Earth Day”, celebrated from 1970 to this day. (Latapí Agudelo et al, 2019)

The third era, referred to by (Murphy, 1978) as an “issue era”, has lasted for 6 years between 1968 and 1973. This period is defined by companies’ treatment of CSR as a response to specific problems and issues of contemporary society. This period was marked by creation of the Environmental Protection Agency (EPA), the Consumer Product Safety Commission (CPSC), the Occupational Safety and Health Administration (OSHA), and overall development of more regulations and responsibility for corporations from the government’s side. CSR has evolved from being determined by societal movements and trends to being legally regulated. The definition of CSR is further specified by Committee for Economic Development (CED): “business functions by public

consent, and its basic purpose is to serve constructively the needs of society – to the satisfaction of society” (Committee for Economic Development 1971, p. 11).

In 1974 began the latest, “responsiveness era”. Companies have started becoming more proactive and make major organizational changes to address standing societal issues. (Carrol, 2008) notes that at that time companies would start to take a more managerial, organized, approach to CSR activities. It became viewed as a decision-making process, and as a part of organizational policies was now more preventive in nature, rather than reactionary. However, many businesses were still using the term as was convenient to them, which brought a lot of uncertainty as to what exact responsibilities were falling into the CSR category.

To bring more clarity to the CSR definition (Carrol, 1979) introduced a Corporate Social Responsibility Pyramid - although it will be called as such only in (Carrol, 1991). “The social responsibility of business encompasses the economic, legal, ethical, and discretionary expectations that society has of organizations at a given point in time” (Carroll 1979, p. 500). This framework is important in that it includes economic activities of the business, arguing that economic development is also important to society and thus should be considered a part of CSR. (Lee, 2008) also stresses that this definition does not oppose economic and social responsibilities of an organization, and instead makes them both essential parts of overall Corporate Social Responsibility.



*Figure 0.1 Corporate Social Responsibility Pyramid (Carrol 1991, p. 42)*

With development of cross-border trade, the notion of Corporate Social Responsibility started spreading to other developing countries as well. Most of the research up to that point was understandably USA and Europe centric, but now it had gained international appeal. New opportunities of a global competition for new markets, brought an increased reputational risk due to a growth in global visibility, and conflicting demands and expectations from the home and the host countries.

To successfully operate on the global market, and accommodate for different cultures' views on the concept, multinational corporations had to be more strategic in their CSR implementation. (Smith, 2001) argued that without implementing CSR outlook in a company's strategic planning, they wouldn't be able to fulfill long-term responsibilities towards society. This continues to be the focus for companies, large and small, to this day.

## **Corporate Social Responsibility – influence on companies' performance**

Legal obligations to be socially responsible aside, companies' main goal is to maximize their profit. Opponents of the Corporate Social Responsibility concept (Aid, 2004; Friedman, 1970; Visser, 2010) view it as a negative influence on company performance – many costs spent on an insufficient response to the issues at hand, and little to no revenues afterwards. The proponents of CSR, however, stand by the notion of CSR having a positive impact on a company's income and financial performance.

Both sides are backed up by several studies, and the consensus is yet to be reached. Moreover, there are studies indicating no relationship at all between the extent of CSR practices and company's financial performance (Hao et al., 2011; Liping et al., 2016; McWilliams and Siegel, 2000). The ambiguity of this particular field of study is added to by the question of causality between CSR and performance. Does company's active participation in CSR practices affect its performance? Or do the companies with good performance have more money to spend on CSR activities?

Another potential research topic is a thorough exploration of the chain that leads from Corporate Social Responsibility to the company performance – specifically, the mediator role of additional variables that carry on the impact from one point to another. Such variables could be customer satisfaction (Galbreath and Shum, 2012; Luo and Bhattacharya, 2006), or customer awareness (Servaes and Tamayo, 2013), or firm reputation (Bahta et al., 2021; Šontaitė-Petkevičienė, 2015), or marketing competence (Bai and Chang, 2015), or brand loyalty (Pivato et al., 2008), or managerial interpretation (Sharma, 2000), etc.

However supportive of CSR the companies are, during crisis the situation changes. With the assets' value decreasing significantly, companies now have to ask themselves, should they try to invest



in CSR and maybe improve their performance, or just focus on short-term survival, since the resources are scarce enough?

Proponents of the risk-mitigation hypothesis of Corporate Social Responsibility maintain, that CSR implementation would reduce firm risk (Godfrey, 2005; Utz, 2017). This hypothesis considers mediating role of firm reputation between CSR and performance, and propose that better firm reputation leads to higher levels of brand loyalty, of goodwill, that protects the company from much of the negative impact from an ongoing crisis. Research done by (Godfrey et al., 2009) suggests that stock market tends to react less negatively if the company displays higher levels of CSR. (Chintrakarn et al., 2021) have analyzed CSR investments during the Great Recession of 2008, and observed that overall CSR levels have actually increased during crisis, however, it was more likely to present in the form of employee responsibility - benefits, caring for workers' families - to increase employee loyalty and diminish firm risks to companies' operations.

### **Corporate Social Responsibility in Kazakhstan**

The concept of Corporate Social Responsibility came to Kazakhstan not that long ago, in the 1990s, with the rise of foreign investments, multinational corporations' presence through subsidiaries, etc. In case of foreign companies, they already had CSR policies in place, and since these policies were, among others, managing companies' relationships with suppliers and customers, local companies had to step up as well.

As is the case in many countries, Kazakhstan does not have any individual law which would govern all CSR practices in the country. Instead, activities that fall under the CSR umbrella, are regulated by different, separate acts - for example, Labour Code, Tax Code, Environmental Code, etc. (Kabatova, 2016)

(Entrepreneur Code of the Republic of Kazakhstan, 2015) comes the closest to defining Corporate Social Responsibility in Kazakhstan: “The social responsibility of entrepreneurship is the voluntary contribution of business entities to the development of social, environmental and other areas.” Businesses have a right to “participate in the implementation of projects in the social, economic and environmental fields as measures of the social responsibility of entrepreneurship”.

However, as we can see, this definition is quite vague and allows for a variety of interpretations as to what activities exactly could be treated as display of Corporate Social Responsibility. The absence of a unified definition of CSR poses a significant obstacle for its country-wide implementation.

One of the largest studies of Corporate Social Responsibility in Kazakhstan performed by (Sange Research Centre, 2013) shows that, despite the fact that CSR history in our country began in the 1990s, by 2013 the awareness levels were not very high, about 67%. Moreover, government representatives who are supposed to support companies in their pursuit of socially responsible behavior, displayed low levels of awareness about CSR themselves - in most cases, they equated it with strictly philanthropic activities. (Kabatova, 2016)

As mentioned above, CSR is not regulated by one executive body; instead, different parts are regulated by different departments which at times are unable to reach an agreement. This haphazard and non-transparent way in which CSR policies are formed noticeably hinders the development of CSR in Kazakhstan.

(Sange Research Centre, 2013) also shows that 100% of surveyed large company respondents were familiar with the CSR concept. Which is understandable, as many of them are either MNC subsidiaries, or are heavily guided by established western business practices, which include business sustainability and responsibility.

Unlike them, Small- and Medium-sized Enterprises (SMEs) displayed a vastly smaller awareness percentage - 47% and 69% respectively. More than a half of them also consider CSR a prerogative of large companies that actively harm the environment, or the people - oil industry, mining industry, tobacco industry representatives, etc. (Sange Research Centre, 2013)

## **Methodology**

### **Development of hypotheses**

Our study is similar to what (Bahta et al., 2021) have done in Eritrea, a country in East Africa. However, we chose focus on companies in Kazakhstan – namely, SMEs. This approach excludes MNC, that either already had CSR policies before they came to KZ, or have to conform to established western business practices which include business sustainability and responsibility.

SME are much more interesting in terms of their lower awareness about CSR (Sange Research Centre, 2013) and in that they are less pushed to behave socially responsible in the first place. Their impact on the world that CSR aims to mitigate, is perceived as smaller compared to large companies, not only by themselves, but by their stakeholders as well.

The aim of this study is to explore the general outlook towards Corporate Social Responsibility among SME business owners and managers, what impact they perceive it having on a company's performance, and how this attitude has changed during crisis.

Based on the reviewed literature, we hypothesize as follows:

Hypothesis 1 (H1): SME owners may be aware of the CSR concept, but are either hesitant to invest in it, or limit themselves to the employee care and benefits.

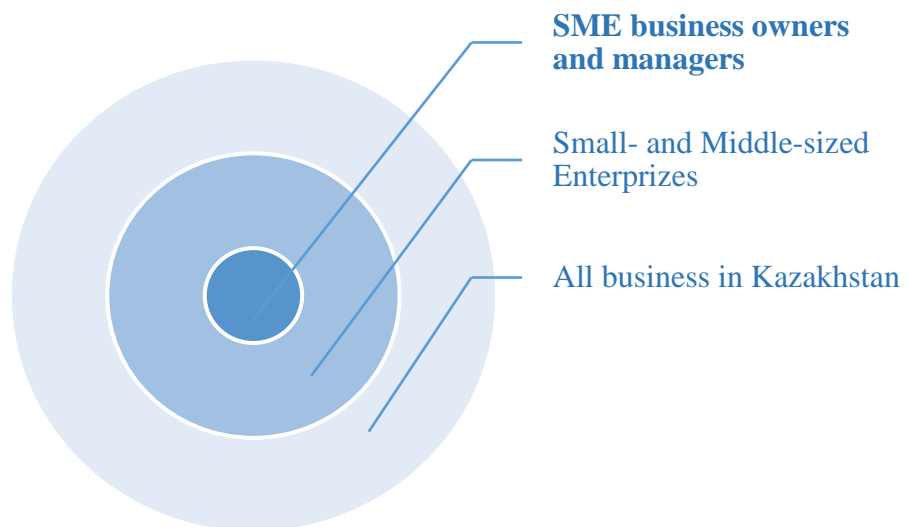
Hypothesis 2 (H2): SME owners do not perceive any significant impact of CSR on their business' performance.

Hypothesis 3 (H3): COVID-19 pandemic-related crisis did not change perceived importance of CSR for SME companies.

### **Data collection**

Similarly to many countries, there is no unified form of reporting CSR in Kazakhstan, and companies are hesitant to share information on their financial performance – which compels us to use subjective data on both CSR and financial performance, as objective ones are not available. Additionally, the population applicable to our study is fairly limited, since we require a particular outlook to the business operations that is possible on a higher level management. (Fig. 3.1).

The study is conducted through a survey among business owners and managers in SMEs. The approach is similar to (Bahta et al., 2021) with changes in the context of the study, and its aims. The first respondents were chosen based on their availability to us, and the following were chosen via a snowball method (non-probability volunteer sampling).



### *Figure 0.1 Population of the study*

For this study, we are using a mixed method research, which would combine features from both quantitative and qualitative methods:

- Generalizability – large study sample (quantitative)
- Contextualization – collected data are more exploratory and richer in details (qualitative)

This method informs our survey design – it is a mix of closed and open-ended questions. Closed questions aim to collect data on the number of companies aware of the Corporate Social Responsibility concept, practicing it in particular areas, affected by crisis, etc. Open-ended questions, on the other hand, provide details on the reasonings behind these numbers – why companies choose to practice CSR or not, what is their perception on CSR-performance relationship, etc.

#### **Preliminary results**

The desired sample size for our study is 100 respondents. However, the response rate is quite low, possible reasons include company policies regarding surveys, unwillingness to participate, or disinterest in the research topic. Without knowing what specific reasons were applied, we can't interpret the non-responses to the study.

Currently the survey process is continuing, at the moment we have only 14 responses available for analysis. The number is too small to draw any solid conclusions regarding the entire population, so the quantitative part of the research is limited to observing general trends without assuming them to be final.

We can see that most of the respondents are at least aware of the Corporate Social Responsibility concept, and link it first and foremost to environment protection, and improving

employees' quality of life. Third place is divided between consumer rights protection and support for education.

Are you familiar with the definition of CSR?

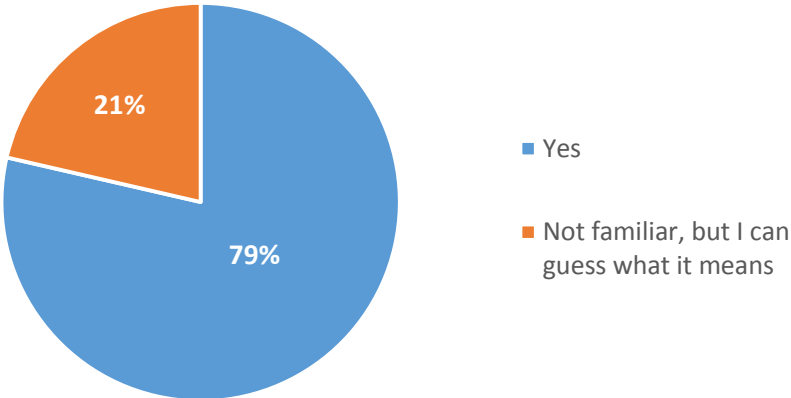


Figure 0.2 Awareness of the CSR concept among SMEs in Kazakhstan

What part of CSR is the most important to you?

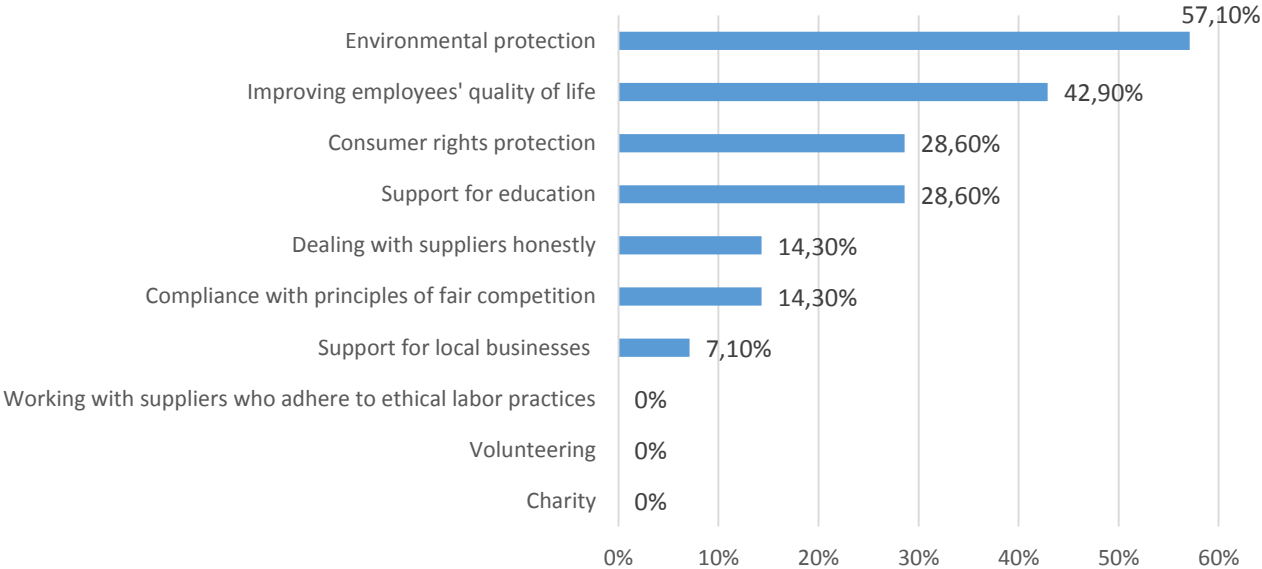
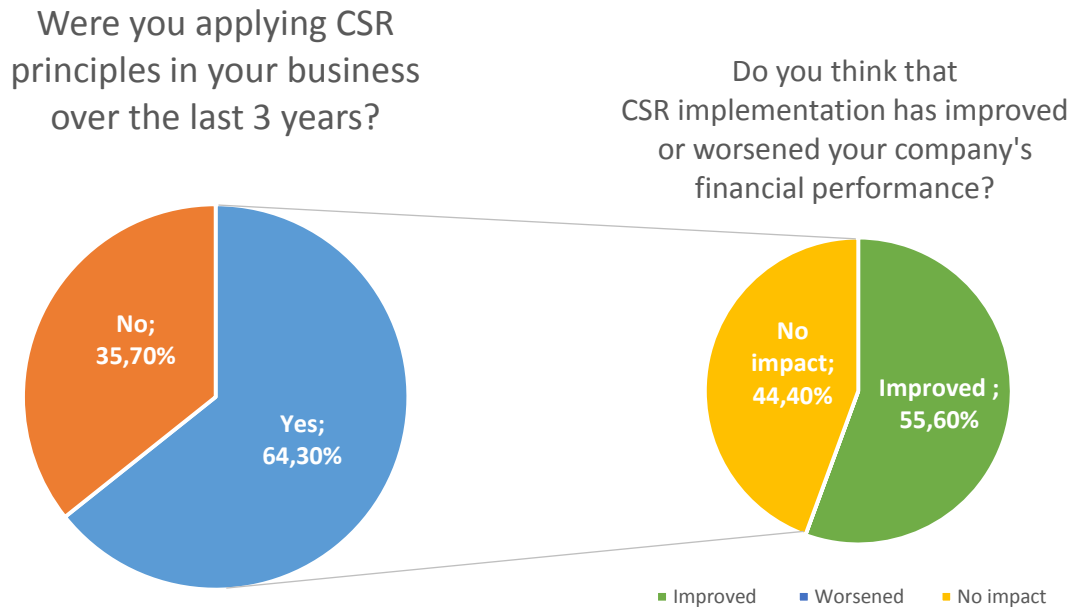


Figure 0.3 Prioritization of specific CSR practices

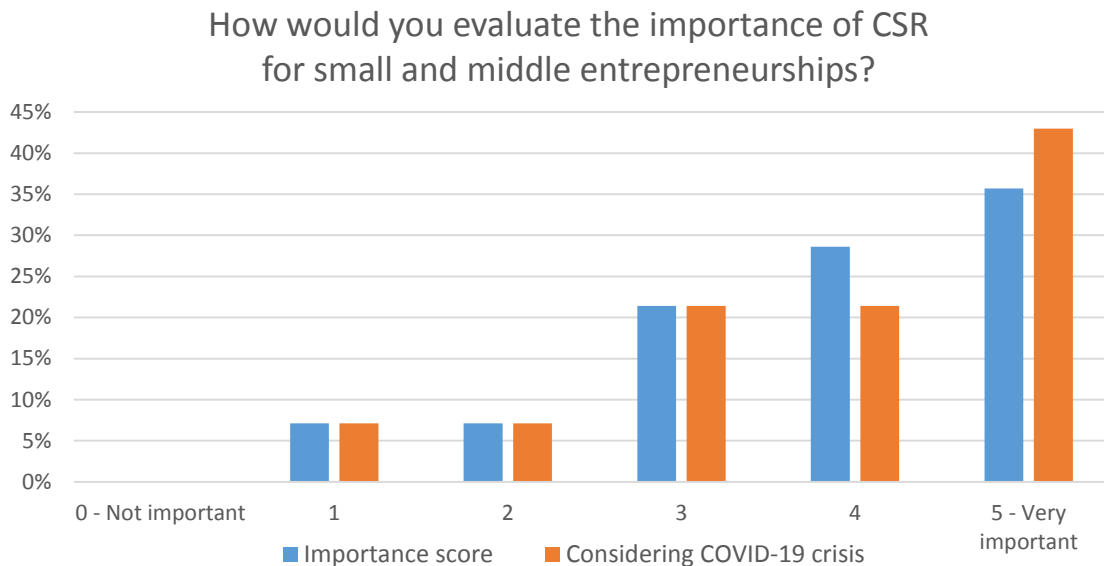


Of all respondents, 64,3% have been practicing CSR for the last 3 years. These companies focus on environment and employees; however, some responses additionally include customer care and quality assurance. 44,4% of them (28,5% out of total number of respondents) state that CSR implementation did not affect their financial gains. 55,6% (35,7% out of total) see CSR as a positive influence on performance, stating that they observe higher levels of motivation and work efficiency among employees, and, interestingly, costs reduction on electricity and fuel.

35,7% of respondents were non-practitioners. Some of them believe that CSR practice would negatively impact the company performance. Others, while recognizing the possibility of improving performance, reason that they don't have any relevant experience, CSR would require additional expenses that they don't have, or that they "firstly need to stand on their own two feet".

Figure 0.4 CSR practitioners and the impact of CSR on their performance

In general, both groups view Corporate Social Responsibility as an important practice for Small- and Medium-sized Enterprises. However, only one respondent would change their score (from 4 to 5) considering current COVID-19 pandemic-related crisis. (Fig. 3.5)



*Figure 0.5 Crisis impact on CSR importance score*

## Conclusion and recommendations

This study aims to explore the attitude towards Corporate Social Responsibility among SME business owners and managers, what impact they perceive it having on a company's performance, and how this attitude would change during crisis.

Preliminary findings from a variety of industries provide an understanding of what specific CSR practices SMEs tend to prioritize, and what reasons they might have to either practice CSR in their operations, or refuse.

To summarize, our initial findings are as follows:



- For the most part SME owners are aware of the Corporate Social Responsibility concept, or at least can understand the meaning behind it, if vaguely.
- Respondents are mostly willing to start practicing CSR (if they don't already), however, they don't always understand where to start. This is again reinforcing a known issue in Kazakhstan of unclear CSR definitions in legal texts and various interpretations of CSR even from government representatives.
- The most importance is placed upon environment protection and employee care.
- Respondents, who have been practicing CSR at least for the last 3 years have not observed any negative impact on their performance. Non-practitioners, however, acknowledge such possibility. Some do not see any economic merit in spending limited company resources on CSR activities
- Overall, companies attribute to CSR high importance in business operations. However, the scores were minimally affected by the crisis.

In relation to the hypotheses we tested, we can cautiously conclude, that the data we collected agree with H1 in general – SME owners are for the most part aware of the CSR concept, but aside from employee care, they also participate in ecology initiatives, and place even greater importance to that specific practice.

H2 is not proven – most respondents do perceive an impact of CSR on their performance. Additionally, the respondents see this impact as a positive influence.

H3 stated that crisis would not affect the importance companies place on CSR. This hypothesis is supported by the data we currently have.

## **Limitations and recommendations for further research**

Despite the fact that preliminary survey results do support most of our hypotheses, there are far too little responses collected. In order to overcome these limitations, we could:

- First and foremost, collect more responses to make our findings statistically viable.
- Additionally, conduct several interviews with business owners to elaborate deeper on their attitude towards Corporate Social Responsibility.

In terms of further research into Corporate Social Responsibility in Kazakhstan, it would be interesting to explore various metrics that could act as a mediator between CSR and company's financial performance – not only firm reputation, or customer satisfaction, mentioned in the literature review, but more measurable variables like Return on Assets, Enterprise Value.

We would also recommend conducting more research using objective data. That would require an access to companies' financial statements, as well as a uniformed, comparable, and relevant information of CSR applications from each company. Since such information is nor widely available for the sample sizes required, the research could be done in form of a case study.

Another idea is to compare answers from business owners, and executive managers from the same company. The agency conflict between the two might cause noticeable differences in the attitudes. Further research could also explore attitude towards Corporate Social Responsibility even among lower levels of hierarchy in the company, as well as among general population (potential future business owners).

Finally, the study could be expanded to include more countries, particularly in Central Asia, since we share many similarities in our cultures.

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# **“Asset Pricing on Blockchain: Slow moving capital, momentum, and bubbles of cryptocurrencies”.**

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## **ABSTRACT**

The use of distributed storage systems is becoming more common in today's industry. Blockchain is a technology for securely distributed storage of records of all cryptocurrency transactions ever committed. The fundamental innovation of the blockchain lies in its architecture, which enables decentralized transactions that do not require trust. The purpose of this study is to analyze asset pricing models on blockchain based technologies. The model was estimated by using the daily data of cryptocurrencies price between 2013 and 2020. This study shows how factors such as momentum, rate of return, Sharpe ratio affect asset pricing model. The estimation was made on different stages of cryptocurrencies: bubble stage and normal stage. Even in the early stages of a blockchain, information propagation may be hampered by sluggish transaction verification, resulting in momentum. As a result, momentum and bubbles may represent two independent cases of crypto capital movement.

## **INTRODUCTION**

Currently, there is widespread digitalization, in this regard, Blockchain technology is becoming more and more popular. This technology is providing interest to many industries around the world. As a relatively new direction in computer science, blockchain is becoming a global, cross-industry technology that is predicted to contribute to the growth of the global economy over the next several decades.

Experiments with blockchain technology have been carried out since the early 1990s, but it did not become widespread until 2008, after the release of the White Paper by an individual or a group of individuals working under the pseudonym Satoshi Nakamoto. The first known blockchain technology to be developed was the Bitcoin protocol, which is also the name of the first widely used, decentralized cryptocurrency. The term blockchain is becoming more and more popular among the population and is automatically associated with the "blockchain" and the bitcoin platform.

Bitcoin, cryptocurrency that is based on blockchain, differs from ordinary currencies to which everyone is accustomed, and the main difference is that it is not backed by anything, is not regulated



by anyone, is not tied to any state or economy. When cryptocurrencies first began to take off, people who did not fully understand blockchain technology were shelling out money based mainly on feeling. Their special feeling about being the very winners in this game that will change the rules of the game fueled the super-inflated bubbles. As a result, this led to a reality bubble test.

Hacker attacks, exchange closings, frauds, and government interventions have not bypassed new technologies like cryptocurrencies. Each time, investors who were afraid of such changes chose safer and more familiar methods. Below the information about the collapse in bitcoin prices since the beginning of crypto-history is given:

1. In 2011, price of Bitcoin changed from \$1 (April 2011) to \$32 (June 2011), in percentage the result is 3200% gain. On June 19 of this year, hundreds of accounts were hacked and scammers stole several million dollars, which caused the price of one Bitcoin to fall to \$ 2. But then Bitcoin began to recover gradually and reached \$ 4.8 in May of the following year.
2. In August 2012, crypto investors learned of the classic Ponzi scheme cheating, updated for the digital age. A scammer with 700,000 bitcoins promising an incredible profit of 7% of the weekly rate has been convicted. This year, according to statistics, there was a decline of price 56%.
3. 2013 year was another Bitcoin crush year. Because starting with \$13.40 and rising to \$220, after this crushing to \$70 was a reason for 2 price bubbles in a history (April and December 2013).
4. Another price bubble emerged in 2017, and this year has become a significant year in the history of bitcoin. The price at the beginning of the year fluctuated in the \$ 1,000 range, but on December 17, the price rose sharply from \$ 975.70 on March 25 to \$ 20,089. This was the very peak of the Bitcoin price. Society froze, everyone took notice, and governments began developing digital currencies to compete with bitcoins. But then everything collapsed and the price fell below \$ 12,000, the cause of this bubble was multiple hacks in Asia and rumors that the governments of these countries were planning to ban Bitcoin.
5. As in the past, the price of Bitcoin began to come back to life again. June 2019 saw a new breath of prices and trading volume, and the price was just over \$ 10,000, reviving all hopes for cryptocurrencies. But in December of the same year, prices fell to \$ 7,112.73.
6. With the onset of the pandemic in 2020, Bitcoin also began to crash like other markets, even Bitcoin began to fall much faster than other industries. Bitcoin lost 50 percent of its price in

3 days. And it was worth roughly \$ 4,000 compared to the beginning of the year when the price was above \$ 10,000.

7. By March 2021, a new record price for 1 bitcoin was set - more than \$ 60,000. The interest of people has caused a good demand for cryptocurrency. So in December 2020, the price slightly exceeded \$ 24,000, an increase of 224% from the beginning of the same year. Within a month, Bitcoin added \$ 40,000 per 1 unit in January 2021. The highest peak was on April 14, 2021 with a score of \$ 64,000. But in the summer, prices fell 50%, reaching only \$ 32,000.

This was a brief and general overview on the chronology of one type of cryptocurrency based on blockchain technology named Bitcoin price change events. For each year presented, there are research papers where different thoughts about such big changes are written and proven. But the question of why cryptocurrency prices are changing is still open.

The first logical factor in the rate change is the ratio of supply and demand, as for any in-demand asset on the exchange. The exchange rate grows in conditions of increasing demand, if people are ready to buy and buy, and decreases if demand falls. The growth factors in demand include the popularity of the currency, advertising and a good media background (positive news about bitcoin). For example, the recent message about the recognition of the halal cryptocurrency for Muslims instantly raised the rate by \$ 1000. And the massive interest of the population and the fact that bitcoin is "on everyone's lips" is slowly raising the BTC rate.

The most interesting thing begins when the rate of cryptocurrencies rises or falls sharply. This does not at all indicate the explosive interest of the population in cryptocurrency: it means that a bull has come to the exchange.

A pumper (from the English pump - to inflate: the planned artificial inflation of the rate) is a player with a large amount of an asset (in this case, bitcoins) who can instantly buy up sell orders, thereby raising the rate to maximum values extremely quickly. So it artificially creates a wave of general excitement among inexperienced traders, buying up orders at the right time and creating the illusion of stable growth in bitcoin. Newbies buy, and at the peak of activity, the pumper creates a dump (intentional collapse of the rate) and dumps assets, lowering the bitcoin rate to a minimum.

We can recall isolated cases: for example, when a certain Roger Ver sold, according to rumors, 250 thousand bitcoins in November 2017, thereby dropping his price from \$ 7880 to \$ 5600.

The fall may also be affected by a short-term long-term emission of currency on exchanges. For example, in April of this year, a certain Kobayashi traded 4,000 bitcoins a day for several days in a row, which led to a gradual fall in the rate. This is not such a serious result, but rather noticeable, since, in principle, there are not too many bitcoins traded yet due to their high price.

## **LITERATURE REVIEW**

### **2.1. Introduction**

This chapter aims to analyze the existing materials on asset pricing on Blockchain technology based cryptocurrencies and it determines the difference from the works of other authors. Section 2.2. describes scientific works about blockchain technology. And the next section 2.3. is about Capital Asset Pricing Model(CAPM) and it discusses theories, theoretical approaches of different authors.

Blockchain technology has become a ubiquitous phenomenon. In recent years, many researchers began to write scientific work about blockchain technology, if more precisely, how different situations of the world, ranging from liquidity to the size effect on the pricing cryptocurrency. The most important work I took as a base is the work of the authors of Sasmita Claudia Pontoh and Eko Rizkianto (2019) called Asset Pricing Analysis of 18 Cryptocurrencies. The paper describes the effects of the factors: Market Return, Size (Market Capitalization), and Network-Value-to Transaction Ratio (NVT Ratio) for pricing cryptocurrency. During the study, 18 cryptocurrency data were used in the period 2016-2019. As a result, it was proved that small cryptocurrencies have a higher yield than large cryptocurrency. It also turned out, the majority of cryptocurrency are exposed to a significant effect of the proposed three-factor pricing model, which means that the proposed three-factor pricing model can well explain the average excess yield of cryptocurrency.

### **2.2. Blockchain**

Analysis of the token blockchain in the aspect of its technical nature allows us to conclude that the token blockchain is inherently a unique transaction identifier that can perform the admission function to the information resource. In turn, such an information resource contains information about this transaction and may have an important property - to provide access to a specific complex of rights (rights, use and orders) on the value under which property, property and non-property rights, securities, services, work is understood digital assets and other values.

In the work of the author Lin William Cong (2019) describes that this property of the blockchain is key in the aspect of its economic and legal nature and classification based on it. Thus, the pricing of

the token of the blockchain not possessing this property is caused by demand, which is formed on the factors of demand, faith and emotions caused by various news that are not always reliable and in different ways affect the psycho-emotional perception of the information received. These factors contribute to both sharp speculative growth and rapid depreciation of the analyzed tokens. Such tokens of the blockchain can be classified as speculative assets.

Yukun Liu and Aleh Tsyvinski from National Bureau of Economic Research in August 2018 provided reports to risks and returns of cryptocurrency, within which, in particular, the correlation is studied cryptocurrency with different classes of assets (stocks, currencies, precious metals, etc. ), as well as the impact of social networks, search services and media for pricing cryptocurrency. It has been established that cryptocurrencies are practically not affected by currency, goods, stock market or macroeconomic statistics, but at the same time sensitive to informational influences, in particular, from requests in the search for Google and posts in social media; A high degree of volatility cryptocurrency was also stated, which is not peculiar to traditional assets. Thus, it can be concluded that cryptocurrencies as a category in their signs and properties are comparable to the category of speculative assets.

Also, it is important to note the work of the authors of Felix Irresberger, Kose John, Peter C. Mueller, Fahad Saleh (2020), since their work is the first extensive overview of the ecosystem of popular blockchains. This article shows the empirical overview of the blockchain ecosystem. More precisely, explain the uneven dominance of blockchains in the fact that three key economic attributes defining the beneficiaries of the blockchain for users of empirical conclusions as acceptance, scale and safety. Comparing these attributes, you can find out the optimality of the blockchains compared to all other blocks for a specific type of user. As a result, it was found that only several blocks may be optimal for a specific type of user.

The paper describes that there are hundreds of blocks, but economic significance has few. The structure that is described in this article suggests that three blockchain characteristics determine the usefulness of the user - scale, safety and adoption. The main reason for the dominance of some defined types of blockchain is utility for some users. An important conclusion from our analysis is that there are several blocks, in addition to bitcoin, which have economic importance. Accordingly, work is not yet completed and requires further research.

Below in the table shows other works related to the deep study of the blockchain technology:

Authors	Year	Findings
Dylan Yaga, Peter Mell, Nik Roby, Karen Scarfone	2018	This paper describes the entire essence of the blockchain technology. To be more accurate, the importance of using this technology, pros and cons, all transaction informations are presented in this article.
Jesse Yli-Huumo, Deokyoon Ko, Sujin Choi, Sooyong Park, Kari Smolander	2016	This work analyzes the decentralized environment for transactions in ensuring anonymity, security, confidentiality and transparency to all its users. Different schemes, pictures accurately describe the condition and influence of blockchains, especially Bitcoins for 2016 y.
Treleaven, Philip, Richard Gendal Brown, and Danny Yang	2017	The article tells about the huge number of other possible applications of blockchas. Starting from smart contracts as testaments, transport cards and medical blanks ending with vouchers will be replaced by blockchain technology.

Table 1. The studies of blockchain technologies.

### 2.3. Capital Asset Pricing Model

The Capital Asset Pricing Model (CAPM), which specifies the relationship between the level of risk and the required return, was developed by John Lintner, Ian Moysin and the Nobel Prize winner in economics William Sharp and is based on ideas about ideal capital markets and some other assumptions. According to the CAPM, the required return on risky assets is a function of the risk-free return, the average return on the securities market and the index of the fluctuations in the return of a given financial asset in relation to the average return on the market. Currently, CAPM is used to analyze not only securities, but also any business transactions. CAPM makes it possible to determine what should be the amount of profitability required to compensate for a given level of risk.

The main formula of CAPM:

$$E(R_i) = R_f + \beta_i(E(R_m) - R_f)$$

Where

$E(R_i)$ = capital asset expected return;

$R_f$ = risk-free rate of interest;

$\beta_i$ =sensitivity;

$E(R_m)$ =expected return of the market.

Fama, Eugene F., and Kenneth R. French (2004) did an extensive analysis of this model. It turned out that the very first version of the mod had never been successful, since the first version did not take into account a flatter tradeoff of average return for market beta. But research has shown that

there are three main factors, like size, different price ratios and momentum, complement the beta version.

The beta is an indicator of systematic risk. It reflects the level of volatility of a particular security in relation to the average and is a criterion of earnings per share compared to the average earnings in the securities market by Wang Q(2021). General standards for values  $\beta$ : 0 - income from this security does not depend on risk (risk-free security - Treasury bill); 0.5 - the security reacts at half the cost to the change in the security risk; 1.0 - the security fully reacts to changes in the securities market (medium risk); 2.0 - a security reacts doubly to changes in the securities market.

#### **2.4. Slow moving capital**

In the studied work of authors Bogousslavsky, Vincent, Pierre Collin-Dufresne, and Mehmet Sağlam(2021), one can see the impact of external trading disruption in a firm, on standard stock liquidity indicators (spreads, impact on price, turnover and depth) and institutional trading costs (lack of sales and volume-weighted average price slippage).

The study found that stocks in which the firm accumulates large long positions increased by about 4% during the outage and became significantly more illiquid and declined in the opposite direction. One day is enough to restore liquidity indicators based on spreads and prices. However, the change in institutional trading costs remains for a long time, approximately more than one week. As a result, both liquidity indicators are also weakly correlated outside the period of the disruption, which suggests that they cover different aspects of liquidity.

#### **2.5. Momentum, and bubbles of cryptocurrencies**

Y. Liu and A. Tsyvynkiy (2021) carried out a large-scale study of possible factors that can predict the profitability of leading cryptocurrencies (Bitcoin, Ethereum, Ripple). In particular, the authors demonstrated that the profitability of cryptocurrencies can be largely explained by such cryptocurrency-specific factors as changes in the number of open wallets, active addresses, all and separate payment transactions on the blockchain. The authors did not find a significant correlation between the returns of cryptocurrencies and other financial assets, as well as the Fama-French factors, macroeconomic indicators. Momentum (momentum of price movement) and investor attention, expressed in terms of the relative frequency of searches in Google and Wikipedia, were the only indicators that significantly affect the future profitability of cryptocurrencies and to some extent are able to predict price movement. The presence of a two-way relationship between Google queries and bitcoin yields is also indicated by the results of S. Dastgir et al. (2019), obtained using

the copula-based Granger causality test. In another work, the same authors (2019), attempted to construct the cryptocurrency market of factors taxing the market factors of Fama-French and not only. By modeling portfolios that reflect certain factors, it has been demonstrated that only three factors - cryptocurrency market capitalization, size, and momentum - can explain the expected return on a given asset class.

Many researchers are also involved in the analysis of cryptocurrency volatility. J. Chu et al. (2017) reviewed 12 different GARCH model specifications for the 7 largest cryptocurrencies. The most suitable specifications turned out to be integrated GARCH (IGARCH) and asymmetric GARCH (GJR-GARCH), which indicates a high stability of volatility (effect of infinite memory) in cryptocurrency yields, as well as an asymmetric response of volatility to yield shocks.

The study of the asymmetric reaction of the cryptocurrency market to news is devoted to the work of M. Malkina and V. Ovchinnikov (2020), in which the authors, using GARCH models with Markov switching and models of heterogeneous autocorrelation realized volatility (HAR-RV), have shown, among other things, that the presence and size of the asymmetry effect depends on the phase (rising, falling) and the level of volatility (high, low) of the cryptocurrency market. The asymmetric influence of positive and negative news on bitcoin profitability was also demonstrated in the work of E.A. Fedorova, K.Z. Bechvaya and O. Yu. Rogov (2018), and the authors showed that the influence of negative news is stronger. In the work of H.A. Aalborg, P. Molnár, J.E. de Vries (2019) using HAR-RV and panel regressions, a correlation was found between volatility and the volume of cryptocurrency exchange trades. The authors did not find a correlation between the returns of cryptocurrencies and traditional financial assets, as well as some macroeconomic factors.

In a study by D. Bianchi (2020), using panel regressions, it was also shown that the volatility of cryptocurrencies correlates with the volume of trade, which, in turn, can be predicted by past returns. In another work by the same author [19], it is shown that the factor of the joint influence of lags in the trading volume and profitability (i.e., the multiplication of these indicators) positively and significantly correlates with the future profitability of cryptocurrencies.

The purpose of the work of this author Mikhailov (2020) is to study the pricing in the cryptocurrency market and the possibilities of their use by the Bank of Russia in the implementation of its monetary policy. The objectives of the research are to study the degree of market formation and all potential risks that have a long-term positive relationship with the financial stability of the cryptocurrency market, as well as to identify the cyclical nature of price dynamics. The author of



this post uses Hirst's methods with Amihud's illiquidity ratio to study the strength of four cryptocurrencies (BitCoin, LiteCoin, Ripple and Dash) and their evolution over the past five years. As a result of the research, the author found out that the cryptocurrency market has entered a new stage of development, which means a decrease in the possibility of obtaining excess income when investing in the most liquid cryptocurrencies in the future. It was concluded that illiquid cryptocurrencies manifest themselves as a low Hurst coefficient, which in turn proves strong inverse antipersistence. For getting an abnormal profit in the crypto market, a trending investment strategy can be used.

## **DATA AND METHODOLOGY**

As the main data source for the series cryptocurrency prices in US dollars used CryptoCompare/ Yahoo Finance/ CoinmarketCap site base. Despite the fact that the first cryptocurrencies appeared in 2009, many entered the market a little later, starting in 2013-2014. Considering all these shortcomings and problems, my work on average analyzes data from 2013 to 2020. For the analysis, cryptocurrencies that are widely used now, based on blockchain technology were taken.

### **3.1. Momentum**

For a complete analysis of the momentum of blockchain-based cryptocurrencies, 2 essential variables are required: Sharpe ratio and return rate.

Over the years statisticians, economists and mathematicians have developed several methods for measuring the performance of traded assets such as stocks, commodities, and currencies. One such measure is the Sharpe ratio, which was introduced in 1966 by William Sharpe. This ratio allows investors to determine how much of the return they will receive depending on the volatility they will experience while holding the asset. The calculation formula:

$$S = \frac{R_P - R_F}{\sigma_P}$$

Where S is Sharpe ratio,  $R_P$  is Return of portfolio,  $R_F$  is Risk-free rate,  $\sigma_P$  is Standard deviation of portfolio's excess return.

As research by author Dasman Sunita(2021) shows, cryptocurrencies have high return rates compared to common stocks, exchange rates, and gold. During the study, it turned out that Bitcoin has the highest return rate, which is 18%, but we should not forget that this is a big risk for investors. For example, Bitcoin return rate for 2020 was 0.1452 or 14.52% and Sharpe ratio was

2.6197. In table 2 there shown the results of observation 10 cryptocurrencies with different start date.

### 3.2. Asset Bubbles

The article by the authors Branch W. A., Evans G. W. (2011) studied bubbles and glitches in a simple linear asset pricing model. The existence of repeating bubbles in the model has been an open question in macroeconomics. The qualitative nature of the dynamics of cryptocurrencies, as well as other stocks, can lead to frequent deviations from the fundamental decision in the form of bubbles and accidents.

To study risk in real time, 2 directions are required. First, random market shocks can force agents to sharply revise their risk assessments. This leads to the fact that if there is a sharp decline in the estimated risk, the stock can be thrown back into a bubble and come out of a state of complete dormancy. Secondly, in the event of a full bubble, risks will only increase until the demand for assets falls. In the end, risk in such an environment plays the role of a destroyer of price plumes.

To study cryptocurrencies, I used the time period in both the normal state and the bubble state. Basic formula for calculation:

$$D_{i,t+1}(Bubble) = \alpha_0 + \beta_1 * D_{i,t}(Bubble) + \beta_2 * D_{i,t}(Normal) + \varepsilon_{it}$$

Where  $D_{i,t+1}(Bubble)$  means dependent variable on bubble stage,  $D_{i,t}(Bubble)$  and  $D_{i,t}(Normal)$  means the different stage of cryptocurrencies that are independent.

Results of panel regression were shown in Table 3. The models are drawn by Fama's challenge by using all Fama's theories related with bubbles.

#### 3.2.1. Portfolios of momentum on 2 different stages

In this subsection, impulse portfolios, built on the basis of normal / intermediate stage assets, were considered. The structure was chosen according to the strategy 2 by 2 weeks portfolios of winners and losers in normal and bubble stage. To measure the presence of a bubble, the cryptocurrency rate was taken in different up and down situations. Based on the 20% -80% threshold, a 2-week blister and normal impulse was included in the analysis. Table 4 also shows the yield t statistics for market-adjusted performance, market beta and asymmetry for the two sub-impulse strategies. As a result of this table, we can say that the portfolios of winners and losers have a positive asymmetry. The

winner minus loser portfolio in the stage bubble showed negative returns, but the result is insignificant. This shows that the momentum method does not work in the impediment stage.

### 3.2.2. Bubble experience and Google search relation

The introduction of the Internet has facilitated social interactions and discussions on an endless list of topics, especially with the advent of social media and forums. The shift of social communication to the Internet has created new variables that link society to the real economy. In particular, online platforms have become a popular site for discussing investment opportunities.

The growth of cryptocurrencies began back in 2017. With the help of the Internet, these cryptocurrencies have gained some popularity, which is why they also began to rise in price. The research work of the authors Timothy, V., Nikitin, Sh., Polishchuk, Sh.O., & Yenert, S (2021) analyzes the relationship between the volume of publications in

Twitter and Google searches for the keyword “bitcoin” and the price per unit of bitcoin. As a result, you can find out that tweets and Google searches are significantly positive affect the price of Bitcoin.

The results show that both tweets and Google searches have a statistically significant positive impact on price while decreasing from multicollinearity.

In addition, the cost of a transaction has a positive effect on the price of Bitcoin. However, it is rather an indicator of the high demand for Bitcoin transactions, as opposed to typical interpretations based on the cost and demand model. In addition, when examining the variables, it was found that Google searches have the most significant effect on the price of Bitcoin on the same day, while tweets have the greatest effect with a lag of 14 days.

After the analysis of previous works on this theme, the model for estimation the relation between bubble experience and Google search has found:

$$D_{i,t+1}(\text{Bubble}) = \alpha + \beta_1 * \text{Google}_{i,t-1} + \beta_2 * \Delta\% \text{Google}_{i,t-1} + \beta_3 * M_{i,t-1} + \varepsilon_{i,t}$$

Where  $D_{i,t+1}(\text{Bubble})$  means the time dummy dependent variable at run up price, the maximum Google search volumes for one week is given in  $\text{Google}_{i,t-1}$  form. The change rate of Google search volume is  $\Delta\% \text{Google}_{i,t-1}$  and relative control variable is  $M_{i,t-1}$ . The results of this estimation is given in Table 5.

## CONCLUSION

Analysis of the influence of various factors on cryptocurrencies gave good results. As a result, I can say that the impulse strategy does not always work. It works only when the price of cryptocurrencies is in the normal stage, and the study of the strategy data at the impediment stage did not give any results. It is also worth noting that limited transaction processing capabilities are the most important mistakes when pricing assets of cryptocurrencies based on blockchain. This negatively affects the speed of assets, which will affect the price, turning the normal state into a state of crashes and bubbles. Overall, the paper was written to analyze the foundations for asset pricing influenced by various factors and strategies. But one should not exclude further in-depth studies of this topic and look at other factors on the basis of this work.

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## APPENDIX A

	BTC	LTC	XRP	DOGE	Dash	ETH	VW
First Date	2013/5/5	2013/5/5	2013/8/18	2013/12/29	2014/2/23	2015/8/16	2013/5/5
Observations	249	249	234	215	207	130	249
Mean	0.03	0.04	0.06	0.03	0.06	0.08	0.04
t-value	3.00	2.11	2.38	1.99	3.19	3.85	4.42
Max	0.66	2.92	3.90	1.71	1.94	0.90	0.90
Min	-0.33	-0.42	-0.41	-0.43	-0.50	-0.36	-0.34
STD	0.13	0.27	0.37	0.25	0.29	0.23	0.15
Sharp ratio	0.19	0.13	0.16	0.14	0.22	0.34	0.27
Kurtosis	3.58	54.85	54.75	18.16	18.46	2.50	7.44
Skewness	1.02	6.00	6.24	3.38	3.59	1.47	1.44
P=5%	-0.16	-0.21	-0.23	-0.21	-0.18	-0.19	-0.15
P=10%	-0.12	-0.14	-0.16	-0.16	-0.14	-0.14	-0.10
P=25%	-0.04	-0.07	-0.08	-0.07	-0.07	-0.07	-0.03
P=50%	0.02	0.00	-0.01	-0.01	0.00	0.03	0.02
P=75%	0.08	0.06	0.07	0.06	0.11	0.14	0.09
P=90%	0.17	0.23	0.27	0.24	0.30	0.40	0.20
P=95%	0.27	0.39	0.55	0.42	0.54	0.57	0.26

Table 2. Cryptocurrency data.

## APPENDIX B

	$D_{T+1}$ (Large Drawdowns)		$D_{T+1}$ (Large Runups)	
	Model 1	Model 2	Model 3	Model 4
Intercept	0.13*** (15.76)	0.32*** (30.18)	0.19*** (21.61)	0.24*** (21.98)
$D_{i,t}$ (Bubble Stage)	0.18*** (13.63)		0.05*** (3.57)	
$D_{i,t}$ (Normal Stage)		-0.18*** (-13.63)		-0.06*** (-3.57)
R-squared	0.05	0.05	0.00	0.00
Observations	3601	3601	3601	3601

Table 3. OLS table regression.

## APPENDIX C

Statistic	Normal-Experience (Low Run up, Low Drawn down)						Bubble-Experience (High Run up, High Drawn Down)					
	Loser	2	3	4	Winner	WML	Loser	2	3	4	Winner	WML
$\bar{r} - \bar{r}_f$	1.62%	1.19%	8.68%	3.89%	8.39%	6.77%	4.23%	2.00%	2.38%	4.32%	3.47%	-0.76%
$t(\bar{r} - \bar{r}_f)$	1.24	0.85	1.55	1.92	3.03	2.45	1.19	1.88	2.67	3.95	2.48	-0.21
$\sigma$	0.19	0.20	0.80	0.29	0.40	0.40	0.51	0.15	0.13	0.16	0.20	0.52
$\alpha$	0.69%	7.79%	2.89%	0.08%	7.78%	7.09%	3.36%	1.07%	1.50%	3.67%	2.65%	-0.71%
$t(\alpha)$	0.53	1.36	1.42	0.05	2.76	2.51	0.93	1.02	1.75	3.35	1.89	-0.19
$\beta$	0.16	0.16	0.18	0.20	0.11	-0.06	0.15	0.16	0.15	0.11	0.15	-0.01
$t(\beta)$	3.59	0.78	2.44	4.03	1.08	-0.56	1.20	4.48	5.09	2.92	2.93	-0.07
Sharp	0.09	0.06	0.11	0.13	0.21	0.17	0.08	0.13	0.19	0.27	0.17	-0.01
Skewnes	1.15	1.77	13.09	5.38	9.38	10.05	10.75	2.14	0.68	1.68	1.09	-10.53
Kurtosis	3.62	9.46	181.47	48.07	113.33	126.39	138.03	13.37	2.01	5.68	1.73	136.57

Table 4. Momentum in 2 different categorizes.

## APPENDIX D

Variables	Dependent Variable: $D_{i,t+1}(p = Bubble)$			
	Model 1	Model 2	Model 3	Model 4
Google Search	0.001*** (5.23)	0.001*** (9.48)	0.001*** (5.23)	0.001*** (9.48)
$\Delta\%$ Google Search	0.018*** (8.98)	0.014*** (6.75)	0.018*** (8.98)	0.014*** (6.75)
Risk free rate		-1.43*** (-16.27)		-1.43*** (-16.27)
Mkt-rf		0.005*** (3.68)		0.005*** (3.68)
SMB		-0.001 (-0.21)		-0.001 (-0.21)
HML		0.008* (2.52)		0.008* (2.52)
RMW		0.011* (2.44)		0.011* (2.44)
CMA		-0.004 (-0.99)		-0.004 (-0.99)
Fixed effect	ICY	ICY	ICY	ICY
Crypto currency	Yes	Yes	Yes	Yes
Week controls	No	No	Yes	Yes
Observations	23365	23365	23365	23365
AdjRsqr	-2.16%	-0.71%	-2.16%	-0.71%

Table 5. Relation of Bubble stage implementation and google searching.

### “The relationship between leverage and performance of oil and gas industry in Europe”

Kopochkin Maxim, ID 20191555, MBA

#### Abstract

This paper is aimed to identify the relationship between leverage and performance of oil and gas companies in European region. In order to understand this relationship thirteen European oil and gas companies were picked from STOXX Europe 600 Oil and Gas (SXEP) for the period started from 2009 year and ended by 2020 year. In order to analyze this data, the following techniques were used: hypotheses development, creation of two empirical models, descriptive statistics, collinearity test and regression analyses – OLS (ordinary least squares). Leverage was identified as independent variable

and expressed by Short-term debt ratio (STDR), Long-term debt ratio (LTDR) and Total debt ratio (TDR). While the performance was expressed by Return on equity (ROE) and return on assets (ROA) and was applied as dependent variable. The findings reveals that leverage have significant influence on performance of oil and gas companies in Europe that were picked. The recommendations were followed: in order to increase company's financial performance leverage part of the capital structure should be reduced.

## **Introduction**

The relationship between leverage and performance of the companies was a debatable topic starting from times of Modigliani and Miller (1958) till nowadays. Whether leverage influences the performance was a topic of a particular interest. In 1958 Modigliani and Miller developed a theory stating that the financial leverage did not affect the company's performance. The theory worked under a set of assumptions such as absence of taxes, perfect competition market structure, and no bankruptcy or transaction costs. But later, in 1963 Modigliani and Miller made a communication in order to correct their previous paper that was done in 1958. In their 1958 works the wrong statement was follows: "the market values of firms in each class must be proportional in equilibrium to their expected returns net of taxes (that is, to the sum of the interest paid and expected net stockholder income)" (Modigliani & Miller, 1963). The authors developed a new theory about leverage and performance extending their ideas with respect to tax benefit of debt. They improve their theory by adding: "And since the distribution of returns after taxes of the two firms will not be proportional, there can be no "arbitrage" process which forces their values to be proportional to their expected after-tax returns. In fact, it can be shown-and this time it really will be shown-that "arbitrage" will make values within any class a function not only of expected after-tax returns, but of the tax rate and the degree of leverage. This means, among other things, that the tax advantages of debt financing are somewhat greater than we originally suggested and, to this extent, the quantitative difference between the valuations implied by our position and by the traditional view is narrowed. It still remains true, however, that under our analysis the tax advantages of debt are the only permanent advantages so that the gulf between the two views in matters of interpretation and policy is as wide as ever." (Modigliani & Miller, 1963). This theory is still subject for discussion.

Also, there is a plethora of empirical research in which topics related to leverage and performance have already been covered, especially within oil and gas industry all over the world. However, when



it comes to research on the topic within the particular geography of European oil and gas sector, there is insufficient publicly available evidence. In the absence of which I have chosen to focus my research on the relationship of leverage and performance of oil and gas industry in Europe. Hence, the purpose of this paper is to test the relationship between leverage and performance of oil and gas companies in Europe.

## **Literature review**

One of the main accounting rules states that assets equal liabilities minus equity, could be interpreted in another way, like liabilities equal assets minus equity or equity equal assets minus liabilities. And the debt is a liability of the company which all of the accountants and the financiers place on the right side of the balance sheet in the liabilities column. Furthermore, according to Williams, Smith and Young (1998) debt is usually defined as a “contractual obligation to make a fixed payment or to make a series of payments”. So, according to information above, debt could be one of the tools that almost every company can use to leverage their capital in order to increase their profit in future. So, if the company leverage their capital, they could have an abnormal return in profit in comparison with just usual capital. But, on the other hand, if the company fails, the loss would be also abnormal to the leveraged company. So, we can conclude that leverage’s efficiency to increase a company's profit is not constant, it could behave differently, and vary from company to company. Maher and Andersson (2000) find out that the company management’s ability to increase their profit with the help of the debt depends on the level of qualifications in management’s corporate governance. In other words, excellent corporate governance indicates that the company’s achievement on their use of debt to increase their profit would succeed.

There are two types of leverage transactions, those which increase leverage and others that decrease leverage. Furthermore, those 2 types of transactions influence the price of common stocks. As Jensen (1986) found out: “Most leverage - increasing transactions, including stock repurchases and exchange of debt or preferred for common, debt for preferred, and income bonds for preferred, result in significantly positive increases in common stock prices. Most leverage - reducing transactions, including the sale of common, and exchange of common for debt or preferred, or preferred for debt, and the call of convertible bonds or convertible preferred forcing conversion into common, result in significant decreases in stock prices”. Another interesting point is that Jensen (1986) has offered a negative relationship between leverage and investment, but his points were based

on agency conflicts between managers and shareholders. That suggestion also was supported by Stulz (1990) and Grossman and Hart (1982).

There were some previous topics on leverage and performance by different researchers all over the world. For example, Huang and Song (2006) (The determinants of capital structure: Evidence from China, 2006) covered a dataset consisting of the market and accounting data covering more than one thousand two hundred Chinese listed companies from 1994 to 2003 in order to review their capital structure features. Authors discovered that: “leverage in Chinese firms increases with firm size and fixed assets, and decreases with profitability, non-debt tax shields, growth opportunity, managerial shareholdings and correlates with industries”.

Further points in leverage and performance of companies was made by Lang, Ofek and Stultz (1996). They state that the growth of the companies that have fewer investment opportunities is affected by the leverage. It happens because the probability of the managers in such companies wasting resources is higher than in different firms.

Another interesting study was conducted by Ashraf (2017). The author tried to investigate the relationship between financial leverage and performance. Ashraf picked ten companies in the oil and gas industry. In the methodology section of this study regression and correlation analyses were picked in order to analyze the relationship between performance and financial leverage of those firms. The following ratios (debt ratio, equity ratio and debt equity ratio) were picked by the author in order to measure the financial performance of the companies. Additionally, the author chose the following measures (Net Profit Margin (NPM), return on equity (ROE), return on asset (ROA), earnings per share and return on capital employed (ROCE)) were picked for the purpose of defining the proxies for the company performance. Regression results show that debt equity ratio have a negative impact on return on equity (ROE), return on capital employed and on firm performance which is disclosed as return on assets (ROA). Also, the regression analysis results find out that there is almost zero impact of debt ratio on the whole measure of the company performance. Another finding that regression analysis discovers is that debt equity has a positive impact on earnings per share and didn't find any effect on net profit margin.

One of the examples of research that was conducted on leverage and performance was made by Nazir (2017) in Pakistan. The author has picked twenty one companies in different sectors of Pakistan, such as Automobile, Sugar, Textile and Petroleum. He also decided to apply Ordinary Least Square (OLS) and correlation methods as the techniques of analyses. The findings show that financial

leverage (which is identified as debt to asset ratio) negatively affects the financial performance (which is identified as return on asset).

Also there is some example of poorly conducted research on relationship between leverage and performance which was made in “Financial Leverage and Financial Performance of Oil and Gas Companies in Nigeria: A Re-examination” work by Ahmadu Abubakar (2021). He mentioned that poor example of research that was made on the relationship between leverage and performance which is conducted by Racheal. Racheal (2017) tested data of six listed companies in Nigeria from 2009 till 2014. Those six companies were picked from the consumer goods sector in order to test if there is any effect of financial leverage on financial performance. In order to test the data Racheal chose paired sample t-test as an appropriate method to do this. But the author’s choice to pick paired sample t-test as an appropriate method to test his hypothesis was not the best choice. Furthermore, this choice was opposite in comparison with previous techniques used by the authors in identical works. Another mistake of the author was to pick a dependent variable which was expressed as debt equity ratio in order to measure financial leverage. Alos, to pick independent variables in order to measure financial performance (return on asset (ROA), return on equity (ROE) and earnings per share) was the same mistake. Finally, Abubakar supports this by saying: “Financial leverage is only used as a dependent variable in studies of determinants of financial leverage, and not literature investigating the effect of financial leverage on the financial performance. However, acknowledging the methodological weaknesses of the study, the authors did not find any significant association between debt equity ratio and earnings per share, while debt equity ratio has a significant and positive effect on return on equity and return on asset as measures of financial performance”.

## **Methodology**

In order to understand the relationship between leverage and performance of oil and gas companies in Europe, I picked 13 companies from index STOXX Europe 600 Oil and Gas (SXEP). Data gathering of STOXX Europe 600 Oil and Gas (SXEP) companies was made with the help of Bloomberg Terminal.

## **Development of hypotheses:**

First thing that needs to be done to check if there is a relationship between leverage and performance is to establish what is defined by these two terms. For the purposes of this research, short

term leverage, long-term leverage, and total leverage are expressed as short-term debt ratio (STDR), long-term debt ratio (LTDR), and total debt ratio (TDR) accordingly. These ratios are considered to be independent within the framework of this research. Performance will be measured by two ratios that express how much return is generated by a company. Those two ratios are Return on Equity (ROE) and Return on Assets (ROA) and will be considered as dependent variables.

After examination of different empirical studies, I decided to check following six hypotheses for my thesis research:

H<sub>0</sub>1: Short-term debt (STDR) has no significant effect on firm's financial performance (ROE)

H<sub>0</sub>2: Long-term debt (LTDR) has no significant effect on firm's financial performance (ROE)

H<sub>0</sub>3: Total-debt equity ratio (TDR) has no significant effect on firm's financial performance (ROE)

H<sub>0</sub>4: Short-term debt (STDR) has no significant effect on firm's financial performance (ROA)

H<sub>0</sub>5: Long-term debt (LTDR) has no significant effect on firm's financial performance (ROA)

H<sub>0</sub>6: Total-debt equity ratio (TDR) has no significant effect on firm's financial performance (ROA)

Table 1 presents depended and independent variables and how they are calculated

**Table 1: Variables and their calculations**

<i>Variable</i>	<i>Calculations</i>
Return on Equity (ROE) – dependent variable	Net Income (NI) divided by Total Equity (NI/TE)
Return on Assets (ROA) – dependent variable	Net Income (NI) divided by Total Assets (NI/TA)
Short-term debt ratio (STDR) – independent variable	Short-term debt (STD) divided by total capital (TC)
Long-term debt ratio (LTDR) – independent variable	Long-term debt (LTD) divided by total capital (TC)
Total debt ratio (TDR) – independent variable	Total debt (TD – sum of STD and LTD) divided by total capital (TC)

In my research paper there are two empirical models. They are expressed in the following equations:

$$1) ROE_{it} = \beta_0 + \beta_1 * STDR_{it} + \beta_2 * LTDR_{it} + \beta_3 * TDR_{it} + \varepsilon_{it}$$

$$2) ROA_{it} = \beta_0 + \beta_1 * STDR_{it} + \beta_2 * LTDR_{it} + \beta_3 * TDR_{it} + \varepsilon_{it}$$

In the first equations the following transcript is:  $ROE_{it}$  is the measure of financial performance of chosen oil and gas companies,  $\beta_0$  is intercept,  $\beta_1$  is coefficient of short-term debt ratio (STDR), STDR is short-term debt ratio,  $\beta_2$  is coefficient of long-term debt ratio (LTDR), LTDR is long term debt ratio,  $\beta_3$  is coefficient of total-debt ratio (TDR), TDR is total-debt ratio,  $\varepsilon$  is refers to error terms, subscript i refer to the company and subscript t refers to time.

In the second equations the following transcript is:  $ROA_{it}$  is the measure of financial performance of chosen oil and gas companies,  $\beta_0$  is intercept,  $\beta_1$  is coefficient of short-term debt ratio (STDR), STDR is short-term debt ratio,  $\beta_2$  is coefficient of long-term debt ratio (LTDR), LTDR is long term debt ratio,  $\beta_3$  is coefficient of total-debt ratio (TDR), TDR is total-debt ratio,  $\varepsilon$  is refers to error terms, subscript i refer to the company and subscript t refers to time.

### **Descriptive results:**

In Table 2, the descriptive results of the thirteen (13) oil and gas companies of STOXX Europe 600 Oil and Gas (SXEP) that were used in my research paper are presented. The mean value of return on equity (ROE) of the company is equal to 5,0224 with great interval from -150,3922 to 31,2606 that implies high volatility of this variable. The same situation I see with respect to return on assets (ROA). Average value (mean) equal to 2,6497 which shows that return on assets (ROA) 1,5 times less than return on equity (ROE). I can suggest that the assets of those companies have got worse performance in compare to the equity performance of those companies. But volatility of return on assets (ROA) is considerably less than return on equity (ROE). The variation of return on assets (ROA) is from -14,3652 to 17,8826.

**Table 2: Descriptive Results**

<i>Variable</i>	<i>STDR</i>	<i>LTDR</i>	<i>TDR</i>	<i>ROA</i>	<i>ROE</i>
Mean	0,0721	0,3213	0,3896	2,6497	5,0224
Standard Error	0,0040	0,0188	0,0199	0,3774	1,6100
Median	0,0682	0,2710	0,3448	3,1294	7,3020
Standard Deviation	0,0500	0,2350	0,2485	4,7134	20,1088
Sample Variance	0,0025	0,0552	0,0618	22,2165	404,3641
Kurtosis	6,9978	24,3622	28,2433	2,2961	32,0350

Skewness	1,8196	4,3057	4,4769	-0,5399	-4,7490
Range	0,3588	1,9280	2,1895	32,2479	181,6528
Minimum	0,0003	0,0043	0,1018	-14,3652	-150,3922
Maximum	0,3590	1,9323	2,2913	17,8826	31,2606
Count	156	156	156	156	156
Confidence Level (95,0%)	0,0079	0,0372	0,0393	0,7455	3,1804
CV	0,6933	0,7315	0,6378	1,7789	4,0039

Comparing the mean values of short-term debt ratio (STDR), long-term debt ratio (LTDR) and total debt ratio (TDR) I can see that long-term debt ratio (LTDR) is 0,3213 which is higher than short-term debt ratio (STDR) which is 0,0721 in 4,6 times. Then those companies are preferred long-term financing rather than short-term obligations. At the same time the maximum value of the long-term debt ratio (LTDR) was 1,9323 and the maximum value of the short-term debt ratio (STDR) 0,3590, which also implies great difference between these two values. Concerning to the minimum value of the short-term debt ratio (STDR) was 0,0003 and the minimum value of the long-term debt ratio (LTDR) was 0,0043, which implies large range among these values.

The same conclusion I can made looking for standard deviation that measures level of dispersion and coefficient of variation (CV) which shows heterogeneity among the considerable variables. As shown in the Table 2 standard deviation of variables under the study sufficiently large, that confirm a large dispersion. The coefficient of variation (CV) is calculated as ratio of standard deviation to mean value of the variable and is showed as volatility of financing. For short-term debt ratio (STDR) coefficient of variation (CV) equal 0,6933 which stated that standard deviation takes approximately 70 percent of the mean. So, I can conclude high volatility of such type of financing. For long-term debt ratio (LTDR) coefficient of variation (CV) equal 0,7315 which stated that standard deviation takes more than 73 percent of the mean which is higher than in case of short-term debt ratio (STDR). So, I can conclude even higher volatility of this type of financing. According to coefficient of variation (CV) depended variables return on assets (ROA) and return on equity (ROE) shows huge performance risks. From statistic point of view, all considerable variables as dependent and as independent suffer from well-known problems of financial variables. All this series are leptokurtic and positively skewed (except ROA and ROE which are negatively skewed). Then, the result which will be obtained from the analysis with usage such type of data can underestimate negative results (undervalue of the risks) or overestimated positive results. The mean value of total debt ratio (TDR)

is 0,3896 which implies that STOXX Europe 600 Oil and Gas (SXEP) companies preferred equity financing in compare with debt financing in the period under consideration.

### Collinearity Test:

To check the multicollinearity problem, I construct the correlation matrix. The Table 3 shows obtained results.

**Table 3: Correlation Matrix**

	<i>STDR</i>	<i>LTDR</i>	<i>TDR</i>	<i>ROA</i>	<i>ROE</i>
<i>STDR</i>	1,0000				
<i>LTDR</i>	0,2117	1,0000			
<i>TDR</i>	0,3632	0,7799	1,0000		
<i>ROA</i>	-0,1237	-0,1986	-0,2163	1,0000	
<i>ROE</i>	-0,0367	-0,3650	-0,3529	0,7715	1,0000

Correlation coefficient between short-term debt ratio (STDR) and long-term debt ratio (LTDR) is 0,2117. Then I can conclude positive relationship between short-term debt ratio (STDR) and long-term debt ratio (LTDR), the relationship is strong enough, but not shows problem of multicollinearity. The same conclusion can be made with respect to long-term debt ratio (LTDR) and total debt ratio (TDR). Correlation coefficient in this case 0,7799 not greater than 80 percent that also confirm the absence of multicollinearity problem.

### Regression results:

The ordinary least squares (OLS) were applied for regression analysis. I construct two models. The regression results are represents bellow:

$$1) ROE_{it} = 14,17 (3,17) + 25,35 (10,17) * STDR_{it} - 21,86 (9) * LTDR_{it} - 10,15 (3,17) * TDR_{it}$$

$$2) ROA_{it} = 4,50 (0,78) + 4,87 (2,02) * STDR_{it} - 7,39 (2,54) * LTDR_{it} - 11,01 (2,44) * TDR_{it}$$

Both models have right functional form that confirms sufficiently large F-statistics with negligible p-value. The model with return on equity (ROE) performance' F-statistics value 7, 92 with

p-value 0,00002. The second model with return on assets (ROA) performance' F-statistics value 4,74 with p-value 0,00000004. Beta coefficients are statistically significant that confirms large t-value statistics. For example, in return on equity (ROE) model short-term debt ratio (STDR) t-statistics is 2,49, then H<sub>01</sub>: Short-term debt (STDR) has no significant effect on firm's financial performance (ROE) null hypotheses can be rejected. And I can conclude that short-term debt ratio (STDR) has positive effect on performance. It was surprised results of the current research. According to economic theory, performance and short-term debt are negatively related. That means the greater short-term debt the less performance companies shows. But in my case this statement did not prove.

The coefficient of long-term debt ratio (LTDR) is statistically significant with large t-statistic value which is -2,43. So, H<sub>02</sub>: Long-term debt (LTDR) has no significant effect on firm's financial performance (ROE) null hypotheses can be rejected. And I can conclude that long-term debt ratio (LTDR) has negative effect on oil and gas companies' performance. The results of the current research proved the economic theory, performance and long-term debt are negatively related. That means the greater long-term debt the less performance companies shows.

The coefficient of total debt ratio (TDR) is statistically significant with large t-statistic value which is -3,20. So, H<sub>03</sub>: Total-debt equity ratio (TDR) has no significant effect on firm's financial performance (ROE) null hypotheses can be rejected. And I can conclude that total debt ratio (TDR) has negative effect on oil and gas companies' performance. The results of the current research proved the economic theory, performance and long-term debt are negatively related. That means the greater total debt the less performance companies shows. The coefficient in this case equals -10,15. This stated that if total debt ratio (TDR) changed by 1 unit performance of the companies decreases by 10,15 units. Thus, the increase in total debt significantly decreases performance of the oil and gas companies.

In return on assets (ROA) model short-term debt ratio (STDR) t-statistics is 2,41, then H<sub>04</sub>: Short-term debt (STDR) has no significant effect on firm's financial performance (ROA) null hypotheses can be rejected. And I can conclude that short-term debt ratio (STDR) has positive effect on performance. It was surprised results of the current research. According to economic theory, performance and short-term debt are negatively related. That means the greater short-term debt the less performance companies shows. But in my case this statement did not prove.

The coefficient of long-term debt ratio (LTDR) is statistically significant with large t-statistic value which is -2,59. So, H<sub>05</sub>: Long-term debt (LTDR) has no significant effect on firm's financial



performance (ROA) null hypotheses can be rejected. And I can conclude that long-term debt ratio (LTDR) has negative effect on oil and gas companies' performance. The results of the current research proved the economic theory performance and long-term debt are negatively related. That means the greater long-term debt the less performance companies shows.

The coefficient of total debt ratio (TDR) is statistically significant with large t-statistic value which is -4,51. So,  $H_06$ : Total-debt equity ratio (TDR) has no significant effect on firm's financial performance (ROA) null hypotheses can be rejected. And I can conclude that total debt ratio (TDR) has negative effect on oil and gas companies' performance. The results of the current research proved the economic theory performance and total debt are negatively related. That means the greater total debt the less performance companies shows. The coefficient in this case equals -11,01. This stated that if total debt ratio (TDR) changed by 1 unit performance of the companies decreases by 11,01 units. Thus, the increase in total debt significantly decreases performance of the oil and gas companies.

## **Conclusion and recommendations**

### **Conclusion**

In my study I attempted to analyze the effect of financial leverage on the performance of thirteen European oil and gas companies. Return on assets (ROA) and return on equity (ROE) indicators were used as measures of financial performance. These indicators were regressed on three independent variables short-term debt ratio (STDR), long-term debt ratio (LTDR) and total debt ratio (TDR). The information about those dependent and independent variables were gathered from Bloomberg terminal. The time period of annual observations with panel data were from 2009 till 2020. According to obtained results I can conclude that short-term debt ratio (STDR), long-term debt ratio (LTDR) and total debt ratio (TDR) have significant influence on performance of oil and gas companies in Europe that were pooled. It should be noted that long-term debt ratio (LTDR) and total debt ratio (TDR) proves financial theory that debt negatively influences performance. So, the presence of the long-term debt ratio (LTDR) and total debt ratio (TDR) negatively influence on company's financial performance. But that theory did not confirm in the case of short-term debt ratio (STDR). So, the presence of the short-term debt ratio (STDR) positively influences on company's financial performance.

Based on the obtained results I can made the following conclusion. Firstly, the high availability of the debt in the company's capital structure did not allow to improve its financial performance,

which negatively influenced shareholders' wealth in terms of return on equity (ROE). In other words, the greater the leverage the less the shareholders' wealth. The conducted return on assets (ROA) regression model also confirmed results of return on equity (ROE) model. At high levels of long-term leverage asset profitability also tends to decrease. The findings suggest that such debt is associated with lower asset utilization efficiency. This, in turn, prevents firms from achieving stable financial position and ultimately hinders company's development. Nevertheless, I want to note that there are many other factors that can be influenced on company's performance. As known, such sector of economy is heavily regulated by government, so the thirteen oil and gas companies of Europe faced government risk factors. The fiscal policy with respect of increasing tax rate and reducing subsidies could negatively influence financial performance in oil and gas sector. Great influence on performance can have by dividend policy, firm size and type of owner rights oil and gas company. Of course, there are different factors that lie beyond the scope of my study.

### **Recommendations**

In order to increase company's financial performance leverage part of the capital structure should be reduced. Authorities should decrease debt rates in order to help oil and gas companies in Europe to improve performance. It is well known that this sector of economy requires a large amount of capital for normal development. Then, financial institutions with the help of government should provide financing at more attractive interest rate.

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## **"Prospects for Shorter Working Time in Kazakhstan"**

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### I. WHY THIS STUDY?

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I never heard anyone say ‘You know I wish I had been in the office more back then’. Indeed, it is approximately 72,000 hours or a third of life that average person normally spends at work, surpassed in time only by our sleep (Mansson, 2019), many people seem to underestimate how much of their time is devoted to work and how this happened, which is one of the reasons I had when I was writing this report – to encourage readers to think about the importance and value of the time they spend every

day at work and how that time historically changed, is changing and may change in the future. Once such topic gets reader's attention, it is wise to reflect on whether the traditionally accepted amount of time spent at work has a reasonable basis for remaining the standard, though once people question whether something is worth changing, a credible source for the argument is always needed; for this issue article provides practical advantages and disadvantages of theoretical move to shorter working hours. This article concludes with the author's formulated recommendation for decision-makers on whether shorter working hours are worth the effort and resources of their businesses and the material presented would be of interest for policy makers, management professionals and anyone who is enthusiastic about this topic.

## II. INTRODUCTION & RESEARCH OBJECTIVES

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A number of studies around the world suggest positive and negative results associated with the reduced working time and its impact on the efficiency and well-being of workers, businesses and society as a whole; however, academic study of this topic in the context of Kazakhstan during its pandemic economic era remains almost unexplored and lacks supporting documentation: surveys, opinions, statistics. This paper assesses the possible outcome of the reduced working hours initiative if accepted in Kazakhstan, and whether reduced working hours will be of sufficient value to business decision makers to consider switching from traditionally accepted working time. For this purpose, this study takes into account various factors, including opinions of the employees, their work efficiency and the relevant foreign experience, all of which contribute to the ending single indicator of value and efficiency. Identifying this indicator will allow decision-makers and policy-makers in Kazakhstan to have a reliable source to prepare their future actions related to possible reduction in working time.

There are more not quite obvious reasons why this topic can be interesting to the academic society in the modern time: increased productivity of workers and reduction of technological unemployment; raise in wages, freedom for people to choose how to spend their time (Pang, 2020)

For instance, in terms of Keynesian economics, shorter working time can contribute to the increase in the economy as demand among those working less will increase through their newly spared time. This view was partly shared by Henry Ford, when he was explaining a profitable milestone decision to decrease Ford Motor Company's labour days from six to five:

"Business is the exchange of goods. Goods are bought only as they meet needs. Needs are filled only as they are felt. They make themselves felt largely in leisure hours. [...] The five-day week simply carries this thought farther. The people with a five-day week will consume more goods than the people with a six-day week. People who have more leisure must have more clothes. They must have a greater variety of food. They must have more transportation facilities. They naturally must have more service of various kinds. This increased consumption will require greater production than we now have. Instead of business being slowed up because the people are 'off work', it will be speeded up, because the people consume more in their leisure than in their working time. This will lead to more work. And this to more profits. And this to more wages. The result of more leisure will be the exact opposite of what most people might suppose it to be."

(Ford, 1926)

Reducing working hours should not be viewed as simply an idea among today's young workers. Some time and knowledge needs to be invested to understand in depth what this reform will bring or take away. But it is definitely one of the most complex social and economic topics of our time.

### III. LITERATURE REVIEW

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Historically, shorter working hours started to be associated with increased productivity and work efficiency already during the 1910s. Pencavel (2014) in his study reviewing working hours reductions of workers of that time had confirmed that recommendation set during World War I regarding more resting hours to workers which had granted more efficient outputs of the inputs as well as better health conditions for workers.

From a more contemporary perspective, this trend has all chances to continue developing and improving. Kallis, et al. (2013) in their article confirm that "in economies that progress technologically and in which capital becomes increasingly productive, workers should work less and less" by relying on fundamentals from Keynesian Economics as a basis for their research. Additionally, they mention that such a labour switch should be dealt with without any sort of wage decline, otherwise reform would be counterproductive and at the expense of a population with poor income.

This topic is also reviewed in the context of future work optimization, in this way, Kamerāde, et al. (2019) state that "There are predictions that in future technological development could result in a significant shortage of paid work. A possible option currently debated by academics, policy makers, trade unions, employers and mass media, is a shorter working week for everyone". This provides additional evidence that shortening working hours might not only seem beneficial for performance and outputs of the workers' labour but theoretically can help reduce unemployment if applied properly, especially in the context of potential job losses due to the development of artificial intelligence.

The degree to which applicability of shortening working hours can be used in the states can be theorized to varying extents. Gomes (2021) , considering 4-day working week, expresses two polar opinions among the professional community on the issue: there is a bottom-up microeconomic

approach stipulating that firms and workers should take initiative and push for the reform while the market is expected to provide whatever would constitute their needs in that scenario. Alternatively, the second option which is top-down macroeconomic perspective will introduce benefits for the society but not expect the market to convert to the 4-day working hours week spontaneously. In this case, governments should lead the reform through legislation. Though, it should be mentioned that firms have been already experimenting with shorter working weeks before and the calls for the relevant reform have been raised for the last 50 years.

A requirement to shorten working hours expressed through legislation and if properly monitored could lead to the reduction of overworking cases worldwide. Pang (2020) mentions that "The human cost of overwork and burnout—in lost earning potential, happiness, and creativity—is huge. Overworked people suffer from higher rates of chronic disease and depression [. . .] Overwork is also counterproductive for companies. Overworked or burned-out employees are actually less productive than well-rested workers. They're also less engaged at work, more likely to leave, and even more likely to cut ethical corners or steal from the company. People who drop out of promising careers are expensive to replace—especially in professions like law and medicine in which long hours, high standards, and intense pressure are common. And employee burnout costs the global economy an estimated \$300 billion a year in sick days and lost productivity."

However, the results were mixed and, according to other researchers, reducing working hours may have negative consequences. Corneo (1995) argues that "[...] shorter hours of work may decrease the expected utility of the poor and increase the expected utility of the rich". Author claims that the ongoing policy debates in Europe on the possible reduction of working time in fact have noble goals such as decreasing unemployment and improving the living conditions of workers, though in reality this will not be exactly this way as relatively poor workers will be adversely affected by the shorter

working time, while more relatively rich workers will benefit, though this study can be questioned in the context where author claims that reducing workweek increases the unemployment rate.

IV. METHODOLOGY AND RESEARCH DESIGN

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This study will examine the relevant experience of reduced working hours in foreign countries and companies, present data from a survey of employees and employers in Kazakhstan, provide relevant statistical data, look at the specifics of legislation in the context of reduced working hours and provide other related useful details. Based on the evaluation of the results from the mentioned sources, a recommendation will be formulated based by the following formula:

<b>Hard Data (H)</b>	
<b>Influencing Factor</b>	<b>Impact (out of 80%)</b>
Evaluation of relevant foreign experience	50%
Results from National Statistics	30%

*(Table 1, Determinants of Hard Data)*

<b>Soft Data (S)</b>	
<b>Influencing Factor</b>	<b>Impact (out of 20%)</b>
Results from Surveys	15%
Results from National Labour Legislation and its Historical Trends	5%

*(Table 2, Determinants of Soft Data)*



Ultimately, the ending recommendation will be influenced by the conservative formula below by finding the ending single indicator of value and efficiency:

*If  $H + S \geq 0.8$ , then ending post – results evaluation is considered positive;*

*(Formula 1, results evaluation)*

In order to calculate equation in *Formula 1*, a labour market model of Kazakhstan will be tested on the above data determinants and its predicted results will be presented.

Evaluation of relevant foreign experience consists of notable practices and case studies found in literary and other sources. This is the most important determinant as it has 50% of impact on the results equation due to its direct relation to the success of shorter working time *per se*.

Results from national statistics is the second biggest determinant of *Formula 1* as it has 30% impact and consists of governmental reports and official papers on different economic outlooks of Kazakhstan. Its influence on the results equation is explained through leverages that shorter working time reform can bring that might help in resolving issues surrounding labour market as identified in statistics (e.g., if unemployment is high, and expectations on decrease of unemployment stemming from shorter working time reform as realistic).

The two mentioned determinants are called *hard data* due to being as credible and objective as possible. Unlike *soft data* mentioned below, which are in fact demi-subjective in their nature, though not to such extent which would compromise the results of this research. Since the concept of shortening of working time directly affects lives of individuals and has serious social weight, unlike, say, dry operations problem in management, it would be wise to include those in the results equation, however being limited in its effect only to 20%. Results from surveys indicate what view's public opinion hosts and how it varies among various demographic and other types of groups. It applies as much as 15% effect power if the condition of shorter working time is fully supported by the society.

Finally, peculiarities of labour law and its historical trend related to shorter working time will be assessed as any social reform can be traced back to its drifting patterns which would add value to this research by 5% to the results equation.

## V. ASSESSING THE DATA

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Working time reductions are taking place on a large scale, especially in European countries, although the experiments are usually limited to certain geographical areas or individual companies. The world's biggest experiment (in terms of the proportion of people involved to the total population) took place in 2021 in Iceland, where some 2,500 workers, or 1% of the country's population, were put on a reduced work week of 35-36 hours with no reduction in pay. The trial ended with a resounding success, as productivity and quality of service remained the same or even improved in most of the workplaces where the trial was conducted (Haraldsson, 2021). As a result, the Icelandic trade union federations have already started negotiating for reduced working hours throughout the country (Stone, 2021)

"Our roadmap to a shorter working week in the public sector should be of interest to anyone who wishes to see working hours reduced" (Haraldsson, 2021).

In similar experiments conducted in Finland, employees' wages were reduced, but the results were still positive, which was due to positive feedback from employees. Reduced working time experiment, which was conducted in 19 Finnish municipalities, showed that employees who had their working time reduced considered the experiments important in terms of their personal lives and leisure time. The opportunity to spend more time with their children in the first-place motivated people to participate in the experiment. During the experiment, employees' salaries were reduced, although this did not affect the success of the experiment from the participants' point of view. The loss of pay was

seen only as a minor inconvenience, which was acceptable if shorter working hours were introduced (Anttila & Tyrvaïnen, 1999).

In France, the introduction of a mandatory 35-hour work week back in 2000 created 350,000 new jobs (Gubian et al. 2005), however data from French trade unions suggest that this number is approaching 500,000 (Husson. 2002). Legislation strictly stipulated that monthly income of the employees must stay the same.

The reduced working hours movement has recently attracted increasing attention, as some notable countries & companies below are now experimenting with and might be benefiting from the transition to reduced working hours already:

In the UK, Atom Bank has reduced working hours for its employees to a four-day week with no reduction in pay, but company policy requires employees to work at least 34 hours. "We firmly believe that this will have a beneficial impact on the wellbeing and happiness of our employees and that it will also have a positive impact on business productivity and customer service" (Mark Mullen, 2021).

In December 2021, the UAE moved the weekends and as a result created a shorter working week in which employees work only until noon on Friday (four and a half working days per week). Government officials said the move would boost the economy and attract exporters to the country (Financial Times, 2021). In Spain, the government has agreed to allow companies to test shorter working hours. Between 200 and 400 Spanish companies will take part in the labour experiment, while employees' salaries will remain the same (Yeung, 2021). In New Zealand, measures involving shorter working hours have been recognised as a way of recovering the country's economy from the Covid crisis, as well as increasing productivity and domestic tourism and improving work-life balance (The Guardian, 2021).

However, some experiments have not led to significant results, such as the experiment to reduce working time in Sweden was cancelled after just 2 years of trials because it was criticised by centre-right activists who argued that investing taxpayers' money in an economically unsustainable project was not fair, although participants reported improvements in productivity and work-life balance. (BBC, 2017).

The shorter working time incentive was also under criticism in France, in a way that many occupations demand much more time than 35 hours a week, in this way 44% of lawyers in France worked over 55 hours during 2008 (Venturi, 2014).

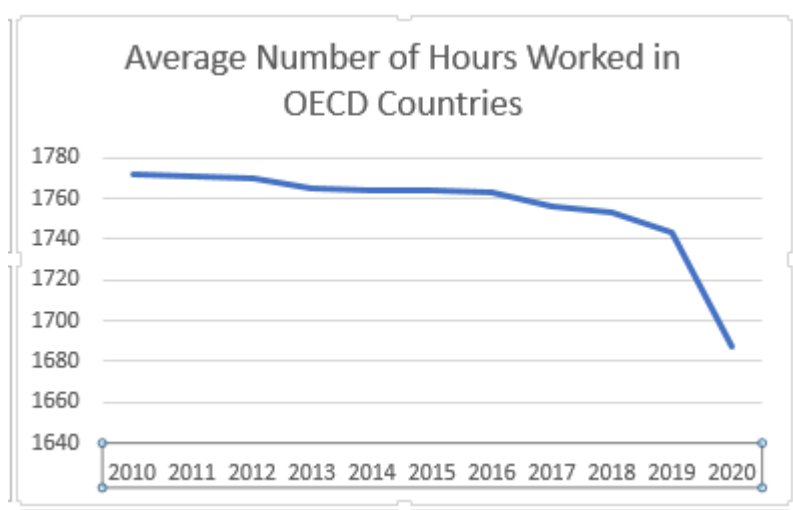
As a result of the above, the evaluation of the foreign experience is close to the ideal figures, although some experiments were cancelled or criticized, the majority of the experiments conducted yielded positive results on all sides of the experiment, receiving 80% of its score and thus making the contribution of this section to be 40% out of 50% to the *H* data in *Formula 1* (from the foreign experience section).

Kazakhstan is expected to be in a difficult labour situation as the country's birth rates are dramatically increasing and the number of jobs has not kept pace with the birth rate.



According to the expert's opinion, the government's figures suggest the creation of only 25,000 new jobs a year, while the replacement of older people provides an additional 70,000-80,000 jobs a year, but the total number may decrease as Kazakhstan digitises its labour market (Shibutov, 2021). In 2018, the birth rate surpassed 400,000 people and is expected to rise, while the reform of shorter working time may partly help in solving the coming labour crisis. As of 2021, the unemployment rate of Kazakhstan is 4.9% or approximately 451,300 people and this figure will definitely increase in the near future.

The balance of working time in Kazakhstan is expected to reach 1,960 hours in 2022 (CDB, 2021). According to data from OECD, the average working time is 1,687 hours per year and Kazakhstan seems to be in the last position among countries with the highest working time, behind only Mexico (2,124 hours) (OECD, 2021).



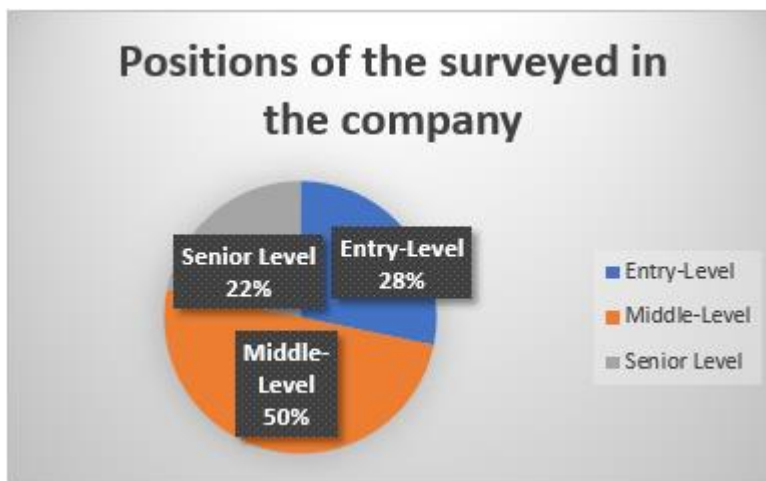
Kazakhstan appears to have more working hours than those countries known for their diligent working culture (South Korea, Japan, USA). This ranking includes both developed and developing countries, and looking at this data, Kazakhstan may reconsider its approach to working hours due to the dubious link between economic productivity and the number of working hours in the population.

Based on the data observed, this section receives the full claim score and contributes a maximum possible 30% to the *H*-part of *Formula 1* equation.

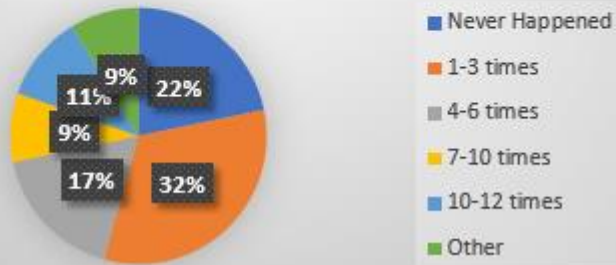
While working on this paper, a survey was conducted aimed towards employees in consulting companies regarding what views and opinions they had in relation to the shorter working time reform.

A total of 46 people were interviewed.

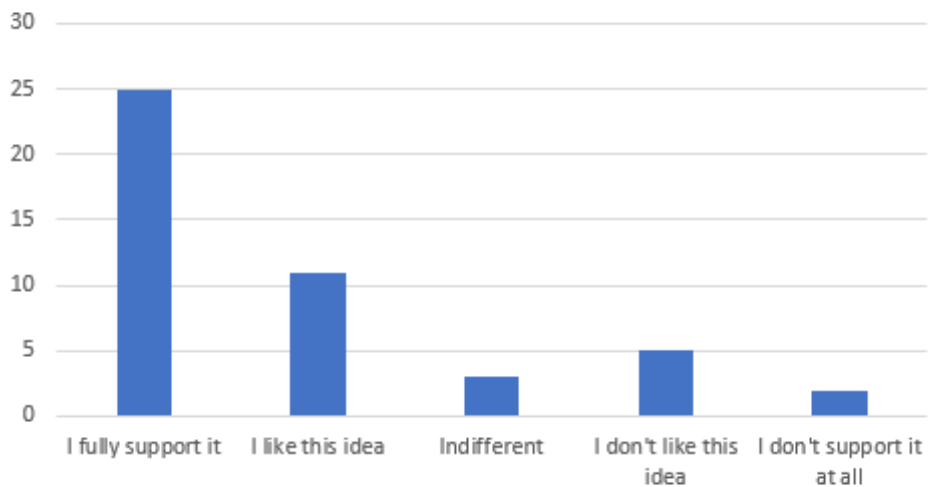
The survey included the following questions: 1) What is your approximate position? 2) Have you ever worked for more than 48 hours in one week this year? 3) What are your views on the 4-day working week? 4) What are your views on the 6-hour working day? 5) What will happen to your productivity if your company implements one or two from the previously mentioned? (6-hour working day or an extra day off during the working week). The results are displayed below:

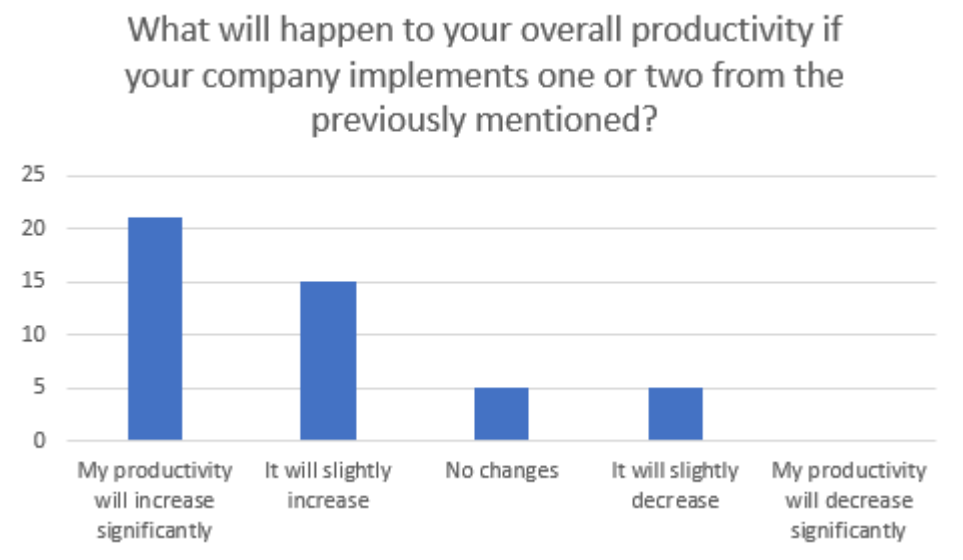
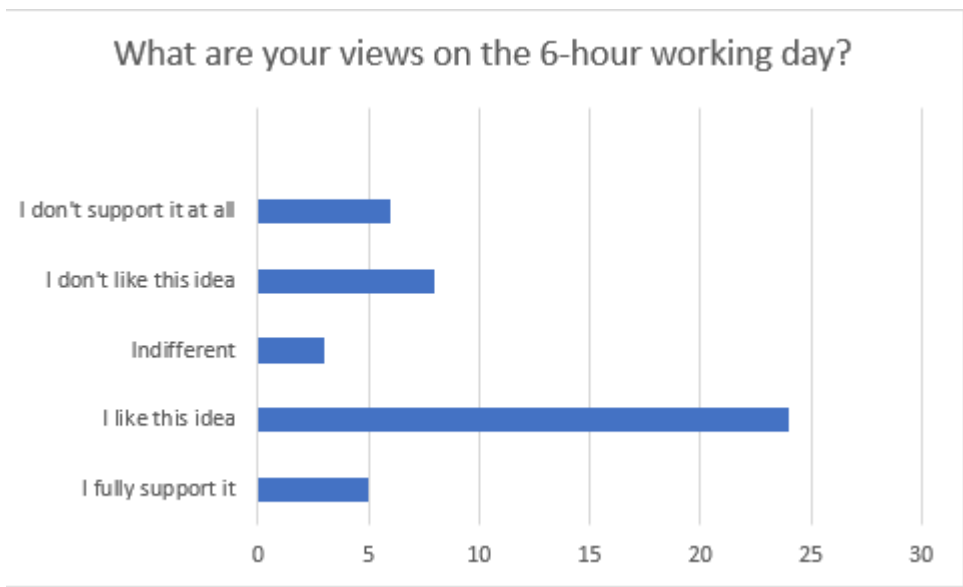


## Have you worked for more than 48 hours in one week during this year?



## What are your views on 4-day working week?





The results of the survey indicate that an absolute majority of workers fully support, or at least generally support, the idea of shorter working hours. The details of pay were not specified. Reduced working hours are criticised mainly among middle-ranking employees, while top and entry-level employees have a positive attitude to the idea. Since most of the employees come from consulting companies, known for its extended working hours, some 78% of surveyed workers reported working more than 48 hours in one week during the year at least once. Employees put 4-day working week in significant favour compared to the opportunity of 6-hour working day, as the latter one received some



37% of indifferent or negative evaluation compared to 28% indifferent or negative evaluation related to a 4-day working week.

Finally, more than 75% surveyed reported that their productivity will increase to some extent if shorter working time in either form is implemented, while no one has indicated that their performance will be significantly reduced. Survey participants were given the opportunity to leave comments after the survey was completed. Below are some of the comments of the surveyed employees who expressed their opinion on the reduction of working time:

"Employees will perform their work efficiently, as they do not overload themselves."

"I think that with such a [6-hour working day] schedule, it will be necessary to hire more employees to the company, since it will not be possible to do all the work in 6 hours of working time."

"I like this idea [6-hour working day], because more time can pass for family."

"I believe that it is necessary to raise this issue in the government of the Republic of Kazakhstan, since we women who have children need such a work schedule to restore moral and physical health. At least 2 Fridays a week, we can work 7 hours a day, that is, 38 working hours per week. I believe that this will not affect the working efficiency of women, but, on the contrary, will help them to be more energetic and increase their efficiency."

Based on the received survey data, the variable  $S$  in *Equation 1* receives 70% of its maximum score, and thus contributes 10.5% to the value of  $S$  in the mentioned formula.

In 2021, the Ministry of Labor and Social Protection of Population of the Republic of Kazakhstan made the following comment relating to the possibility of shorter working time reform:

"At the conclusion of the employment contract and in the course of the employment relationship, by written agreement between the employee and the employer, a part-time

working week, i.e. a reduction in the number of working days in the working week, may be established for the employee. However, the establishment of a four-day working week shall be decided by agreement between the parties to the employment relationship. If a four-day working week is established, all the rights and obligations of both the employer and the employee under the labour law shall be preserved. In this regard, no amendments and additions to the Labour Code are required, as it is already regulated by the labour law in force".

It was made clear that the current labour legislation has a positive climate with regard to reduced working time. This comment also made it clear that the prospect of reduced working hours in Kazakhstan is expected to be market-driven and that the government maintains an observant position and promises not to interfere in this process. Labour legislation additionally stipulates that those aged between 16-18 years cannot work for more than 36 hours in a week while groups of aged between 14-16 cannot work for more than 24 hours in a week respectively.

It is projected that in 2022, Kazakhstan will have 245 working days compared to 247 in Russia; 249 in France; and 251 in the United Kingdom, however there are only 24 calendar days which workers in Kazakhstan can use for their annual leave compared to 28 in Russia; 35 in France; and 28 in the United Kingdom.

Normal working time is defined as 40 hours per week and it should not exceed more than 12 hours per day. In 2021, Kazakhstan's Parliament approved administrative penalties for employers who illegally exceed working hours and shifts for their employees. Fines are stemming from 116,680 KZT (approx. 268 U.S. dollars) to 350,040 KZT (approx. 804 U.S. dollars) in the case of repeated violations.

Compared to the labour legislation during the USSR period, the Republic of Kazakhstan shortened its normal working time from 41 hours to 40 hours. Current labour law, however, has lost the provision

for reduced working hours on the eve of public holidays or weekends. Soviet legislation additionally stipulated that employees could not be required to work overtime only if they worked for more than four additional hours during two consecutive days, while Republic of Kazakhstan limited maximum working time to 12 hours regardless of the presence of 2-days consecutive overtime. Normal working time in the amount of 40 hours has not changed since the moment of independence of the country.

Based on the labour legislation and its trends studied, this section contributes only 30% to the  $S$  variable from the last section, due to stagnant set of working hours, a lack of enthusiasm on the part of the government and the absence of significant tendency to move to shorter working hours in the society, thus contributing 1.5% in the *Equation 1*.

## VI. POST-RESULTS EVALUATION & PRACTICAL APPLICABILITY

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According to *Equation 1*, and the resulting scores from the sections on relevant foreign experience, the results of national statistics, which contributed 70% in total to  $H$ ; and the results of surveys and national labour legislation and its historical trends, which contributed 12% to the  $S$ , the *Equation 1* would look as follows:

*If  $H + S \geq 0.8$ , then ending post – results evaluation is considered positive*

$$S + H = (40\% + 30\%) + (10.5\% + 1.5\%) = 82\% \text{ or } 0.82;$$

*0.82  $\geq$  0.8, which makes the ending single evaluator of value and efficiency positive*

Based on the data presented above, the results of the data collected in this paper are considered positive and the recommendation for policy makers and decision makers in Kazakhstan with regard to reducing working time should be to promote and initiate reforms to reduce working time. Kazakhstan has ample prospects for this reform, even if a conservative and sceptical approach is taken.

The initiative to promote shorter working time in Kazakhstan is more likely to occur if the market makes the first move, as the position of government lacks enthusiasm. By making this change, private sector of Kazakhstan will gain every positive result that can be obtained by doing so taking relevant foreign practice into account. The employees who switched to shorter working time will be more productive, will have better work & life balance as well as their mental well-being. The unemployment growth in Kazakhstan will be slowed down as more jobs are created, thus allowing Kazakhstan to recover from Covid crisis more efficiently.

## VII. CONCLUSION

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This paper could be supplemented and improved in the future, in order to do so more data collection in the field of surveys is needed, more successful and unsuccessful examples in foreign practice should be considered, or more detailed analysis of the legislation and its historical movement should be carried out, but still the shorter working time should not be viewed in a sense that promotes only interests of the employees. The times are rapidly changing and competitive advantages which businesses can make out of shorter working time are not used because of institutional working time skepticism and stagnated understanding of labour efficiency in the business society. Shorter working time would increase consumer spending in the leisure industry and stimulate the economy. This would reduce pressures on mental health and improve workers' efficiency during the working day. It may also encourage managers to embrace technology and change processes in ways that improve productivity. Giving people time to pursue their passions will encourage innovation like no other measure. It can alleviate technological unemployment and reduce inequalities. It improves the coordination of economic activity and gives citizens the freedom to decide how much they work. It can also harmonise polarised societies and protect economies from the risks posed by populist movements, distributing the benefits of economic growth to all, not just a few. The shorter working time is not just an economic policy or a victory for workers, but also a powerful social innovation. A

four-day week, for example, benefits everyone in the economy, but not just the few. Younger workers, struggling with high unemployment and poor prospects, will have more opportunities to gain experience in the weekend labour market. Older workers will find it easier to prolong their working lives. The biggest winner is the economy. It will become freer, lighter and more innovative, and it will work better for everyone.

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### **“The impact of COVID-19 on stock market and investors' behavior.”**

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#### **Abstract**

This study is intended to analyze the impact of COVID-19 pandemic on the stock market and investors' behavior during this time period. The aim of this research is to examine how confirmed COVID-19 cases and death cases are related to stock market fluctuations. Mainly I would like to consider Kazakhstan, USA and Japan markets. Moreover, my aim is to identify what were the trading behaviors of individual investors during corona crisis. Despite the fact that major indices were fallen drastically, many companies went public and investors were willing to take participation on these IPO deals. I have started my trading experience during October 2020, and personally participated in IPOs. Even though the overall economy was weakened I believed that the stock market is the great opportunity to use savings rather than keeping them in deposits where interest rates were at a relatively low level. Practice shows that in the long term, a crisis is a kind of opportunity for investments with the dynamics of further growth.

In this paper, I studied the impact of the pandemic on the stock market and assessed the response of individual investors to the pandemic by analyzing investor participation in initial public offerings of companies on the stock market. The analysis showed that the crisis was a good springboard for entering the stock market.

#### **Introduction**

Development of retail and sales impacted on the development of credit sales. It resulted in increase of debt securities, which needed to be sold and purchased. There was a need in the unitary institution where buyers and sellers could meet and satisfy their needs. Moreover, the institution was established as a guarantee that parties will follow the rules and all transaction will be transparent and regulated by the third party. This is how exchanges appeared - financial institutions on the basis of which trading platforms were organized. The point of exchanges is to select a product and make transactions in accordance with general rules that supported the interests of the seller and the buyer. Depending on the direction, there are specialized exchanges: commodity, stock, urgent. In this paper, I will consider the stock exchange.

The first exchanges were founded in Europe and the oldest of them is the London Stock Exchange. The next is the American Stock exchange. Despite its early age, compared to European stock exchanges, the American exchange is on a par with the European ones. Today the American stock market is the largest in the world in terms of the volume of trading in stocks and other financial instruments. Exchanges are actively used to raise capital not only by companies, but also by the state.

Thus, the American states, by placing their bonds on the stock exchange, raise capital for the construction of schools, hospitals and improvement of infrastructure.

Announcement of the pandemic in 2020 by the WHO had a severe impact on all aspects of life for everyone. In this study I am going to analyze what was the impact of COVID-19 pandemic on the stock market. For the research I am going to consider stock indices for Kazakhstan, United States and Japan. In addition, I would like to examine how did investors behavior have changed during the pandemic.

Previously I have introduced the scope of my research. Based on it, I would like to raise the following research question based on my research topic:

What is the impact of COVID-19 on stock market?

How did the investors react to the COVID-19 based on the analysis of IPO?

### **Motivation**

Lockdown and unstable economic situation in the world have an impact on my personal perception of the investments. Graduating from my bachelor degree during one of the most uncertain time periods pushed me to look at the alternative investment ideas other than bank deposits and real estate. Kazakhstani citizens are more conservative in the investment decisions and stock market investments are not widely used. As a finance student I would like to adopt latest trends in my career. I was interested in investments before, but the pandemic had a significant impact and prompted me to start the path of an investor in stocks. Despite the unrests in the economy, many companies entered the IPO, and investors, in turn, were participants in these transactions. I was concerned why investors were actively investing and what they expected from their investments during the crisis. As a rule, a crisis involves putting off all income for a “black” day. However, practice shows that in the long term, a crisis is a kind of opportunity for investments with the dynamics of further growth. I would like to analyze the impact of corona crisis and see what are the expectations of the investors.

### **Literature review**

#### **COVID-19 Pandemics**

In our dynamic, full of tasks time, no one imagined that the whole world could go to quarantine and spend 2020 locked up at home. The world has previously met with various life-threatening diseases, but if earlier this was due to low sanitary hygiene and the inaccessibility of proper medical treatment, today, on the eve of high-tech medicine, none of us could think about introducing a pandemic status all over the world. According to the WHO (World Health Organization) definition, a pandemic is characterized as an epidemiological phenomenon in which a new disease spreads on an especially large scale, in our case, covering the whole world. On March 11, 2020, WHO announced a pandemic of a new coronavirus infection, which was called COVID-19.

The first outbreaks of the disease were reported back in December 2019 in China, Wuhan, however, were not fully identified. Despite the introduction of a lockdown in China in January 23, 2020, it was not possible to stop the spread of the virus. As a result, in March 2020, due to the intense growth of infected and deaths in Italy, the country declared quarantine, closed borders and isolated. WHO announced the introduction of pandemic status. Life is frozen, schools are closing, medical facilities



are working at their maximum. The main goal was to maintain and support a medical structure to continue to provide appropriate care for one and all. Earlier mentioning of the SARS, the severe acute respiratory syndrome, were about to predict the coronavirus infection. Fan et al. (2019) as cited in Khan, Zhao, Zhang, Yang, Shah, Jahanger (2020) in March 2019 noted that there was a possibility that the possible SARS in the near future would be caused by bats and could start in China.

The Global Financial Stability report in 2020 noted that the stock market had its fastest drop in the history. GDP is one of the key factors to be affected by coronavirus. Wren-Lewis (2020) mentioned that changing consumer demands and production decrease will drop the GDP levels in the countries. In fact 2020 GDP results have shown a decrease. For instance, in Kazakhstan GDP decreased by 2.6%. There were cases of SARS epidemic situation prior to coronavirus pandemics. Research of Siu and Wong of SARS in Hong Kong has shown an impact on the demand side during the epidemic (2004). However, they noticed supply side has no effect and remained unchanged. Damages mainly recorded on service, travel and airline services. WHO (2020) reported that COVID-19 is a severe disease and expectations are that it will have a huge impact on the stock market. S&P global 1200 index has been taken as a representation of the global stock market. Khan et al. (2020) on the research of sixteen countries stock markets investigated that COVID-19 has a negative effect on the stock market. They concluded that pre-pandemic reaction to the news were insignificant and had no impact. However, the degree of infectiousness and virus transmission methods had negative impact in the stock market.

The key change with the beginning of quarantine was the transition to remote work. This meant an increase in demand for information and telecommunication systems. This has influenced the growth of the information and telecommunications sector. The leisure of people has also changed. In connection with the lockdown, people switched to online forms of entertainment. They played video games, watched online movies, attended online concerts, and had online meetings. Zoom Videos took a leading position, the company's revenue for the first quarter of 2020 increased by 169% compared to the same period in 2019. Trade also received a significant increase. Thus, the growth of online sales took place. For instance, Amazon sales in North America rose 29% excluding hiring costs due to increased sales. The health sector has been equally successful. Vaccine companies and the health sector as a whole have seen record growth in response to the fight against coronavirus infection. Apart from fighting the disease, they have become a great niche for investors. It is worth noting that in 2020, 19,610 companies in the health technology sector entered the IPO, which is 2 times more than in 2019 for this sector (Table 3).

Baker et al. (2020) in their research related to the impact of COVID-19 to the stock market noted that the volatility of market jumps were 23 times the average since 1900. From February to March 24, 2020, there were 18 market jumps which is highest index comparing with the same number of trading days. Due to increased volatility, there were a lot of deals on the stock market. This resulted in increase of the demand from the individual investors. Moreover, it was fueled by the payment of dividends. This resulted, in increase of opportunities to increase earnings in a short run due to price volatility of the stocks.

The pandemic of COVID-19 has put significant pressure on the banking sector. Loan portfolios were classified as the main threat to banks. There was a need to build up significant provisions for credit losses. As a result banks' shares fell down. The Credit Modification Act has allowed corporations and consumers to get deferred loan payments. These loans have received non-performing status.

In addition to liquidity problems, banks faced a reduction in net interest margins due to lower long-term rates in the United States. Decreasing interest margins have made banks less efficient, forcing them to diversify revenue channels by replenishing lost interest income through trading, investment banking, asset management and other financial services.

### **Behavioral finance**

The most significant group of the stock market in terms of the number of participants are investors. Behavioral Finance explains the reasons for certain investor behavior, biases and how decisions they make affect investors' behavior. In most cases investors are loss averse in nature. Which means that they do not like taking risks or their willingness to take risk takes place only if justified with a relatively high returns offered. Barberis (2013) distinguishes behavioral finance as a financial innovation. He noted that it is a field is significant and innovations are helping investors to come up with a more sophisticated and better decisions. As cited in Barberis (2013), behavioral finance or “prescriptive behavioral finance” seeks to offer innovations that will help to make decisions with greater financial outcomes for the investors. (Thaler and Sunstein, 2008)

Hoffman, Post and Pennings (2013) examined investors behavior during crisis 2008. Their research has shown that investors perceptions indicate high volatility during the crisis. Risk tolerance and return expectations are decreasing. However, individual investors are not stopping trades. They are continuing trades and are ready to take a risk. It is a great opportunity to enter the market at a depressed asset price. The belief is that prices will recover after the crisis end.

Barberis mentioned that the core in social psychology is not only earning money but how the investor will feel himself afterwards (2013). Thaler and Johnson (1990) as well as Barberis (2013) noted that investors' willingness to take risk can be lowered by continues losses they experience. Traders are not blindly looking for revenue generating deals but are willing to maximize their earnings with reasonable risks and will not follow risks that are not covered with sufficient return. However, practice shows that corona crisis being negative for industry stocks become positive for the sector of healthcare and information technology. The trigger of many crisis stories is the emotional state of investors and their fears. So in most cases, having heard about instability, people run to withdraw money from banks and sell their financial instruments. As a rule, the market subsequently fails to cope with large cash outflows and collapses. However, the case with the coronavirus infection was different. Despite the collapse of many large indices, there has been significant growth in the healthcare and information technology sectors.

Baig and Chen (2021) mentioned that even though overall financial market suffered due to the pandemics, 2020 and 2021 become the best years of IPO after the dot com boom in 1990s, to be more precise more than \$150 billion was raised by new firms in 2020. Mazumder and Saha in their research of initial returns in 2020 declared that there was a negative relationship of returns to the fear related to pandemic. Djalilov and Ulku (2021) noted that pandemic offered quite unique circumstances for individual investors and increased demand for equities. At the beginning of July 2020, 122 400 accounts of individuals were registered in the KASE Central Securities Depository, which is 4% more compared to the beginning of the year -117.7 thousand accounts. The main reason for this interest from market investors was a significant decline in market prices for shares. Another of the main driving factors is the introduction of restrictive measures in the country. The reduction, and even the complete cessation of the activities of many branches of business. For instance, the entertainment

industry, restaurant business, shopping centers, transportation, fitness clubs stood idle for the entire duration of the quarantine and until the fall of 2020. Not only the business suffered, but also the workers who were left without any income. These cases prompted Kazakhstani population to look for alternative sources of income. Interest rates all over the world were lowered substantially, people had free time and ability to monitor trades and participate in them. In the latest research of Freedom finance, where to invest, analysts concluded that real estate in Almaty, Kazakhstan from 2015 to 2020 has declined by 45.7% , for the given US dollar to tenge rate losses are \$33 160 or 13 661 920 tenge. On the other hand, stock shares at the same range of 2015-2020 have positive indicators. Revenues on Tesla were +927.6%, +228% for Visa and +275% for Facebook. Me myself opened a brokerage account through Freedom finance and involved in trading though newly launched Freedom 24 platform for online trades.

During the pandemic, the Federal Reserve System started the policy of quantitative easing to stimulate the economy. Quantitative Easing is a monetary policy used to increase money supply in the economy. The policy allows to decrease interest rates, which in result will make borrowing cheaper and increase spending money. The increase in money in circulation influenced the growth of issuers who went to IPOs. In this section, we will analyze what an IPO is and how they work.

Going public for a company is one of the key stages. It shows the maturity of the company and its willingness to fix the market value. A company goes public when it is ready to raise additional funding from stockholders. For some companies, especially information technology companies, they need an IPO in order to advance in the market and attract an investor. The main benefit of IPOs is the significant increase in share prices. IPOs are attractive to investors primarily due to the possibility of a significant increase in the price of a security after its placement. In the first days after the IPO, prices rise significantly. This is due to the fact that investors who could not take part in the IPO begin to purchase shares in the first days of the opening of trading. However, in the dynamics, performance could get worse, the prices are adjusted and reach the real value of the shares.

COVID-19 pandemics and Quantitative Easing policies in return increased the number of firms going public in 2020-2021. Annual IPOs in 2020 reached 480, which is 106.9% greater than in 2019 (Table 1). Considering IPOs through the sector shows that 38% of offerings were concentrated in healthcare sector, 32% in technology, industrials 5% and energy took only 1% (Table 2).

## **Methodology and results**

### **Data collection**

In this chapter I want to discuss the research design of my paper. For this study I am going to refer to a quantitative research design. I choose this approach as

the purpose of the study is to analyze the impact of the COVID-19 pandemics on the stock market and to evaluate how did investors behave during this time. I am going to run a regression and correlation analysis to see how stock market and the pandemic are related, and considering an increase in IPO deals in the corona crisis time, I would like to examine what factors are influencing investors decisions.

The data is collected from open sources and provided by Freedom Finance brokerage company operating here in Almaty. The time period of the analysis is from the first record of the COVID-19

case and up to October 29, 2021. The data on the COVID-19 confirmed cases and mortalities are retrieved from Center for Systems Science and Engineering. The records are conducted by the Johns Hopkins University. Index historical data is retrieved from yahoo finance for the US and Japan, and from KASE official web page for Kazakhstan. Interest rates and GDP for the US and Japan are retrieved from St. Louis Fed Economic Research Center. Data on Kazakhstani variables are provided by the National bank and the Bureau of National statistics of the Republic of Kazakhstan. IPO data is retrieved from stock analysis website and provided by the Freedom Finance.

In order to assess the models, I have run Stata software. My regression is based on the null hypothesis represented below. Further, I am going to interpret the results of the statistical analysis.

For the first model I would like to consider how COVID-19 affected stock market. To complete this task I will consider three stock indices – KASE Index, NYSE Composite, Nikkei 225. In this project I aim to see what the factors are contributing to these variables. Statistical analysis will show how independent variables of the model affect the Index on the example of the KASE Index for Kazakhstan, NYSE Index for the USA and Nikkei Index for Japan.

Second model is aimed to analyze the relationship between COVID-19 and IPO deals in the United States. I have also considered variables of money supply as they are the key in the increase of the companies going public in 2020 and 2021. To cope with economic crisis resulted in COVID-19 pandemics, Federal Reserve System introduced monetary policy of quantitative easing. Money in circulation allowed companies to go public and participate in IPOs. In the regression time period of May 2020 and September 2021 is considered.

$$(1) \text{ Index} = B_0 + B_1 (\text{Cases}) + B_2 (\text{Deaths}) + B_3 (\text{GDP}) + B_4 (\text{IR}) + \text{Error}$$

$$(2) \text{ IPO} = B_0 + B_1 (\text{Cases}) + B_2 (\text{Deaths}) + B_3 (\text{M1}) + B_4 (\text{M2}) + \text{Error}$$

**where,**

Cases – are confirmed cases of COVID-19 diseases;

Deaths – mortality cases from COVID-19;

GDP – growth domestic product;

IR – interest rate;

M1 – liquid component of money supply, that consists of cash, currencies, demand deposits, other, checkable deposits, negotiable order of withdrawals, other liquid deposits;

M2 – money supply measurement including all M1 components and savings deposits, time deposits, balances in retail money market funds.

### **Results of KASE Index (Kazakhstan).**

*Table 4. Regression analysis for Kazakhstan*

```
. regress Index Cases Deaths GDP IR
```

Source	SS	df	MS	Number of obs	=	379
Model	57058489.4	4	14264622.3	F(4, 374)	=	1074.60
Residual	4964607.86	374	13274.3526	Prob > F	=	0.0000
				R-squared	=	0.9200
				Adj R-squared	=	0.9191
Total	62023097.2	378	164082.268	Root MSE	=	115.21

Index	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
Cases	-.0017341	.000196	-8.85	0.000	-.0021196 - .0013487
Deaths	.1494864	.0124338	12.02	0.000	.1250375 .1739353
GDP	-.0000139	5.06e-07	-27.50	0.000	-.0000149 -.0000129
IR	6601.249	2065.796	3.20	0.002	2539.219 10663.28
_cons	2721.952	192.483	14.14	0.000	2343.467 3100.437

Number of observations = 379

F (4, 374) = 1074.60

Probability > F = 0.0000

R-squared = 0.9200

Adj. R-squared = 0.9191

Root MSE = 115.21

Index = 2721.952 - 0.0017341(Cases) + 0.1494864(Deaths) – 0.0000139 (GDP) + 6601.249(IR)

H0: B0=0 (statistically not significant)

H1:B0≠0 (statistically significant)

Holding all variables constant or assuming that ceteris paribus, Index will increase by 2721.952 units. If cases of COVID-19 disease will show a 1% increase, other things remaining unchanged, Index will decrease by 0.0017341 units. If 1% increase in death cases caused by COVID-19 , other things remaining unchanged, Index will go up by 0.1494864 units. If there is a 1% increase in GDP, other things remaining unchanged, Index will decrease by 0.0000139 units. If 1% increase in Interest rate, other things remaining unchanged, Index will increase by 6601.249 units. The p-value ( $P>|t|$ ) of these parameters is less than 1%,5%,10% significance level. It means that variables are statistically significant and we do not reject null hypothesis at all levels of significance. We can conclude that our coefficient B0 is statistically significant.

**Results of NYSE Composite (United States).**

Table 5. Regression analysis for the United states

```
. regress Index Cases Deaths GDP IR
```

Source	SS	df	MS	Number of obs	=	449
Model	1.7974e+09	4	449357422	F(4, 444)	=	1977.73
Residual	100880476	444	227208.279	Prob > F	=	0.0000
				R-squared	=	0.9469
				Adj R-squared	=	0.9464
Total	1.8983e+09	448	4237299.47	Root MSE	=	476.66

Index	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
Cases	-.0000738	.0000157	-4.71	0.000	-.0001045    -.000043
Deaths	.0138809	.0009332	14.87	0.000	.0120469    .015715
GDP	-.0466405	.0352721	-1.32	0.187	-.1159615    .0226805
IR	1589.54	63.15253	25.17	0.000	1465.425    1713.655
_cons	11198.71	703.8626	15.91	0.000	9815.393    12582.02

$$\text{Index} = 11198.71 - 0.0000738(\text{Cases}) + 0.0138809(\text{Deaths}) - 0.0466405 (\text{GDP}) + 1589.54 (\text{IR})$$

H0: B0=0 (statistically not significant)

H1:B0≠0 (statistically significant)

Holding all variables constant or assuming that ceteris paribus, Index will increase by 11198.71 units. If cases of COVID-19 disease will show a 1% increase, other things remaining unchanged, Index will decrease by 0.0000738 units. If 1% increase in death cases caused by COVID-19 , other things remaining unchanged, Index will go up by 0.0138809 units. If there is a 1% increase in GDP, other things remaining unchanged, Index will decrease by 0.0466405 units. If 1% increase in Interest rate, other things remaining unchanged, Index will increase by 1589.54 units. The p-value ( $P>|t|$ ) of Cases, Deaths and IR is less than 1%,5%,10% significance level. However, GDP variable is statistically not significant as P-value is grater that 1%, 5% and 10% significance level. We can conclude that our coefficient B0 is statistically significant.

### Results of Nikkei 225 (Japan).

Table 6. Regression analysis for Japan

```
. regress Index Cases Deaths GDP IR
```

Source	SS	df	MS	Number of obs	=	413
Model	4.1576e+09	4	1.0394e+09	F(4, 408)	=	369.21
Residual	1.1486e+09	408	2815218.85	Prob > F	=	0.0000
				R-squared	=	0.7835
				Adj R-squared	=	0.7814
Total	5.3062e+09	412	12879123.5	Root MSE	=	1677.9

Index	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
Cases	-.0013736	.0006111	-2.25	0.025	-.0025749    -.0001723
Deaths	.4573718	.0481344	9.50	0.000	.3627495    .5519942
GDP	.07269	.0064958	11.19	0.000	.0599206    .0854593
IR	18878	1577.227	11.97	0.000	15777.49    21978.51
_cons	-16591.69	3493.282	-4.75	0.000	-23458.77    -9724.611

$$\text{Index} = -16591.69 - 0.0013736(\text{Cases}) + 0.4573718(\text{Deaths}) + 0.07269 (\text{GDP}) + 188878(\text{IR})$$

H0: B0=0 (statistically not significant)

H1:B0≠0 (statistically significant)

Holding all variables constant or assuming that ceteris paribus, Index will decrease by 16591.69 units. If cases of COVID-19 disease will show a 1% increase, other things remaining unchanged, Index will decrease by 0.0013736 units. If 1% increase in death cases caused by COVID-19 , other things remaining unchanged, Index will go up by 0.4573718 units. If there is a 1% increase in GDP, other things remaining unchanged, Index will increase by 0.07269 units. If 1% increase in Interest rate, other things remaining unchanged, Index will increase by 188878 units. The p-value ( $P > |t|$ ) of these parameters is less than 1%,5%,10% significance level. It means that variables are statistically significant and we do not reject null hypothesis at all levels of significance. We can conclude that our coefficient B0 is statistically significant.

### Results on the IPO model (2).

Table 7. Regression analysis for IPO model

Source	SS	df	MS	Number of obs	=	17
Model	11749.3884	4	2937.34711	F(4, 12)	=	3.44
Residual	10234.3763	12	852.86469	Prob > F	=	0.0428
Total	21983.7647	16	1373.98529	R-squared	=	0.5345
				Adj R-squared	=	0.3793
				Root MSE	=	29.204

IPO	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
Cases	.0000303	.0000443	0.68	0.507	-.0000663 .000127
Deaths	.0000227	.0000111	2.04	0.064	-1.51e-06 .000047
M1	.3397057	.336137	1.01	0.332	-.3926739 1.072085
M2	-.6285908	.2680725	-2.34	0.037	-1.212671 -.044511
_cons	4324.613	1295.421	3.34	0.006	1502.132 7147.093

$$IPO = 4324.613 + 0.0000303 (\text{Cases}) + 0.0000227 (\text{Deaths}) + 0.3397057 (M1) - 0.6285908 (M2)$$

Holding all variables constant or assuming that ceteris paribus, IPOs will increase by 4324.613 units. If cases of COVID-19 disease will show a 1% increase, other things remaining unchanged, IPOs will increase by 0.0000303 units. If 1% increase in death cases caused by COVID-19 , other things remaining unchanged, IPOs will go up by 0.0000227 units. If there is a 1% increase in M1, other things remaining unchanged, IPOs will increase by 0.3397057 units. If 1% increase in IPOs, other things remaining unchanged, Index will decrease by 0.6285908 units. The p-value ( $P > |t|$ ) of these parameters is less than 1%,5%,10% significance level. It means that variables are statistically significant and we do not reject null hypothesis at all levels of significance. We can conclude that our coefficient B0 is statistically significant.

### Correlation analysis.

In order to identify the relationship between two variables correlation analysis has been undertaken. Correlation analysis is commonly used statistical analysis to summarize data available (Taylor, 1990). The range of correlation between two variables lies from -1 to 1. The strength of the correlation between two variables increases when the result is closer to 1, does not matter positive or negative, 0 correlation means no relationship between the given variables.

Table 8. Correlation matrix for Kazakhstan

```
. correl Index Cases Deaths GDP IR
(obs=379)
```

	Index	Cases	Deaths	GDP	IR
Index	1.0000				
Cases	0.8395	1.0000			
Deaths	0.8578	0.9930	1.0000		
GDP	-0.9146	-0.7531	-0.7542	1.0000	
IR	-0.7905	-0.8418	-0.8517	0.7666	1.0000

Table 9. Correlation matrix for the United States

```
. correl Index Cases Deaths GDP IR
(obs=449)
```

	Index	Cases	Deaths	GDP	IR
Index	1.0000				
Cases	0.9264	1.0000			
Deaths	0.9235	0.9923	1.0000		
GDP	0.8023	0.8220	0.7772	1.0000	
IR	-0.0541	-0.3022	-0.3599	0.0625	1.0000

Table 10. Correlation matrix for Japan

```
. correl Index Cases Deaths GDP IR
(obs=413)
```

	Index	Cases	Deaths	GDP	IR
Index	1.0000				
Cases	0.7230	1.0000			
Deaths	0.7940	0.9510	1.0000		
GDP	0.4513	0.2452	0.2559	1.0000	
IR	0.6116	0.3687	0.4427	0.1110	1.0000

Correlations between Index and COVID-19 confirmed case and mortality variables are strong and positive for all three observed countries, results are close to 1. Indices and GDP are positively correlated in the US and Japan. Kazakhstani case shows strong negative correlation between Index and GDP. Interest rate and Index correlation is negative for Kazakhstan and the US. However, the US shows weak level of correlation and it is likely not important. On the other hand, correlation between interest rate and Index in Japan is strongly positive.

Table 11. Correlation matrix for IPO model

```
. correl IPO Cases Deaths M1 M2
(obs=17)
```

	IPO	Cases	Deaths	M1	M2
IPO	1.0000				
Cases	0.2826	1.0000			
Deaths	0.3244	0.9819	1.0000		
M1	0.2798	0.9976	0.9905	1.0000	
M2	0.2642	0.9963	0.9906	0.9995	1.0000



Correlation of IPO with all observed independent variables are positive. This means that increase or decrease in the independent variables will result the same correspondent increase or decrease in the result of IPO. However, this relationship lies in the range of 0.26-0.32, which shows weak level of correlation.

### **Conclusion**

In order to analyze the impact of corona crisis on the stock market among Kazakhstan, US and Japan markets a regression analysis was conducted. My conclusion on the COVID-19 cases and mortality impact on the Index fluctuations is the increase on the independent variables mentioned above has shown a negative result for the Index variable and this relationship is semi-strong. The relationship between COVID-19 virus and IPO deals has shown that IPOs has a positive growth in transition to corona crisis situation. This could explain that despite of the crisis in the economy, investors are ready to contribute in IPOs and are willing to take opportunity to contribute in the sectors that represent possible growth against the backdrop of the pandemic. Nevertheless, the overall market has fallen substantially, there is a growth in particular sectors as well. Decrease in industrial, entertainment, airline, travel and tourism, energy, oil and gas sectors could be compensated by the significant increase in technology, healthcare and financial sectors.

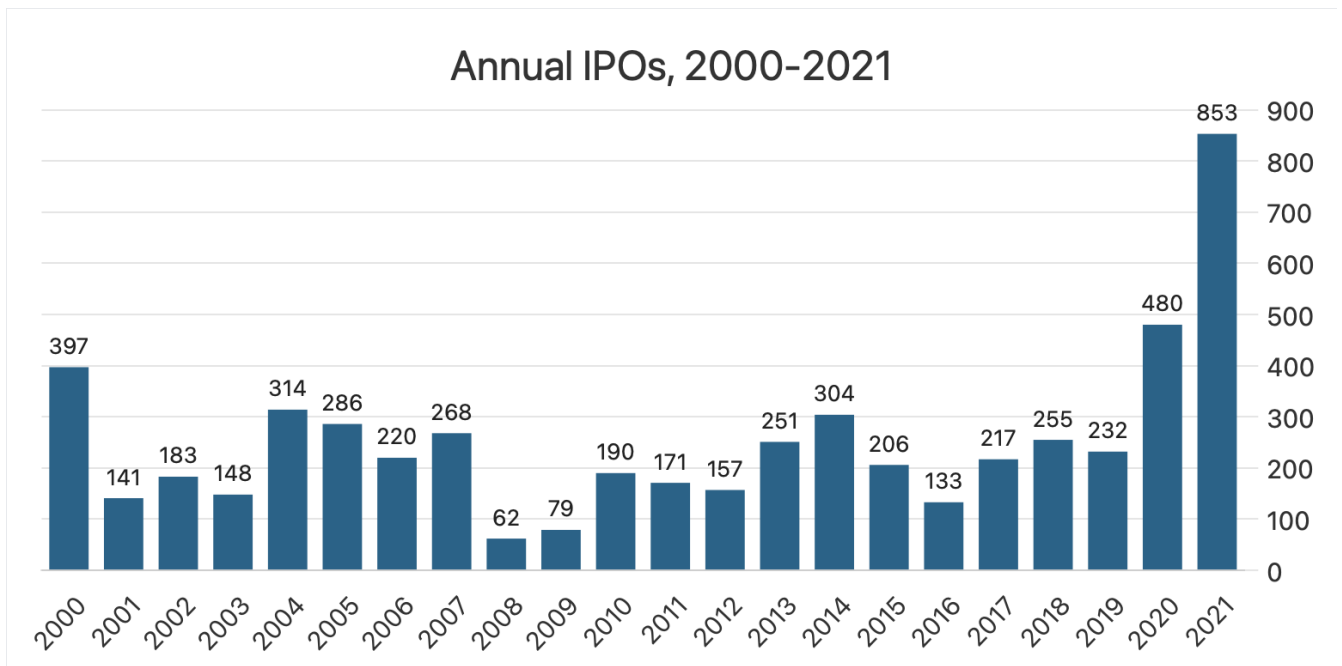
### **Research recommendation**

For the future research I am recommending to conduct a descriptive qualitative analysis on the investors behavior during the crisis. Moreover, in the case of data accessibility I will recommend to make a qualitative analysis on the amount of the investors entering the market during and post crisis in order to assess how does human's willingness to take risk shift in uncertain crisis circumstances. In addition abnormal trading behaviors could be examined to identify if there were any opportunities to generate excess positive returns from the stock market high volatility.

### **Limitations**

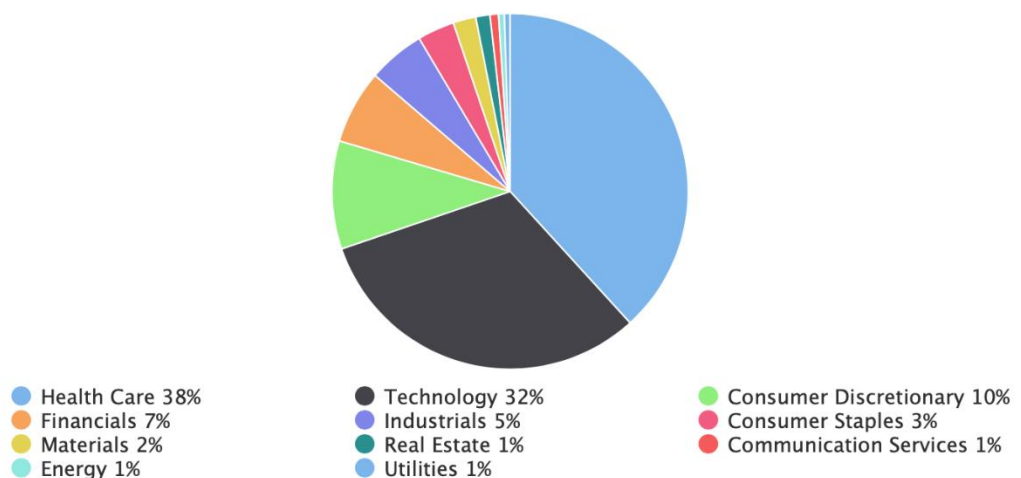
Finally, a number of important limitations need to be considered. First, this study is fresh enough and there is a lack of credible information and data. Moreover, on par with a corona crisis each state has experienced oil price fluctuations and other economic and political uncertainties. These factors also have influenced the stock market. Moreover, it is the first pandemics in the 21<sup>st</sup> century. The world was not ready for the situation and some of the influencing factors could be not available at this point of time.

Table 1. Number of IPOs by Year



Source: Stock Analysis

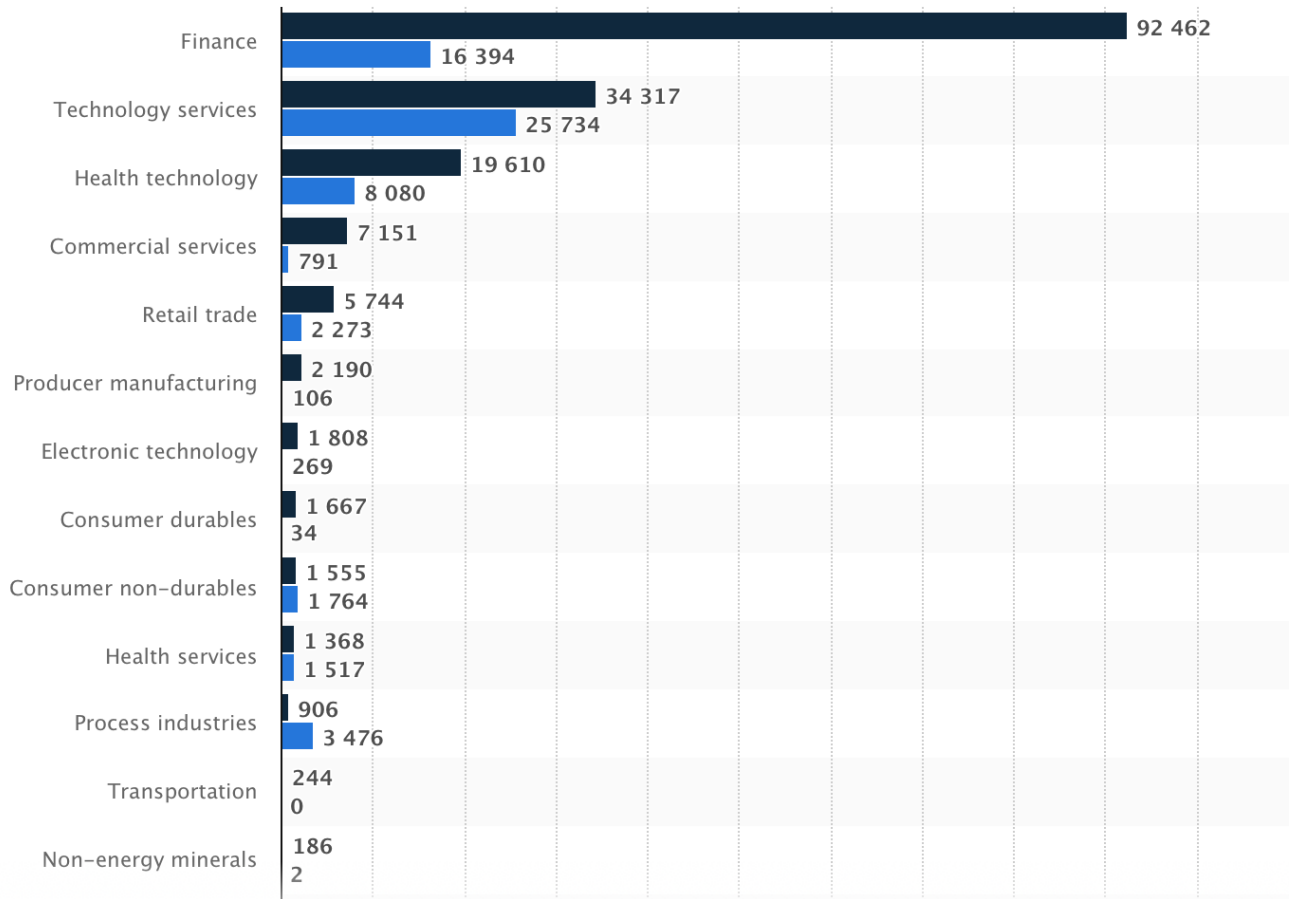
Table 2. IPO Industry Breakdown



www.renaissancecapital.com as of 10/27/2021

Source: Renaissance Capital

Table 3. Gross proceeds of IPOs in the United States in 2019 and 2020, by sector (in million U.S. dollars)



Source: Statista 2021

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# “Managerial Approaches to Food Waste Mitigations in Coffee Shops in Almaty “

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## **Introduction**

With the rapidly emerging concept of sustainability in food and drink industry, businesses around the World are held accountable for incorporating the relevant food waste mitigation techniques. Nevertheless, the existing methods including usage of reusable straws, containers and recycled plastic have become insufficient in combating the problem of food waste. The devastating statistics of almost the half of the unused food being disposed directly to waste is persistent and affects the profit of the food and drink businesses. Therefore, integrating managerial approaches that would help to substantially decrease the amount of food waste is a paramount step in both reducing costs and advocating for sustainability.

## **Background of the study**

At least once a week, the average Almaty citizen visits various coffee shops to treat himself with delicious food and drink coffee outside the home. So, it is not surprising why the public food service sector is growing so dynamically in Kazakhstan. According to Informburo (2020), the total number of public food service places in the five largest cities of Kazakhstan approached 10,000, which is 17.7% more than in 2018, and among them Almaty showed the highest growth dynamics in the format of coffee shops. On the one hand, civilization is developing, and urbanization is growing, which has a positive effect on the level of the economy of Kazakhstan, however, on the other hand, this is also the reason of the annual increase in the volume of food wasting, since the amount of waste discharged into the environment is increasing.

As stated by Extended Producer Responsibility Operator (n.d.), food waste accounts for a large share of all municipal solid waste, which together generates about 5-6 million tons of waste annually

(Fig. 1.) And only a small part of this is processed. Moreover, organic waste - that is, food waste - is the third most intense source of greenhouse gases that affect climate change if it ends up in a landfill.

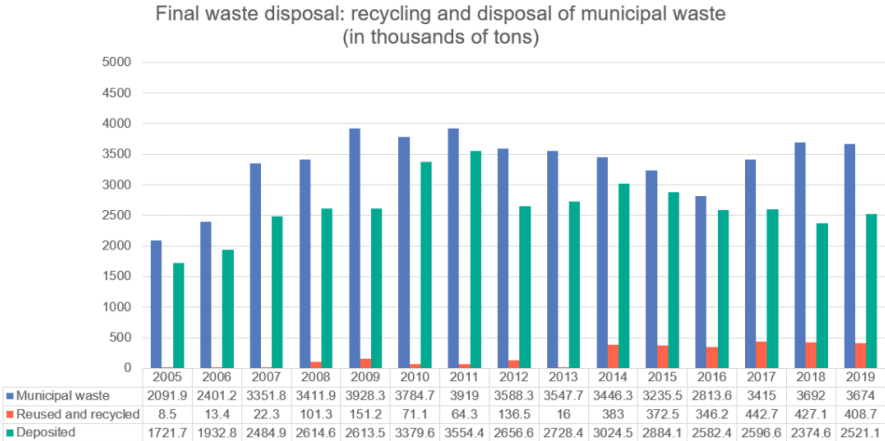


Figure 1- Food Waste Disposal in Kazakhstan.

**Literature Review**

**Defining food waste and food loss**

As the EU Waste Directory puts it, waste can be referred to “any substance or object which the holder discards”, therefore defining waste as something that holds no value to people. However, it has been discussed that the latter definition is quite subjective due to the possibility of something carrying no value to one being valuable for other consumers, the example of which can be displayed in the form of charity shops, second-hand stores, etc. As a result, it is possible to argue that there is no such thing as ultimate waste, because the definition of waste will always be determined by the amount of perceived utility to its owner.

Waste has a variety in terms of fractions, such as paper, glass, and metal, as well as physical states, such as solid and liquid. However, when it comes to hospitality waste, food is the primary waste category. Food waste and food loss are two terms in hospitality waste field that are used reciprocally, however possessing quite distinctive meanings, which must be clarified. According to FAO (n.d.),

food loss is “*the decrease in quantity or quality of food ... intended for human consumption that are ultimately not eaten by people or that have incurred a reduction in quality reflected in their nutritional value, economic value or food safety*”, while the food waste is defined as “*the discarding or alternative (non-food) use of food that was fit for human consumption by choice or after the food has been left to spoil or expire as a result of negligence*”.

To sum up, the main difference between terms food loss and food waste is that the former can be associated with unintended incidence, while the latter is caused by both deliberate and unintentional actions of producers and consumers. Therefore, food loss is unavoidable, while food waste may put into avoidable, unavoidable, and possibly avoidable categories in order to evaluate the level of human involvement in the process of food becoming a waste (Filimonau, & De Coteau, 2019).

### **Food waste worldwide**

Given the significant impact waste has on corporate profitability, public health, and the environment, it is a key sustainability concern. It is therefore a significant issue that's linked to myriad of other worldwide environmental and socioeconomic issues. Food waste is equally prominent in developed and emerging countries, despite significant regional and sectoral disparities in distribution, underscoring its political relevance and emphasizing the need of mitigating it (Fig. 2). Despite the efforts made to date to reduce food waste, the problem remains, necessitating more scientific knowledge, increased public awareness, and increased political attention.

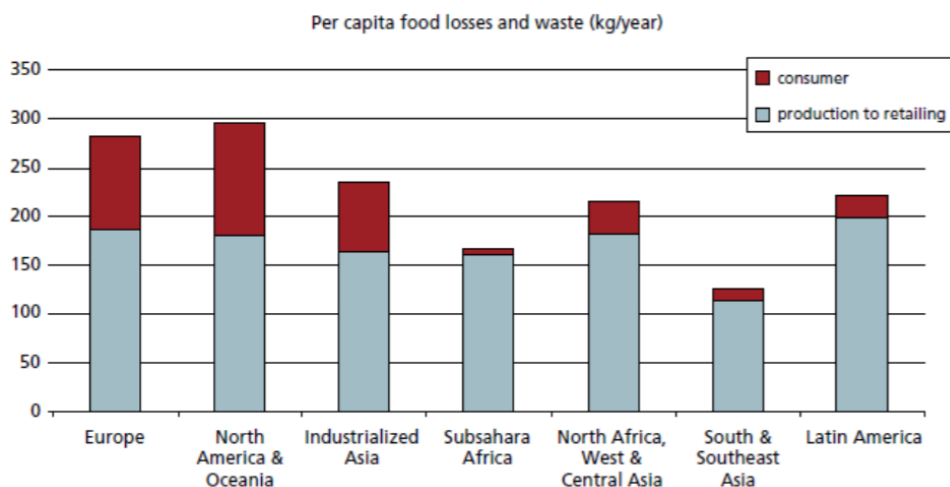


Figure 2- Per capita food loss and waste, at consumption and pre-consumption stages, in different regions.

### Food waste in Kazakhstan

The agricultural production step is one of the most loss-prone segments in the chain (Fig. 3). Potatoes, wheat, and sunflower seeds have the highest losses at this stage because they are field crops that are heavily influenced by harvesting conditions, the size of the producer, the type, condition, and number of harvesting machines, crop varieties, modes of transportation, and the control of on-farm product flows (Shortan, 2014).

	<i>Agricultural production</i>	<i>Postharvest handling and storage</i>	<i>Processing and packaging</i>	<i>Distribution</i>	<i>Consumption at household level</i>
<i>Cereals (wheat)</i>	5-20%	5-10%	1-3%	1-2%	5-15%
<i>Oilseeds and pulses (sunflower)</i>	5-15%	5-10%	1-2%	1-2%	1-2%
<i>Roots and tubers (potatoes)</i>	10-20%	10-30%	3-5%	10-15%	5-15%
<i>Meat (beef)</i>	1-3%	3-5%	1-2%	1-2%	1-2%
<i>Milk (cow's milk)</i>	3-5%	5-10%	1-2%	5-10%	1-5%

Figure 3- Overall assessment of food losses and waste along the main points of the supply chain.



Another step where large losses emerge is postharvest processing and storage. Potatoes, wheat, sunflower seeds, and milk have the largest quantities of waste. Inadequate storage conditions are the primary cause of losses in potatoes and milk, while elevators and crushers misinform customers about the quality of wheat and sunflower seeds (Shortan, 2014). The consumption stage has different attributes: wheat and potatoes have the biggest losses. This is mostly due to substantially lower prices for these products and less emphasis on the issue of losses and waste.

### **Coffee shops in Kazakhstan**

The overall success of coffee shop business worldwide, not specifically in Kazakhstan, can be attributed to a number of rational reasons. To begin with, purchasing a hot coffee outside of home has turned into a collective ritual for many and coffeehouses nowadays prepare beverages of high quality and a larger variety. Secondly, there may be a certain extent of consumer loyalty playing part as a result of high-level customer service that causes a pleasant experience and followed by repeated visits. Following this, coffeeshops have positioned themselves as comfortable peaceful spaces for socialization, meetings for professional purposes and individualized work-study sessions facilitated by free Wi-Fi. Finally, consumers can regard coffee shop visits as a kind of public expression and brand devotion, and brand knowledge and social standing play an essential part in the success of branded coffee houses (Filimonau et al., 2019).

The study on restaurant market in Kazakhstan in comparison with the U.S. by Yerdavletova & Mulhambetov (2014) indicated that coffee shop business is appealing and rapidly expanding since the cost of a cup of coffee is many times less than the price listed on the menu (return 500–700 percent). However, initial investments in a coffee shop (coffee and refrigerated equipment, interior design, and furnishings) run from \$80,000 to \$150,000, not including the cost of leased space. In addition, operations expenditures should be included, such as the cost of training baristas (bartenders, those who make coffee) and education of pastry chefs by overseas professionals. A coffee shop's payback

period is anticipated to be two to three years. An excellent indicator of the development of the coffee industry in Kazakhstan is the emergence of major global franchises, such as Traveler's Coffee in 2011, Costa Coffee in 2012 and Starbucks in 2016 (Golm, 2021). Local brands founded by foreigners (JumpingGoat and Bowler's Coffee) and Kazakhs (Seventy Coffee and Vanilla Coffee) have also appeared.

### **Food waste in coffee shops**

While food waste is progressively being analyzed in the context of agriculture and grocery retail, the hospitality industry is often left out of the assessment. This requires change, given that hospitality businesses are producing increasing amounts of food waste due to rising disposable consumer income and increased frequency of out-of-home food consumption (Filimonau et al., 2019). In addition, food distribution and retail play an important role as a center of gravity in national food supply chains, linking suppliers and consumers. Directly or indirectly, hospitality businesses can influence consumer choices by increasing consumer responsibility. This underscores the need for an in-depth study of food waste in the hospitality context to identify key areas of focus for mitigation and to identify examples of best business practices.

Sustainability is a crucial problem for the catering sector because to the numerous negative repercussions associated with hospitality activities that require immediate mitigation. In terms of the environment, these implications include energy usage and associated greenhouse gas (GHG) emissions, water consumption, and solid waste creation, to name a few (Filimonau et al., 2019). Hospitality professionals recognize the value of incorporating sustainability into corporate business strategies because of its demonstrated ability to reduce operational costs, gain a competitive advantage, assist in regulatory compliance, meet shareholder expectations, boost worker productivity, and attain a growing consumer loyalty.

## **Conclusion**

The absence of management strategies that are explicitly designed to reduce food waste is explained by apathy and a lack of understanding about the environmental repercussions of food waste. The current management practices are profit-driven and, as a result, are unsustainable. Managers of coffeeshops in Kazakhstan employ a range of standardized managerial practices, but none of them appear to be preventive in nature. Even though all private firms are profit-driven, and the life cycle of any particular business is reliant on the percentage of income and outcome, food waste predominantly affects the income of coffee shop operations. However, in light of today's fast expanding sustainability culture and public awareness of the environmental implications of food waste, enterprises in the catering sector must take steps to develop feasible mitigation strategies. Further research on document analysis of official governmental legislation on food waste reduction in the catering business will help this study. Evaluating official legislation papers on this topic might be particularly valuable for triangulating evidence and identifying the underlying concerns in the lack of management methods to food waste mitigation.

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## “Capital Structure Determinants of Mining Companies in Kazakhstan”

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### Introduction

The history of the Kazakhstan mining industry continues from the time of Ekaterina the Great to the present day. Kazakhstan is still one of the world's largest producers of natural raw materials, and its mineral reserves rank among the top ten. The estimated number of mineral resources in Kazakhstan ranks sixth in the world. In Kazakhstan, 99 of the 110 elements listed in Mendeleev's periodic table have been identified, 70 have been discovered, and 60 have been extracted and utilized (*Mining and Metals Central Asia - The Mining Industry in Kazakhstan*, n.d.).

Kazakhstan's mining and metals sector has generated over 20% of the country's GDP and accounts for roughly 19% of total exports. It is the world's leading producer of uranium, accounting for 38% of

global production in 2013, and it is also the world's second-largest producer of chromium. It is estimated that the country has 30% of the world's chromium, 25% of manganese, 10% of iron ore, and tungsten ore reserves, accounting for 60% of the world's total (the largest in the world), bauxite ore accounting for 30%, and phosphate ore accounting for 25% (the second in the world). The country also boasts the world's greatest lead and molybdenum reserves, and ranks eighth in total iron ore reserves (16.6 billion tons)(*Mining and Metals Central Asia - The Mining Industry in Kazakhstan*, n.d.).

The National Mineral Resources Base is composed of 5,004 oil fields with a net asset value of US \$46 trillion. About 80% of mining products are exported to more than 30 countries around the world, accounting for 20% of total exports and 30% of the country's annual income(*Invest in Kazakhstan - Mining & Metallurgy*, n.d.). The metallurgical output in 2012 was nearly 13 billion U.S. dollars, of which ferrous metallurgy was 4.7 billion U.S. dollars and non-ferrous metallurgy was 8.2 billion U.S. dollars.

Due to the complexity of the underground deposits of mineral resources and the limitation of human science and technology, mineral exploration is still a venture capital industry that requires huge capital investment and highly uncertain future returns. The mining industry is highly dependent on infrastructure and requires a lot of investment in the production process. However, the mining industry has become a highly profitable industry that, once it succeeds, can get a great return on investment. It is the so-called high investment, high risk, and high return industry.

The capital structure of an enterprise refers to the various sources, compositions, and interrelationships from which a firm obtains funds. Capital structure plays an important role in financial management. The choice of capital structure not only affects the value of the company but also has something to do with the corporate governance structure and macroeconomic operation. Many factors affect the capital structure, and the influence methods are also very complicated. The existing research on the factors affecting the capital structure is mostly reflected in the theoretical aspect, while the empirical research is relatively few. This article summarizes the theoretical results of capital structure research, and after inductive analysis of relevant background knowledge, a quantitative method is adopted. This article analyzes the determinants that affect the capital structure in mining companies.

## **Literature Review**

Capital structure theory is a systematic way to fund corporate activities using a combination of equities and liabilities in financial management. There are multiple rival capital structure theories, each of which looks at the relationship between debt, equity, and the firm's market value in a slightly different way(*What Is Capital Structure Theory?*, n.d.).

In 1958, economists Franco Modigliani and Merton Miller proposed the MM theorem. It is one of the most important corporate finance theorems. The main idea of this theorem is that the capital structure of a company does not affect its overall value (Modigliani & Miller, 1958). This is the initial form of the M&M theorem, which assumes that the market is totally efficient. This assumption implies that in a totally efficient market, corporations do not pay taxes, there are no transaction costs for securities trades, no bankruptcy costs, and information is completely symmetrical. This theory was full of limitations. Subsequently, Franco Modigliani and Merton Miller developed the second proposition of their theory by including tax advantages as a determinant of capital structure (Modigliani & Miller, 1963). They stated that firms employ debt financing to take advantage of tax advantages and that more

debt is needed in the capital structure to optimize firms' market value (Modigliani & Miller, 1963). Later, Miller estimated the influence of debt leverage on business value using a model that incorporated both the corporation and personal income taxes (Merton H. Miller, 1977). The results of the Miller model show that the MM corporate tax model overestimates the benefits of corporate liabilities, because personal income tax offsets the tax-saving benefits of corporate interest payments to a certain extent, and reduces the value of the indebted companies. As a result, even when taxation is taken into account, the capital structure has no impact on the market value of the company.

The trade-off theory believes that the company determines the ratio of debt financing to equity financing by weighing the pros and cons of liabilities. Tax benefits are one of the debt's advantages, while the cost of obligations is the cost of financial distress. The marginal benefit of debt declines as the debt ratio rises, whereas the marginal cost gradually rises. Myers and others are proponents of the trade-off theory. To optimize the company's value, the benefits and costs of obligations must be evaluated in order to choose an optimum debt-to-equity financing ratio (Stewart C. Myers, 1984).

The pros and cons of liabilities also include the agency costs proposed by Jensen and Meckling. That is, the trade-off theory of conflicts of interest between company shareholders, creditors, and management is often considered to be in competition with the prioritized financing theory (Jensen & Meckling, 1976). The generation of agency costs occurs after the separation of ownership and management rights, shareholders hope that managers will try their best to operate the enterprise in accordance with the goal of maximizing shareholder wealth. However, because managers often engage in daily operation and management based on their own interests. On the other hand, due to the limited liability of shareholders, the residual income is shared by shareholders. When the return on investment is much higher than the face value of the debt, even if the probability of success is low, shareholders may choose this high-risk investment project. This is because once the venture capital project succeeds, all excess profits belong to the owner; and once the project fails, the limited liability determines that the loss is mainly borne by the creditor.

Ross and other researchers proposed a signaling theory based on the problem of information asymmetry between managers and investors (Ross, 1977). Ross found that managers with a large amount of information about high-quality investment opportunities can transmit information to potential investors through the choice of capital structure or dividend policy (Ross, 1977).

Myers and Majluf found the Pecking Order Theory (POT), which is based on the assumption of information asymmetry among shareholders, managers, and creditors when using debt or equity (Myers & Majluf, 1984). The pecking order theory believes that when a company wants to finance its own new project, it will give priority to using internal surplus, followed by bond financing, and finally considering equity financing. In other words, internal financing is better than external debt financing, and external debt financing is better than external equity financing.

The free cash flow hypothesis was put forward by the American economist Jensen. Jensen believes that for profitable companies in the mature stage, the company has a large amount of idle cash but few growth opportunities, and the agent has a tendency to abuse cash resources (Jensen, 1986). The use of borrowing can put pressure on the agent through regular interest payments and principal repayment, thereby inhibiting management's motivation to abuse cash. Therefore, increasing the financial leverage of a company with stable cash flow is conducive to company value and shareholder interests.

Each of these theories highlights a different theme, therefore none of them in itself determines the capital structure of the company.

## **Hypothesis Development**

### Determinants of capital structure

Based on data availability, the following determinants of capital structure are analyzed in this paper: firm size, profitability, liquidity, retained earnings, asset structure, GDP growth, and ESG rating.

#### 1. Firm Size

According to the trade-off theory, there is a positive correlation between firm size and debt, because larger companies tend to be more diversified and have smaller income differences, allowing them to tolerate high debt ratios (Castanias, 1983; Titman & Wessels, 1988). Second, larger companies are less likely to go bankrupt and therefore attract more debt.

However, according to POT, large firms will cause more information asymmetry and therefore attract less debt, or large firms have more equity financing channels than small companies (Paul Marsh, 1982). The negative correlation between firm size and capital structure may be due to the ability of larger firms to raise funds by issuing shares rather than debt financing; therefore, larger firms use less debt in their capital structure (Marc Deloof & Wouter Van Overfelt, 2008).

Many researchers have concluded that company size is positively correlated with the company's capital structure (Darwin D. Yu & Rodolfo Q. Aquino, 2009; Nedal A. Al-Fayoumi & Bana M. Abuzayed, 2009). In addition, Karadeniz and others concluded that there is no significant relationship between company size and debt ratio, and capital structure (Karadeniz et al., 2009).

Base on the theories, the following hypothesis can be made:

H1. There is a negative relationship between firm size and debt ratio.

#### 2. Profitability

The profitability of a firm refers to the ability of an enterprise to make profits over a period of time. The theoretical research so far has not reached a consensus on the relationship between profitability and capital structure. Various capital structure theories will lead to different conclusions when analyzing the influence of profitability on a company's financial leverage.

According to the trade-off theory, firms with significant profitability have fewer bankruptcy risks and comparatively low bankruptcy expenses, and creditors are more willing to give cash for these companies (KHOA & THAI, 2021). According to Leland and Pyle's findings, a company's leverage caused by information asymmetry is significantly positively correlated with profitability (Hayne E. Leland & David H. Pyle, 1977). According to the signaling theory, a high debt ratio reflects a company's good operating performance and profitability, as well as management's confidence in the company's future operations. As a result, the profitability and debt ratio of the company are positively associated.

The pecking order theory assumes that profitability and leverage are inversely related. Companies that are more profitable choose to fund projects internally. As a result, their capital structure has less debt. Furthermore, profitable firms are hesitant to raise external capital to avoid dilution of ownership.



When internal funds are insufficient, debt financing is used first, followed by equity financing, so the company's financing sequence is retained earnings, bond issue, then stock issuance. In fact, Titman and Wessels proved the financing sequence theory and obtained profitability by using samples of American enterprises. Profitability and debt ratio are highly negatively correlated, according to the findings (Titman & Wessels, 1988).

In this research, profitability is represented by the return on assets. The following hypothesis can be made:

H2. There is a negative relationship between profitability and debt ratios.

### 3. Liquidity

The liquidity ratio is commonly used to assess a company's short-term financial solvency, and it can have a mixed impact on capital structure decisions.

There must be a positive correlation between liquidity and debt ratio, according to TOT. Because assuming loans ensures that the firm has enough liquidity to keep its obligations.

On the contrary, according to the pecking order theory, firms with high liquidity will reduce borrowing. Because companies with enough liquidity require less external financing and borrowing. Rataporn Deesomsak and other researchers concluded with POT that there is a negative correlation between liquidity and debt ratio and that firms with high liquidity prefer internal financing over external financing, resulting in lower debt (Rataporn Deesomsak et al., 2004).

In this research, the current ratio was used to evaluate the company's liquidity. The current ratio is calculated by dividing current assets by current debt. Based on the above explanation, the following hypothesis is drawn:

H3. There is a negative relationship between liquidity ratios and debt ratios.

### 4. Retained Earnings

Retained earnings refer to the net profit retained in the company. According to POT, the company prefers to finance itself mostly through accumulated income. If these funds are insufficient, they will use debt first, then equity financing to cover their financing needs (Stewart C. Myers, 1984). Therefore, companies with large accumulated earnings will use these funds and tend to maintain low debt.

Based on the POT theory, the hypothesis is as follows:

H4. There is a negative relationship between retained earnings and debt ratios.

### 5. Assets Structure

According to POT, due to the ease of valuation of company assets, companies with higher tangible assets may have less information asymmetry. Therefore, as the tangible assets of these companies increase, these companies may reduce their dependence on debt. Therefore, the correlation between asset structure and debt ratio is negative.

At the same time, TOT argues that firms with more tangible assets need more mortgage assets to repay debts in bankruptcy, allowing them to attract more creditors. Furthermore, tangible assets can be used

as debt guarantees, resulting in greater debt capacity and lower financial distress costs for firms with higher tangibility (Elsas & Florysiak, 2008). Therefore, the relationship between asset structure and debt ratio should be positively correlated.

Considering these two competing theories, the fifth hypothesis is as follows:

H5. There is a positive relationship between asset structure and debt ratios.

#### 6. GDP growth

When the economy is in a downturn, the debt ratio of a firm falls as investment opportunities and total capital demand fall. When the economy is in a positive phase, the debt ratio of a company rises in accordance with the increase in investment opportunities and total capital demand. The variation of the GDP growth rate reflects the economic cycle's volatility to some extent. Companies have higher profit expectations, use more bond financing, and have more financial leverage while the economy is growing rapidly. Through mixed data research of developing and developed countries, Booth and others discovered that real GDP growth rate is positively connected with company financial leverage (Laurence Booth et al., 2001).

H6. There is a positive relationship between GDP growth and debt ratios.

#### 7. ESG Rating

Environmental, social, and governance (ESG) evaluations are used to assess a company's resilience to risks and opportunities that affect financial performance. E-rating is an environmental rating, CO2 emissions are used to assess a company's commitment to and effectiveness in lowering emissions in business processes. The S refers to social sustainability, and unemployment is utilized as a determinant. The G stands for governance, and the term "management efficiency" is used in this article.

According to a study by Pijourlet, socially responsible businesses have lesser leverage and prefer to employ equity financing rather than debt financing (Pijourlet, 2013). If corporate social responsibility efforts do not benefit shareholders, substantial quantities of leverage can be employed as a control function to protect shareholders from excessive investment (Jensen, 1986). This also shows that higher debt is negatively correlated with corporate social responsibility activities.

H7. There is a negative relationship between ESG ratings and debt ratios.

### **Research Methodology**

In the framework of an exploratory investigation, this quantitative study employs both analytical and inferential statistics. A total of five Kazakhstan mining firms were utilized as a sample for this research. This sample was obtained to analyze the impact of various selected variables on the capital structure of mining companies. Five mining companies are represented in the panel dataset, which spans six years from 2015 to 2020.

#### **Sampling method**

Judgmental purposive sampling was considered in this research, which means that research samples were taken based on the following criteria:

1. The firms with the main activity in Kazakhstan's mining industry;
2. The firms' financial statements are available over the study period;
3. The firms' debt ratio should not be zero over the study period;
4. The elements of data necessary in this study are completely available.

Used firms: JSC National Atomic Company Kazatomprom, JSC Kazakhmys Copper, JSC Tau-Ken Samruk National Mining Company, JSC Altynalmas, JSC ERG Exploration.

### Variable

The variables that were measured in this study were taken from a previous empirical study.

The table shows the descriptions of the dependent variable and indicators used in the model:

Variables	Symbol	Description
Dependent Variable		
Debt Ratio	DR	Total Debt/ Total Assets
Independent Variable		
Firm Size	TA	Total Assets
Profitability	ROE	Annual Return on Equity
Liquidity	CR	Current Assets/ Current Liabilities
Return Earnings	RE	Annual Return Earnings
Assets Structure	AS	Fixed assets/ Total Assets
GDP growth	GDPg	Growth Domestic Product
ESG Rating	ME UE EM	Management Efficiency: Operating Income/Operating Expense Unemployment CO2 Emissions

The general form of the model can be specified as follows:

$$\square \text{ DR} = \alpha + \beta(\text{TA}) + \beta(\text{ROE}) + \beta(\text{CR}) + \beta(\text{RE}) + \beta(\text{AS}) + \beta(\text{GDPg}) + \beta(\text{ME}) + \beta(\text{UE}) + \beta(\text{EM})$$

### Data Analysis

To begin data analysis, descriptive statistics are utilized to calculate the variables' mean and standard deviation. The relationship between the variables is then tested using correlation analysis. Finally, regression analysis is utilized to investigate the independent variables' effects on capital structure.

### Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
DR	38	.4481377	.3698295	.0064637	1.36335
TA	38	1.43e+08	2.42e+08	141559	7.24e+08
ROE	38	.3003481	1.561728	-2.825316	8.580593
CR	38	6.627143	24.80669	.2000366	154.7093
RE	38	1.36e+07	3.50e+07	-3.76e+07	1.15e+08
AS	38	.6952812	.2050835	0	.9442454
GDPg	38	2.836842	2.678788	-2.6	7.4
ME	38	.2337275	12.1061	-69.35909	10.82842
UE	38	4.953684	.1413912	4.8	5.39
EM	28	12.65189	1.080325	11.77919	15.04736

Descriptive data such as means and standard deviation are shown in the figure. Since the standard deviation values are larger than the means, the descriptive statistics table can be used to deduce that firm size, profitability, liquidity, retained earnings, and management effectiveness are all unstable.

As their standard deviations are below the averages, asset structure, GDP growth, unemployment, and CO2 emissions are not highly volatile.

### Correlation Analysis

	DR	TA	ROE	CR	RE	AS	GDPg	ME	UE	EM
DR	1.0000									
TA	-0.4213	1.0000								
ROE	0.2023	-0.0565	1.0000							
CR	-0.2913	-0.0527	-0.0444	1.0000						
RE	-0.6037	0.8754	-0.0867	0.0029	1.0000					
AS	0.2514	0.5437	-0.0398	-0.5853	0.3371	1.0000				
GDPg	0.1911	-0.1607	0.0862	-0.2851	0.0257	0.2688	1.0000			
ME	0.0306	0.0725	0.0877	0.0152	0.0398	-0.0923	-0.2478	1.0000		
UE	0.1784	-0.2389	-0.1446	-0.0527	-0.1719	0.0494	0.5522	-0.3106	1.0000	
EM	0.1386	-0.2170	-0.0333	-0.0419	-0.1083	-0.0105	0.6152	-0.4501	0.7876	1.0000

The correlations between the variables are depicted in the graph. We can observe from this table that debt ratio, firm size (TA), liquidity (CR), and retained earnings (RE) all have a negative correlation. The debt ratio and firm size (TA), as well as return earnings (ER), have a notable negative relationship of -0.4213 and -0.6037, respectively. There is a positive relationship between debt ratio and profitability (ROE), asset structure (AS), GDP growth (GDPg), unemployment (UE) and CO2 emission (EM). There is very weak relationship between debt ratio and management efficiency (ME), GDP growth (GDPg), Unemployment (UE) and CO2 emission (EM) due to their values are less than 0.2.

## Regression Analysis

Source	SS	df	MS	Number of obs	=	28
Model	2.82616803	9	.31401867	F(9, 18)	=	3.78
Residual	1.49678851	18	.083154917	Prob > F	=	0.0079
				R-squared	=	0.6538
				Adj R-squared	=	0.4806
Total	4.32295654	27	.160109502	Root MSE	=	.28837

DR	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
TA	-4.35e-10	9.50e-10	-0.46	0.652	-2.43e-09	1.56e-09
ROE	.0333867	.0326323	1.02	0.320	-.0351712	.1019445
CR	.0012572	.0026812	0.47	0.645	-.0043758	.0068903
RE	-7.55e-09	4.99e-09	-1.51	0.148	-1.80e-08	2.93e-09
AS	1.178323	.5332859	2.21	0.040	.0579304	2.298715
GDPg	-.0080124	.0548506	-0.15	0.885	-.1232494	.1072245
ME	.0050624	.0046131	1.10	0.287	-.0046293	.0147541
UE	-.1732048	.669586	-0.26	0.799	-1.579953	1.233543
EM	.0699839	.0995967	0.70	0.491	-.1392609	.2792288
_cons	-.2246258	2.651998	-0.08	0.933	-5.796267	5.347015

According to the data in Figure, the R-squared in the regression model is 65.38 percent, which means that all independent variables can explain 65.36 percent of the variation in Debt Ratio, while the remaining 34.64 percent is explained by factors not included in this model.

The P-value significance level is less than [0.01, 0.05, or 0.10]. Because the P-value of asset structure (AS) is 0.040, which is less than the levels of significance of p-value, only one independent variable has a significant effect on debt ratio. This coefficient can be proven to be statistically significant.

## Result

Variables and relevant hypotheses	Expected relationship	Outcome	Accept/Reject
H1: Firm Size	-	-	Accept
H2: Profitability	-	+	Reject
H3: Liquidity	-	+	Reject
H4: Return Earnings	-	-	Accept
H5: Assets Structure	+	+	Accept
H6: GDP growth	+	-	Reject
H7: ESG Rating:			

ME	-	+	Reject
UE	-	-	Accept
EM	-	+	Reject

The results reveal that firm size and capital structure measure have a negative relationship; consequently, *H1 is accepted*. The results indicate that smaller firms may not have much choice but rely on bank loans. However, this finding is consistent with the POT. It is for this reason that information asymmetry is a less severe issue in large firms.

The coefficient for profitability is positive, contrary to the POT, indicating that enterprises with higher profitability employ external sources in their financing decisions. Thus, *H2 is rejected*.

Because the results demonstrate a positive relationship between liquidity and debt ratio, *H3 is rejected*. The positive liquidity correlation in Kazakhstan is due to the fact that enterprises choose to finance their investments with external debt rather than liquid assets.

The results show that retained earnings and debt ratio have a negative relationship, therefore, *H4 is accepted*. Consistent with POT, the company prefers to use accumulated income as the main source of financing.

The findings show that asset structure and debt ratio have a positive correlation. This isn't consistent with AT, but it is consistent with TOT. As a result, *H5 is rejected*. According to the findings, Kazakhstan firms with a higher proportion of fixed assets are more likely to be financed by debt capital.

Since the results demonstrate a negative relationship between GDP growth and debt ratio, *H6 is rejected*. This indicates that when the economy is in a downturn, the company's debt ratio rises.

Finally, the findings demonstrate a positive correlation between management efficiency, CO2 emissions, and debt ratio, but a negative correlation between unemployment and debt ratio. This demonstrates that in Kazakhstan, socially responsible businesses prefer to employ equity funding rather than debt financing.

### **Conclusion and recommendation**

According to the test results of five Kazakhstan mining businesses from 2015 to 2020, asset structure, firm size, and retained earnings all have a significant impact on leverage. The ESG Rating has a negligible impact on leverage measurement indicators. The size of the firm confirms the leverage of POT. Similarly, the asset structure supports the total leverage of TOT. Finally, the diversity of meanings of Kazakhstan's mining company capital structure theory can be seen from the direction and significant value of the correlation between leverage and explanatory variables.

The findings of this study mainly provide better guidance for Kazakhstani mining companies in deciding their capital structure decisions. Company executives may think about the necessity for consistent funding as well as the influence of the relevant variables investigated in this research.

To be honest, this research only looked at five companies with particular independent variables. Although it is claimed that other independent variables, such as variables in specific sectors, may also affect debt ratio. Furthermore, when balanced panel data is used, some sample companies who are unable to give complete data are eliminated, resulting in a reduction in the number of observations. Based on the limits of the current study, I recommend that future research incorporate other variables that may influence leverage decisions, particularly in mining businesses. In addition, unbalanced panel data may be used in future studies to enhance the number of observations.

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**«Особенности системы бюджетирования в нефтегазовой отрасли»**

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**Аннотация.** В рамках исследования проведен анализ системы бюджетирования на примере компании «Аджип Каспиан Си Б.В.». Бюджетирование относится к процессу, используемому компаниями, в котором детальный прогноз доходов и расходов компании на будущий конкретный период времени составляется с учетом различных внутренних и внешних факторов, преобладающих в данный момент. Бюджет – это план, в котором предполагается определить ожидаемые операционные доходы и расходы организации на будущий период. Другими словами, для бизнеса бюджетирование – это процесс подготовки подробного отчета о финансовых результатах, прогнозируемых на определенный период. В каждой организации финансовый отдел играет жизненно важную роль в подготовке бюджета в консультации с высшим руководством. Это документ, который передается для проверки работоспособности организации в течение предусмотренного бюджетом периода. Целью работы является формирование масштабной и эффективной системы бюджетирования в «Аджип Каспиан Си Б.В.». Рассмотрены теоретические аспекты бюджетирования, проведен анализ системы бюджетирования «Аджип Каспиан Си Б.В.» и сформированы основные рекомендации.

**Основная часть**

**Введение и цель.**

Идея бюджетирования привлекла внимание общественности и упоминается в большинстве современных учебников по управленческому учету, она не оказала существенного влияния на практику. Но системы бюджетирования продолжают играть ключевую роль в системах контроля фирм и большинство компаний не планируют отказываться от этой практики, хотя многие планируют предпринять шаги по ее совершенствованию. Бюджетирование является одной из наиболее широко изучаемых тем в управленческом учете и изучалось с теоретических позиций экономики, психологии и социологии. Бюджетирование открывает возможности для исследований, чтобы создать более полные и обоснованные объяснения причин и следствий практики бюджетирования.

На казахстанских нефтегазовых предприятиях бюджетирование фрагментировано. И это не дает возможность эффективным образом управлять финансами, особенно денежными потоками, принимать точные и финансово сбалансированные управленческие решения. Это объясняет актуальность исследования теоретических аспектов бизнес-бюджетирования и создания внутриорганизационной системы бюджетирования на предприятиях. Бюджетирование можно считать одним из значимых факторов успеха в бизнесе, поскольку оно помогает руководителям функциональных подразделений лучше понимать и выполнять поставленные перед ними задачи, оценивать возможности их достижения в установленные сроки, своевременно вносить необходимые коррективы и обеспечивать производственную программу необходимыми ресурсами. Это может объяснить актуальность предмета исследования.

Целью работы является формирование масштабной и эффективной системы бюджетирования в «Аджип Каспиан Си Б.В.».

**Обзор современной литературы.** Исследованием финансового планирования и бюджетирования занимались такие ученые как О.И. Волков, О.В. Демчук, Н.А. Сушко, Н. Адамов, А. Талов, Т.Н. Бабич, И.А. Козьева, В.А. Баринов, Э.М. Гайнутдинов, А.И. Гомола, П.А. Жанин, П.Н. Городничев и др. Помимо этого, зарубежными авторами также изучалось успешное планирование и бюджетирование в современных компаниях: Й. Томас, Х.Матт, Дж. Лайон, Дж.О Махони, Дж. Халпин, Х. Глинн, Х. Гудман, К. Ваддингтон, М. Роквилл и др.

Слово бюджет происходит от французского слова *Bougettee*, означающего кожаный мешок, в котором средства выделяются на покрытие ожидаемых расходов. На самом деле, это основная идея, лежащая в основе бюджетирования. Бюджет – это изложение ожидаемых результатов, выраженных в числовом выражении [1, с.78].

Бюджет используется для составления перечня расходов и доходов, полученных за финансовый год, и получаемой прибыли. Цель – руководить деятельностью, предвидеть риски, принимать стратегические решения. С другой стороны, денежный план используется для прогнозирования/управления притоком и оттоком денег [2, с.78].

Ограничения бюджетного процесса – это подход, который все чаще подвергается критике, поскольку он порождает большую организационную тяжесть. Кроме того, это придает компании некоторую жесткость. Это связано с тем, что в течение финансового года ввод новых возможностей может быть затруднен из-за слишком строгого составления прогнозов. Контролер управления является важным игроком в обеспечении бесперебойного бюджетного процесса. Он участвует в составлении бюджетов и следит за ними в течение выбранного периода эксплуатации. (обычно год, но несколько раз больше) [3, с.43].

Бюджетный процесс включает в себя всех руководителей служб. Они являются гарантом прогнозов деятельности и расходов, которые они передают контролеру управления.

Все начинается с прогноза продаж. Производство использует эти входные данные для оценки объемов производства, связанных с этим нагрузок и потребностей в ресурсах. Логистика для управления запасами определяет свою политику хранения, а инвестиционный план предусматривает финансирование средств. Остальные бюджеты вытекают из этих основных показателей [4, с.56].

Бюджет – это перевод целей, которые компания ставит перед собой на предстоящий год, и стратегий, которые она планирует продвигать для достижения этих целей. Таким образом, бюджет отражает прогнозируемые доходы и расходы на следующий год и в некоторых видах становится планом для компании и целями для ее менеджеров.

Бюджетирование – это тактическая реализация бизнес-плана. Для достижения целей стратегического плана, нужна подробная описательная дорожная карта бизнес-плана, которая устанавливает меры и показатели. Затем можно вносить изменения по пути достижения желаемых целей [5, с.61].

При переводе стратегии высокого уровня такой как миссия, видение и цели, в бюджеты необходимо учитывать четыре аспекта.

Цели – это в основном увеличение суммы, например, которую каждый клиент тратит в розничном магазине. Затем разрабатывают одну или несколько стратегий для достижения своих целей. Компания может увеличить расходы клиентов за счет расширения ассортимента, поиска новых поставщиков, продвижения и т. д. Необходимо отслеживать и оценивать эффективность стратегий, используя соответствующие меры. Например, можно измерить средние еженедельные расходы на одного клиента и средние изменения цен в качестве входных данных.

Наконец, необходимо установить цели, которые необходимо достичь к концу определенного периода. Цели должны поддаваться количественной оценке и основываться на

времени, например увеличение объема продаж или увеличение количества проданных товаров к определенному времени [6, с.102].

Бюджетирование – важнейший процесс для любого бизнеса в нескольких аспектах:

1. Помощь в планировании фактических операций. Этот процесс позволяет менеджерам рассмотреть, как могут измениться условия и какие шаги им необходимо предпринять, а также позволяет менеджерам понять, как решать проблемы, когда они возникают.

2. Координирует деятельность организации. Бюджетирование побуждает менеджеров выстраивать отношения с другими подразделениями компании и понимать, как различные отделы и команды взаимодействуют друг с другом и как все они поддерживают общую организацию [7, с.81].

3. Доведение планов до сведения различных менеджеров. Передача планов руководителям является важным социальным аспектом процесса, который гарантирует, что каждый получит четкое представление о том, как они поддерживают организацию.

4. Мотивирует руководителей стремиться к достижению бюджетных целей. Бюджетирование заставляет менеджеров сосредоточиться на участии в бюджетном процессе. Оно создает проблему или цель для отдельных лиц и руководителей, увязывая их вознаграждение и результаты работы с бюджетом.

5. Контрольная деятельность. Менеджеры могут сравнивать фактические расходы с бюджетом, чтобы контролировать финансовую деятельность.

6. Оценка эффективности работы менеджеров. Бюджетирование служит средством информирования менеджеров о том, насколько хорошо они справляются с поставленными задачами [8, с.50].

Бюджетирование помогает менеджменту следующими способами:

- бюджеты заставляют планировать: практически любая деловая деятельность требует определенного планирования для обеспечения эффективного и максимального использования ограниченных ресурсов;

- бюджет представляет собой детальный график предполагаемого сочетания различных факторов производства, который является наиболее выгодным на последующий период [9, с.117];

- бюджетирование переводит организацию из неформального, «реактивного» стиля в формальный, «проактивный» стиль управления. В результате меньше времени тратится на решение непредвиденных проблем, а больше – на позитивные меры и превентивные действия;

- наличие хорошо продуманного плана является важным шагом на пути к достижению координации. Руководители вынуждены думать о взаимоотношениях между отдельными операциями и компанией в целом;

- бюджеты помогают сдерживать усилия руководителей. Бюджеты расширяют индивидуальное мышление, помогая устранить неосознанные предубеждения со стороны инженеров, менеджеров по продажам и производству;

- бюджеты помогают выявить слабые места в организационной структуре. Формулирование и администрирование бюджетов изолируют проблемы коммуникации, фиксированной ответственности и рабочих отношений.

Бюджеты улучшают координацию действий. Координация – это управленческая функция, при которой все факторы производства и вся ведомственная деятельность сбалансированы и интегрированы для достижения целей организации [10, с.54].

Менеджер по производству должен обеспечить адекватное производство для удовлетворения ожидаемого спроса отдела продаж. В свою очередь, финансовый управляющий должен обеспечить достаточный объем наличных средств для удовлетворения более высоких производственных потребностей [11, с.85].

Бюджетирование обеспечивает координацию, при отсутствии которой различные подразделения в организации могут действовать таким образом, который выгоден только их отдельным подразделениям, но не целям фирмы в целом. Отдел продаж может продать больше, чем может произвести производственный отдел, и наоборот.

Отдел продаж может думать только о цене, менеджер по производству может думать только о качестве, менеджер по закупкам может стремиться покупать в больших количествах, чтобы воспользоваться преимуществом скидки, финансовый менеджер должен заботиться о сроках погашения обязательств и организовывать фонды для удовлетворения растущих потребностей бизнеса [12, с.65].

Бюджеты являются основой оценки эффективности деятельности организации, поскольку они отражают реалистичные оценки приемлемой и ожидаемой эффективности [13, с.71]. Большинство менеджеров заинтересованы в том, чтобы знать, что от них ожидается, чтобы они могли контролировать свою собственную работу. Более точно, надежно и разумно оценивать текущие показатели по бюджету, а не по смутным ожиданиям или по результатам предыдущего года, когда условия могли измениться.

### **Методология исследования и инструмент сбора данных.**

С целью оценки бюджетирования проводится сопоставление плановых и фактических показателей бюджетов предприятия. Вычисляют абсолютные и относительные отклонения плановых и фактических бюджетов предприятия.

С помощью показателей рентабельности можно охарактеризовать уровень эффективности бюджетирования предприятия в целом, доходность различных направлений деятельности, окупаемость затрат и т.д.

Показатели рентабельности объединяются в определенные группы, которые могут быть выражены:

- 1) показателями, характеризующими рентабельность продаж;
- 2) показателями, характеризующими доходность капитала и его частей.

Вся совокупность данных показателей может рассчитываться на основе таких показателей как: балансовая прибыль, прибыль от реализации

Рентабельность продаж исчисляется делением прибыли от реализации продукции (товаров, работ, услуг) на сумму полученной выручки. Характеризует доходность реализации с денежной единицы продаж.

$$R_n = \frac{\Pi_{pn}}{B} \quad (1)$$

Где  $R_n$  - рентабельность продаж;

$\Pi_{pn}$  - прибыль от реализации продукции;

$B$  - выручка от реализации.

Рентабельность (доходность) капитала рассчитывается как отношение чистой прибыли к среднегодовой стоимости всего инвестированного капитала или отдельных его слагаемых; собственного, заемного, основного, оборотного и т.д.

Чтобы оценить эффективность отдела бюджетирования, необходимо проанализировать его задачи и функции, определить те, выполнение которых может быть определено количественно, и установить цели. Показатели эффективности отдела составления бюджета легче всего установить на основе целей и функций этого отдела. Полный список последних можно составить с упором на существующие на предприятии правила, например, положение о отделе управленческого учета и бюджетирования.

### **Анализ данных с критическим мышлением и обсуждением.**

Бюджетирование дает «Аджип Каспиан Си Б.В.» инструменты для отслеживания финансового состояния компании, чтобы планировать как краткосрочные, так и долгосрочные расходы на все - от новых сотрудников до расходов на расширение операционной деятельности.

Бюджет также формирует для «Аджип Каспиан Си Б.В.» возможность поделиться своими процессами и бюджетом с руководящим органом, таким как совет директоров, и предоставить важные обновления статуса текущим и потенциальным инвесторам.

Инвесторы хотят видеть, что у компании есть свои финансовые средства. Хорошо сформированный бюджет показывает организованность и приверженность бизнесу, которые владелец без бюджета не может продемонстрировать. Когда инвестор видит бюджетные ведомости «Аджип Каспиан Си Б.В.» и может понять, сколько денег компания планирует привлечь и каковы ее расходы, он может быть более уверен в инвестировании.

Некоторые расходы связаны с наличием отдела продаж или процессов продаж, и бюджет может учитывать их. Бюджет также может включать в себя объем продаж, который, как вы ожидаете, бизнес заработает за определенный период. Имея эти позиции на месте, вы можете установить цели продаж, которые согласуются с бюджетом, корректируя их по мере необходимости позже.

Погашение долга - это главное преимущество бюджета для «Аджип Каспиан Си Б.В.». Бюджет должен включать в себя статьи для каждого вида расходов, и текущая задолженность - лишь одна из них. До тех пор, пока «Аджип Каспиан Си Б.В.» следит за бюджетом и отчитывается за ежемесячные или ежеквартальные платежи по долгу, компания в состоянии быстро погасить долг.

Большинство владельцев бизнеса несут ответственность за более крупные бизнес-решения, которые повлияют на движение денег в компанию и из нее. С бюджетом, вероятно, «Аджип Каспиан Си Б.В.» легче принимать необходимые решения, такие как, на сколько можно увеличить зарплаты, могут ли быть доступны бонусы для членов команды, какие преимущества можно предложить сотрудникам или есть ли возможность увеличить операции.

Поскольку бюджетирование является такой большой и важной частью «Аджип Каспиан Си Б.В.», неправильное составление бюджета может иметь некоторые последствия, в том числе:

- отсутствие чрезвычайного фонда;
- неспособность расширить деятельность или выйти на новый рынок;
- отсутствие возможности обеспечить инвестиционную деятельность;
- не принимать на себя долгосрочных обязательств перед клиентами, поставщиками;
- невозможность получить кредит или совершить крупную покупку, необходимую для бизнеса.

Организация готовит бюджеты на будущий период. Однако прогнозы бюджета могут и не сбыться. Это происходит потому, что будущее неопределенно и условия, которые, как предполагается, будут преобладать в будущем, могут измениться. Это изменение условий расстраивает бюджет, который составляется на основе некоторых предположений о будущем. Следовательно, неопределенность будущего снижает ценность бюджетного контроля.

Недостатки планирования/бюджетирования «Аджип Каспиан Си Б.В.» следующие:

- персонал может быть демотивирован, если поставленные цели слишком трудны или слишком легки для достижения, если он несет ответственность за что-то вне своей компетенции или не идентифицирует себя с целями;
- планирование часто рассматривается как ненужная дополнительная работа и, таким образом, получает более низкий приоритет;

- отсутствие сотрудничества между департаментами или функциями, что может привести к конфликту оперативных планов;
- персонал обычно стремится достичь поставленной цели, а не превысить ее;
- дисперсионный анализ и отчеты представляются руководству слишком поздно, чтобы иметь какое-либо влияние;
- выполнение одной цели, в то время как другие значимые показатели ухудшаются;
- типичные расходы бюджета в конце года не будут урезаны в предстоящий период.

### **Краткое изложение, выводы и рекомендации.**

Формирование усовершенствованного бюджетирования в компании возможно путем использования следующих мер, представленных на рисунке 1 ниже.

Использование передовых программных решений существенно облегчает процессы планирования, бюджетирования и прогнозирования. Их легко получить, обычно они продаются в готовом виде или в качестве компонента полностью интегрированного корпоративного решения по управлению эффективностью.



Рисунок 2 – Совершенствование бюджетирования в «Аджип Каспиан Си Б.В.»  
Примечание – составлено авторами самостоятельно

Внедрение передового программного обеспечения в финансовые операции позволит «Аджип Каспиан Си Б.В.»:

- оценивать эффективность работы компании с помощью доступных интерфейсов, обеспечивающих инфографику и другие визуализации;
- использовать подробные, широко охватывающие данные, чтобы установить коренные причины изменений производительности компании;
- автоматически создавать надежные прогнозы эффективности работы компании с использованием внутренних данных, рыночных тенденций и других соответствующих факторов;
- создавать сценарии моделирования данных, чтобы предвидеть неожиданные рыночные сдвиги или внутренние события;
- формировать опыт более широкого участия в операционной практике ключевых участников компании.

Инновации в финансах предлагают решения, которые решают весь цикл планирования с мгновенным сбором данных, точным моделированием, четкой аналитикой и надежной

отчетностью. Эти решения требуют минимальной корректировки инфраструктуры и могут управлять множеством бизнес-функций.

Автономное финансовое планирование может показаться пугающим, что по понятным причинам заставляет многих искать делового партнера для составления бюджета. Но тем не менее, профессиональная помощь легко доступна для упрощения еще более сложных процессов

eCapital Advisors - это программное решение для бюджетирования, которое поможет «Аджип Каспиан Си Б.В.» формировать реалистические прогнозы и планы.

Финансовый успех «Аджип Каспиан Си Б.В.» почти полностью зависит от способности установить, как компания должна функционировать в качестве нефтегазовой организации в современной экономике и обществе. Эффективность финансового планирования будет зависеть от близости вашего финансового отдела к современным методам планирования, бюджетирования и прогнозирования.

Помимо программного обеспечения необходимо использовать контроллинг в процессе бюджетирования и планирования. Контроллинг - это одна из самых основных функций менеджмента, таких как планирование, организация, укомплектование персоналом и т. д. Контроль - важная функция, и без контроля управление не может обеспечить желаемых результатов.

Контроллинг можно определить как функцию обеспечения того, чтобы действия сотрудников «Аджип Каспиан Си Б.В.» были направлены на достижение общей цели и работа выполнялась в соответствии с планом руководства.

Роль руководства «Аджип Каспиан Си Б.В.» заключается в том, чтобы обеспечить достижение целей организации в соответствии с планом и в срок. Из множества функций управления контроль является одной из наиболее важных функций организации.

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### **“Digitalization of government communications with the business community in kazakhstan”**

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**Abstract:** The development of technologies nowadays leads us to consistently change the way every institution used to function before. The Government-Society communications today change rapidly, allowing new technologies to simplify the process and makes it more efficient. The review of current situation in the World shows the way digitalization of Government communications with the Society can increase the efficiency of such interaction. The analysis of current problems and advantages of implementing the digitalization helps to understand the most efficient ways it can be executed. As a conclusion, we give our view on the most suitable methods of implementing the Digitalization in Kazakhstan.

In the 21st century, there has been a sharp leap in the development of modern technologies, which in a short period of time have significantly and radically changed our way of life. We, as consumers, in one way or another, may not like some of these achievements, which lead us away from our usual activities and entertainment. But an educated and progressive society should and can use modern technologies for the good.



Today digitalization, artificial intelligence, machine learning has become a global trend. Their development led to the introduction of technologies in many areas of activity, and they did not bypass the sphere of public administration. The digitalization of public services is actively developing in our country. The use and implementation of digital technologies in the service sector served as one of the factors for the increased efficiency of the government. According to the indices of corruption perception, government performance “Doing business” Kazakhstan annually improves its position, which is also a direct consequence of the introduction of digitalization in public administration. Thus, having positive changes, the state should not stop only at the digitalization of public services. The introduction of digitalization in other areas of its activities will allow the positive trend to continue, which will be expressed in minimizing the influence of the human factor, increasing transparency and reducing corruption risks.

The coronavirus pandemic posed an unprecedented challenge to all of humanity and served as a catalyst for many processes. People's stay in new conditions pushed society towards the development of online technologies. At the same time, the presence of public service centers and e-government applications in the country had a positive impact on the general mood. However, in society, there is still people's dissatisfaction with the lack of the required information, which may be evidence of significant gaps in the state in building interaction with society and business.

As part of stimulating economic development, the government is developing and implementing business support programs in many areas, including financial assistance. Almost every ministry or specialized department and regions have similar programs. Also, on an ongoing basis, there are changes in laws and regulations that change the position and attitude of the state towards business. However, the lack or absence of communication between government bodies leads to a lack of awareness of the business about the ongoing processes and changes. Thus, businesses miss the opportunity to use leverage to support and develop them, find themselves in unpleasant situations

associated with violations, etc. As a result of the current situation, an information vacuum has formed, which impedes the implementation of business support programs and creates risks for corruption.

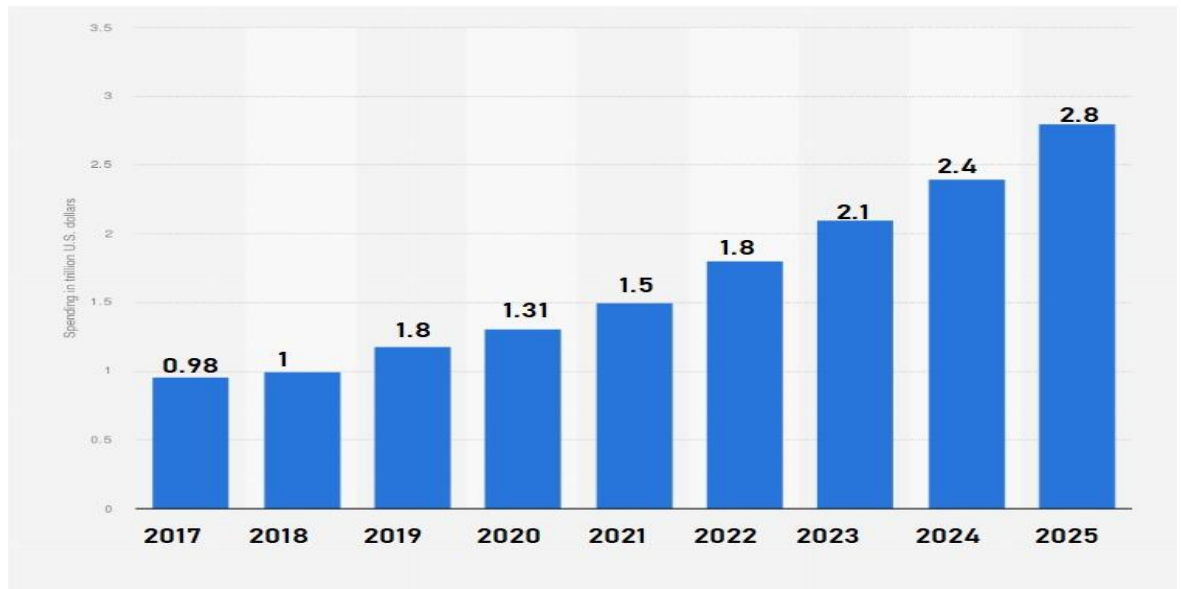
The term “Digitalization” is relatively new. The Development of the phenomenon takes start in the late 1990’s and early 2000’s. However, the term “Digitalization” has been used in several close but different contexts. The most relevant definition is the one from Gartner glossary: “Digitalization is the use of digital technologies to change a business model and provide new revenue and value-producing opportunities”.

The general theoretical backgrounds of the Digitalization are given in the works of Kelvin J. Bwalya, Al-Khoury, Chu, Sun, Boyle and Nickolson. In the CSI region the topic is being a big item of interest. The research has been made by A.V. Mekhrentseva, N.A. Antanovich, D.S. Gavva, S.G. Kamolov, R.F. Azirova, M.A. Burinova, and others.

The Kazakhstani researches about the Digitalization of Government services include works of Kusainov, D.O. and D.A. Ospanova, Azizov R.F., D.A. Ospanova, D.M. Baimakhanova and others. In general, there are still not many works dedicated to the Digitalization of Government communications with business in Kazakhstan, which makes the topic a live issue.

According to the International Data Corporation, the World spending on Digital transformation in general has increased by 56% over the last 5 years, and reached 1,5 trillion US Dollars. According to the same source, one of the factors influencing the increased transformation in 2020 was the COVID-19 Pandemic. (Figure 1)

**Figure 1. Spending on Digital transformation technologies and services worldwide from 2017 to 2025.**



*Note.* Data from International Data Corporation

The model of the increase in Digitalization spending gives an almost 185% in 8 years from 2017 to 2025, which is an evidence of the importance of Digitalization process in every aspect of everyday life.

The table below summarizes the experience of the five countries that introduced the digitalization process in their public services earliest.

**Table 2. The earliest examples of Digitalized Public Service in the World**

*Note:* Adapted from Cem Dilmegani, Bengi Korkmaz, and Martin Lundqvist (2014)

Country	Year	Resource	Description
<b>United Kingdom</b>	2012	Gov.uk	One of the most accessible digital-government services in the world.

<b>Denmark</b>	2012	IT Projektraad	A digitization council reporting to the Ministry of Finance, to function as its central IT steering group
<b>Netherlands</b>	2011	i-NUP	Government-wide implementation agenda for e-government services
<b>South Korea</b>	2008	IT Network	A significant portion of government IT infrastructure is centralized in a few data centers providing numerous e-government services to citizens
<b>USA</b>	2009	Data.gov	A repository of government tools, resources, and information on anything from energy and science to global development and health.

The methods of measuring the effectiveness of digitalization include both qualitative and quantitative analysis of the Economic and Social indicators of the country. The OECD (2020) have established 6 Dimensions of the fully digital government:

1. Digital by design.
2. Data-driven public sector.
3. Government as a platform.
4. Open by default.
5. User-driven.
6. Proactiveness. [3]

The general research of the World practice of Public Services digitalization has revealed the advantages and problems of the process. The advantages include:

1. The world practice of Public services digitalization shows an increased effectiveness of the interaction between the society and government. According to McKinsey research made in 2014, all of the countries that digitalized the public services showed savings of Government expenditure.
2. The increased transparency of all the government-society interactions. The decrease of the corruption.
3. Indirect savings, due to the convenience of the e-government procedures (time costs, travel expenses, etc.).
4. The decrease in the information gap of the Government-Society-Government interaction.
5. E-governments has a possibility of a greater and more efficient data collection. The use of up-to-date information can help better decision making.

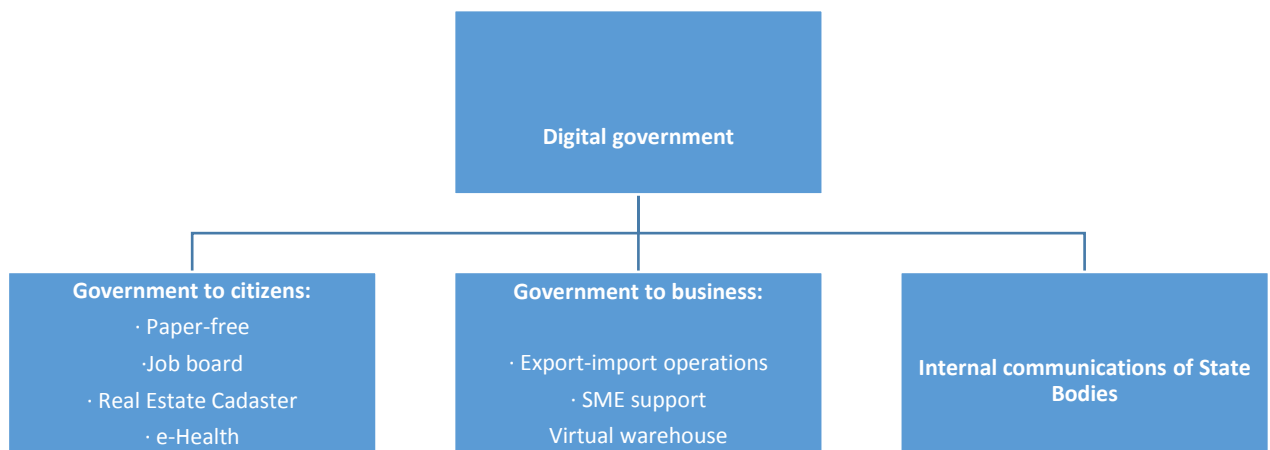
Despite the high levels of effectiveness and lots of advantages, the process of Digitalization also involves some disadvantages and risks. The research on the process of the building the e-governments of some countries revealed following risks and disadvantages:

1. Data security is one of the greatest risks associated with the digitalization (and digitization of data) of public services. The implementation of E-government is associated with processing a large amount of personal and most of the times restricted data of high importance. Thus, to reduce the risk, the digitalization process should always be associated with great levels of Data Security measures.
2. The necessity to transform the skills of participants of Government-Society-Government interaction is another risk, associated with the implementation of digitalization of Public Services. This includes hiring and educating a large amount of IT talent, which at the start could be a problem. Overall, the risk could be managed by developing Programs

dedicated to educating specialists in IT, and increasing the technological education of the Society in general.

The experience of Public Services digitalization in Kazakhstan takes root in early 2010-s, when the early steps of implementing e-government have been made. However, the official program dedicated to digitalization, Digital Kazakhstan, was implemented in 2017. [4] According to the program, the transition to a digital government has three main functions (Figure 2).

**Figure 1. Main functions of the Digital Kazakhstan Program**



*Note.* Adopted from Digital Kazakhstan state Program, 2017.

The overall result of implementing an e-government in Kazakhstan was positive. The country ranked 29<sup>th</sup> in the UN international ranking on the e-government development index in 2020. [5] In the 2020 report, the country has been noted for its program dedicated for training aimed at increasing the capacities of chief digital officers, which decreases the human capital risks of implementing the e-government.

Also, the implementation of the e-government in the country has shown positive results, including over 94,6% satisfaction level of population, and 85,4% of share of public services received in electronic form in total according to the egov.kz report. [6]

In general, the digitalization process is a driver of growth and change in public administration, within which the basic processes and procedures will undergo transformation. This will increase the involvement of citizens in this process, increase the degree of their participation and influence on decision-making, make government bodies highly efficient and useful, and income and expenditures of the budget transparent and understandable.

Based on the foregoing, the state should become the organizer and locomotive of the creation of a single digital ecosystem in order to achieve the goal of comprehensive interaction and exchange of information with society.

The analysis of the existing communication between the state and the business community shows that the existing channel does not solve all of the problems associated with such communication. Relying on the experience of advanced countries, modern instant messengers and social networks could be used during the interaction between government and society. In addition, work should be done in continuing the development of an integrated ecosystem that allows one click to get complete information of interest about business, taxes, payments, restrictions, support programs.

In conclusion, several recommendations based on the research of international practice of Public Services digitalization could be made in accordance with current situation in Kazakhstan:

1. The problem of the present time is that we suffer from a lack of information, in connection with which there is a serious distrust of society in the state. The potential of state programs is not used and the opportunity to involve wide range in business and other activities is not being used. It is the provision of the opportunity for free and quick access to the information and the receipt of

comprehensive information that will lead to a positive situation, reduce millions working hours spent for other purposes (searching for sources, resources, acquaintances, referrals, etc.).

2. The openness of the state will minimize the so-called "State favoritism" used in corruption schemes.

3. The digitalization activities must be structured, building a clear and understandable implementation algorithm. At the end, there should be one single portal for business, where an entrepreneur, after authorization, can receive any information regarding his type of business (for example, he is authorized as the owner of a restaurant, then all the information regulating the type of activity should be available - tax regime, quarantine measures, inspections, possible changes in the operating mode due to the strengthening of quarantine measures, entry / withdrawal into force of new provisions of laws, regulations and decisions, etc.).

4. The analysis and forecast of the current situation based on "big data" from integrated information and reference, and other systems of state bodies. For example, data analysis makes it possible to model or predict a situation with a possible increase in diseases, which will lead to the transition of the region to the red zone, which will entail the closure or reduction of the restaurant's work. In this regard, the consumer of information can plan a possible purchase of products, hiring workers, etc.

In general, transparency and efficiency should improve the mood and well-being of the society, give impetus to the development of small and medium-sized businesses - an increase in the number of taxes collected. At the same time, the same transparency will force state bodies to correctly and efficiently spend budget funds, since the processes will be visible to society.

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### **“Stress management as a tool to ensure renewable business continuity”**

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#### **Abstract:**

The objective of the research is to examine the relationship between job stress, WLB and life satisfaction among renewables business employees and starts with the research background and problem statement that illustrates the core idea. The purpose and overview of the research develop relevant hypothesis and questions after findings and searching will be discussed. Renewables sector industry is the most suitable environment for studying the job stress in Kazakhstan because employees are always at high risk of job stress. This research represents the first attempt to investigate the relationship among job stress, WLB and life satisfaction as well as the moderating effects of proactive coping in RES industry. Job stress, WLB and proactive coping play a vital role in enhancing worker's life satisfaction. Further, this study would develop and examining whether there are significant differences in term of coping strategies on stress. One of the most important ways to achieve organization efficiency is the identification of the causes of stress and ways to cope with it. If the person able to use the correct coping strategy, in return contribute to reduce job stress. This study

would be beneficial to the RES employers as the relevant information about the issues mention above will create level of awareness and help the employers to come out with the solution to solve the problems faced by employees, an idea of the influence of the job stressors. Better WLB creates more satisfied employees and when employees experience more life satisfaction, they tend to perform better.

### **Introduction and objective:**

Chapter one consists of the general view of job stress, WLB, and life satisfaction among Renewables Energy Sector (RES) employees.

Stress at the workplace has become an increasing phenomenon due to external factors such as technological advancement, changes in the economy of a country which might lead to becoming redundant and so on. Stress can be considered as an inevitable condition at least at one point in time or another; however it can also be minimized to the extent that the productivity and health of the employee is maintained which could lead to a productive organization. Stress is also bound to occur in multinational companies where operation is global and employees have different cultural background.

January to August 2020 will go into the books as a half-year of accumulation of significant events on a global scale, as a result of the COVID-19 crisis. Under these extraordinary circumstances the thesis “Stress management as a tool to ensure renewable business continuity” has been conducted on the basis of database articles on organizations and their strategic decision making in times of severe uncertainty and disruptive dynamics.

For a while now the onus has been put on businesses to behave in a more sustainable and carbon friendly way. We all know that we need to act more responsibly when it comes to the environment and every commercial enterprise needs to be encouraged to do its bit.

International oil and gas companies are increasingly becoming active participants in the renewable energy market within the framework of the energy transition. Most of the companies pursue the goal of diversification and increasing resilience in both the short and long term perspective in the face of changing market conditions.

An increased level of uncertainty in new segment of business, a sharp change in the usual way of life, leaving the "comfort zone" - all this is a fertile ground for stress. It is with this that all of us, our loved ones and our professional environment, to one degree or another, are faced with in connection with the coronavirus pandemic as well.

And stress negatively affects your well-being and productivity. To ensure business continuity and maintain the quality of business processes at the pre-crisis level, it is necessary to neutralize the impact of stress on people.

The energy sector is in transition and undergoing significant structural changes to ensure universal access to affordable, reliable, sustainable and modern energy for all. The Key of the moment is the transformation of energy systems through the integration of various traditional and renewable energy sources in a wide range of capacities. By creating political, market and regulatory environments, countries can attract investment and accelerate innovation with smart grids, efficient, reliable and sustainable technologies. However, countries need to prepare for mitigate potential problems when trying to integrate renewable sources.

The ongoing technological changes are accompanied by the creation of an institutional framework that determines the regulatory, technological and economic rules for the reliable and effective development and functioning of energy systems in new conditions. In other words, there is an active process of creating political, market and regulatory conditions, as well as establishing practices for

planning and operating energy systems that accelerate investment, innovation and the use of smart, efficient, reliable and environmentally friendly technologies.

In such dynamic conditions individuals who work in the renewables industry show a sign of stress and overload because of the high pressure and demand that placed by the organization.

An individual's workload and responsibility give rise to high occupational stress. Job stress had been linked to the negative effects of the employees' well-being and psychological in many occupations. High work-life conflict or low WLB reduced job satisfaction, lower organizational commitment and productivity, higher absenteeism and intention to quit.

People in high-stress condition will have certain negative consequences, however, if the stress can be handled effectively then the stress can result in better performance

#### **State-of the-art literature review:**

For this chapter, it consists the reviews of primary and secondary sources of data done on this topic.

In this chapter we will discuss theories that address the topics of stress. We have chosen theories that assisted us in achieving our aim which is to understand the causes and management of stress at the workplace. To have a clear understanding of the Issue we have chosen the following theories; what stresses an individual and an employee, what causes stress in the workplaces, the relationship between personal stress and job stress. What are the possible consequences and disadvantages of stress both to the employees as well as to organizations and lastly the different approaches used by both employees and organizations to manage stress are discussed. Afterwards a summary and relationship between the theories is made by using a model at the end.

We have decided to start from theories because we wanted to give an idea for the reader of what the main concepts are and why this issue is interesting. In addition, awareness to these concepts would

lead the reader to have a good understanding as he/she moves along reading the chapters and have a clear flow of ideas. After this section we go on to methodology chapter to discuss how we conduct the study.

### **Research methodology and data collection tool:**

It contains of data collection methods, research design, sampling design, measurement scales, and methods of data analysis. This thesis has been made using qualitative approach.

This chapter will introduce the methodological choices used in the thesis. Research philosophies, preunderstandings of the Authors, selection of case company and thesis topic, source criticism, data collection mechanisms, case selection, the process of data analysis, the interview guide, the selection of respondents, ethical considerations and the advantages of face to face interviews are also issues discussed in this chapter.

The choice of the subject was mainly based on the brief and basic previous knowledge obtained in the previous courses namely organization and management of the firm and the intention to develop on this specific issue (stress) considering its relevance in our present and future lives. This study focuses on a multinational company employing different people from different countries and work is interdependent between departments. We found the topic to be relevant and interesting since there is increase of firms that are functional at a global level, thus increasing international exposure thereby also raising the amount of stress.

In our thesis we have used interviews as the primary data collection methods and case study was done on the stress level of employees at RES. In order to attain the objective of our research we also referred to secondary data. As for the secondary data used in this research paper we have used academic articles, books, websites that dealt with stress at the workplace This method increased our ability to collect accurate data related to employees' causes of stress and stress coping mechanisms.

### **Data analysis with critical thinking and discussion:**

Chapter four will show the data and analyze of the results which are related to the research questionnaire.

The process of collection and analysis of data using a qualitative approach gives significance to words as compared to quantification. Since our aim is to study and have a detailed and deeper grasping of the issues regarding stress, we selected a qualitative method for data collection and analysis of data. It is essential to note that a qualitative research strategy is helpful in understanding in-depth the objective of the study.

As a result we would be able to analyze our findings effectively through qualitative research by interpreting the stress causes, consequences and coping mechanism of employees in organizations. As opposed to quantitative research which focuses on scientific models

### **Summary of theories on stress.**

To sum up the theoretical chapter and the core theories discussed in this section, stress, causes of stress and the management of stress with each core theory including subtopics such as symptoms of stress, personality types, factors of stress, workplace factors causing stress, types of stressors, consequences and disadvantages of stress on employees and organizations, employees stress management and organizational approaches to stress management were discussed.

In a nutshell, research background outlines the job stress, life satisfaction and work-life balance among RES employees in Kazakhstan. Moreover, the problem statement highlights the gap and limitation of the studies in the relevant areas. This chapter had described the research objectives, problem statement, and hypotheses of the study which provide guidance for the directions of the study.

## **Summary, conclusion and recommendations:**

The last chapter includes the summary of research and provides the results discussed in previous chapter. In addition, it also contains discussions of major findings, implications of study, limitations of study and recommendations for future research.

We recommend time management as the first and foremost stress management mechanism both from our personal lives and based on this research. We have found it to be the best way to maintain our stress level to a minimum, therefore time management is vital not only in the workplace but at school and also in our daily individual lives.

We also recommend that sharing our Idea and problems helps to provide solutions so therefore this also helps in minimizing stress. Therefore sharing stressful situations with others, sharing of feelings and emotions as much as possible contributes to relieve stress and make an employee better of both at his work and in his personal life. By sharing of ideas we as individuals could get help or advice towards the issue that we found stressful. If necessary it also helps to a great extent to consult these issues with professionals and get the proper remedy before the situation get out of hand and leads to health problems.

We also recommend other companies to provide medical and consultation facilities as well to have a system of workplace where the employee should feel free towards approaching the help centers. This not only helps the employees but also increases the value and perception of the company by showing the value it gives for its employees.

The causes of stress at the work place range from personal problems to work overload, physical working environment, work situation and conflicts among colleagues and managers. Many employees struggle with stress, in worst cases leading to uncertainties and severe impairments on health and performance. The main situations that generate stress are likely uncontrollable, unpredictable, and

some are not known. But alternatively there are several resources available like personal awareness in coping skills. For example: time management, assertiveness, ways to higher up self-confidence and so on. Management can also utilize some resources for reducing the stress level of the employees by providing services and facilities such as health facilities at the company, giving easy and on time access to therapist and also having free time activities and entertainment. Stress is related between the employee and the employer as the performance of the employee is affected by his/her stress level which intern affects the company's productivity. Therefore stress management is Vital for both. The most successful stress management mechanisms found was time management, sharing of feelings and leisure activities.

### **Recommendations for further research**

We come upon some ideas during the research. The recommendations for future studies that we suggest are. First the research should be done on a bigger sample to cover the whole departments. It assist the researchers to generalize findings efficiently and also helps to come up with better results.

We also think that it would be better to consider large number of employees for the future research. It is necessary to have a research and provide data in relation the stress level of employees. This might help the management to understand the sources and causes of stress. Sufficient volume of data improves their actions in reducing the level stress at the organization.

### **Limitations of the study**

The research has been done on a very limited number of respondents under a limited period of time. Though, we tried to do our best to have respondents from different area of specialization. Our research did not include all the representatives from all departments and sections of RES. However, the collected data from interviewees gave strength to our paper and we could explore the topic of stress in relation to our research purpose.



Additionally, we decided to conclude a large sample study to be made by previous researchers related to our subject. Therefore, we searched and tried to find other research paper to have a focus concerning employees' stress on that particular organization, but unfortunately, we could find enough studies to be made related to the evaluation of stress and management of stress at RES, except the one that was quite interesting and we added to our paper. The author of that particular research paper performed it in a good manner with consideration of a large and reasonable sample of study.

So we think that is an advantage for the strength and credibility of our thesis work. As a last word we want to add that the availability of some inconsistent study like the use of insufficient data related to the purpose of the research and exclusion of essential information and also use of limited number of reference to the study reduced our reliance to rely on the every types of study published through different web-sites. Regarding to the fact, it limits our sight to the use every second hand data that we cannot trust upon.

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Various academic articles, books, and websites on workplace stress interviews were used as the main method of data collection.

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alternative energy today? future hub reforum (<https://futurehub.winningthehearts.com> //Renewable energy sources as a new step development for oil and gas companies. © 2019KPMG//Quote end

**“Анализ рынка ячменя в Казахстане 2011-2020 годы и факторы, влияющие на  
волатильность цен. Прогноз 2021- 2025 гг.”**

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Основной целью настоящей диссертационной работы, является научно обоснованный анализ функционирования казахстанского рынка ячменя на основе индикаторов и ключевых показателей, отражающих его развитие в течение 2011-2020 годы и выявление основных факторов определяющих его развитие до 2025 года. Для достижения поставленной цели в работе решаются следующие вопросы и задачи:

- 1) Раскрываются теоретические, концептуальные основы формирования и развития рынка ячменя и факторов его определяющих развитие.
- 2) Проводится ретроспективный анализ ключевых показателей развития рынка ячменя на основе международных источников, таких как ежемесячные отчеты по Оценке мирового предложения и спроса сельскохозяйственной продукции USDA (Департамент Агрокультуры США);
- 3) Используется количественный и качественный методы обработки первичных и вторичных данных. Основными методами сбора и обработки данных являются методы экспертных оценок, статистические методы.

4) В качестве основных показателей и индикаторов, отражающих развития рынка ячменя в работе, используются и анализируются объемы рынка ячменя, объем производства, цена, объем экспорта и т.д.

В этой работе делается вывод о том, что казахстанская отрасль зерновых является одной из перспективных отраслей в формировании ВВП РК. Можно смело утверждать, что высокий спрос на наши зерновые сохраниться в долгосрочной перспективе. Как было отмечено в работе, основным потребителем казахстанского ячменя является Исламская Республика Иран. ИРИ входит в тройку крупнейших мировых потребителей ячменя после КНР и СА. На данный момент емкость рынка импорта ячменя в Иране находится в районе 3,2 млн. тонн, с перспективой роста до 5 млн. тонн к 2025 году. Кроме того, устойчивая динамика роста населения в странах Центральной Азии будет стимулировать высокий спрос. Большие перспективы для экспорта ячменя имеет рынок КНР.

### **Введение и цель**

Одним из важных компонентов успешного развития Республики Казахстан является выращивание и производство различных злаковых культур. В этой связи, необходимо отметить, что в Казахстане наряду с различными злаковыми культурами такими как пшеница, рис, выращивание, обработка и продажа ячменя также является важным источником развития страны и не только в части его внутреннего потребления но и повышения экспортного потенциала страны.

Как показывает анализ различных литературных источников, в республике достаточно много внимания уделяется выращиванию, производству и продаже казахстанского зерна. Не отрицая важности и актуальности выращивания, производства и продажи зерна в Казахстане,

необходимо, на наш взгляд, также повышать значение ячменя в повышении экономического потенциала страны не только в контексте удовлетворения внутреннего спроса, но и внешнего.

Так же, нужно отметить, что сельское хозяйство является ключевой отраслью экономики Казахстана, которая создает около 5% ВВП. В Казахстане на селе проживает около 43% населения, а в отрасли задействовано 1,5 млн человек, поэтому сельское хозяйство является одной из основных сфер деятельности страны.

Интерес к данной теме обусловлен не только значением ячменя как зерновой культуры с высоким потенциалом для экономики Казахстана, но тем, что в экономической литературе и особенно отечественной недостаточно полно и даже редко присутствуют научные обзоры и исследования, посвященные научному, ретроспективному анализу развития рынка ячменя и факторам, влияющим на волатильность цен ячменя.

Целью исследования является научно обоснованный анализ функционирования казахстанского рынка ячменя на основе индикаторов и ключевых показателей, отражающих его развитие в течение 2011-2020 годы и выявление основных факторов определяющих его развитие до 2025 года.

В целях научно обоснованного раскрытия, в работе раскрыты основные факторы влияющие на изменение ценообразования ячменя. Данные факторы раскрываются в работе с позиций их концептуальных определений и понятий. При определении таких факторов как природно-климатические условия выращивания ячменя, площадь производства, численность населения, объем производства, объемы экспорта, цены и приводится не только литературный обзор их определения, но и классически принятое их определение на основе международно принятых документов, стандартов, справочников.

В работе были использованы данные из официальных и международных источников, такие как Министерство Национальной Экономики, Министерство сельского Хозяйства, Зерновой Союз Казахстана, КазАгро и USDA.

Методологической основой проведенного исследования явилось использование количественных и качественных методов научного исследования. Осуществлен детальный 10-летний анализ функционирования рынка ячменя в русле выяснения причинно-следственных связей. Причем, в качестве зависимой переменной анализа явилась цена ячменя на международных рынках.

## **Обзор литературы.**

### **1.1 Теоретические, концептуальные основы функционирования рынка ячменя и факторов, определяющих его развитие**

Раскрывая основные концепции или понятия в исследовании рынка ячменя, отметим, что они связаны с различными взаимосвязанными показателями и факторами, воздействующими на него. К их числу можно отнести природно-климатические условия выращивания, размер посевных площадей, население страны, конкурентоспособные страны производители, страны потребители, волатильность цен или спрос и предложение на данном рынке, причем не только на внутреннем, но и на международном.

Как показывает анализ литературы, при определении природно-климатических условий в выращивании ячменя необходимы особые условия. Так, например, как отмечает Д. Шпара, для выращивания ярового ячменя необходимы места, которые допускают ранний посев. Он лучше развивается при более прохладной погоде с медленно повышающимися температурами.

В то же время, для выращивания озимого ячменя необходимы условия температура весной повышается постепенно, а быстрое потепление весной вызывает быстрый выход в трубку и не позволяет достичь необходимой для высоких урожаев густоты стеблестоя.

Исходя из вышеизложенного, в качестве концептуального обозначения страны производителя ячменя через призму природно-климатических условий мы бы отметили, что к этим странам относятся страны как наличие у них прохладной погоды с медленно повышающимися температурами.

Это является основной причиной того, что в выращивании ячменя не все страны могут быть полноправными участниками.

Важным фактором, оказывающим влияющим на функционирование рынка ячменя, является размер посевных площадей. Конечно, в современных условиях, научно-технический прогресс, или интенсивный тип выращивания оказывает большое влияние

на выращивание ячменя, однако экстенсивный тип или увеличение размеров площадей оказывает немаловажное влияние на объем выращиваемого ячменя.

Как и размер площадей на объем выращиваемого ячменя, оказывает влияние такой фактор как численность населения страны. Как было отмечено выше выращивание ячменя нацелено не только удовлетворение внешнего спроса, но внутреннего. Внутренний же спрос, в определенной степени, связан с численностью населения данной страны.

Как отмечается аналитическим центром при Правительстве Российской Федерации, «к ключевым факторам, определяющим спрос на зерновые культуры, относятся численность населения и уровень развития экономик, кроме того, к этим факторам они относят: —

урожайность, плодородие земель и агрометеорологические условия; — размеры посевных площадей, связанные с наличием пахотных земель и рентабельностью выращивания той или иной зерновой культуры. Кроме того, как отмечается в отчете, «фактором, интегрально влияющим на уровень издержек при производстве зерна, является цена на нефть, которая непосредственно воздействует на энергетические затраты фермеров, а косвенно — на стоимость удобрений»

## **1.2 Экспорт ячменя из Казахстана и внешнеэкономические факторы, влияющие на экспорт ячменя.**

Урожай, собранный в 2018 маркетинговом году казахстанского ячменя, является самым большим за последние 24 года. На фоне увеличения объемов производства ячменя до 3 972,2 тыс. тонн растет и спрос, в первую очередь со стороны Ирана. Экспорт ячменя из Казахстана в текущем сезоне показывает впечатляющий рост. По данным USAID, за 2018/19 МГ экспорт ячменя составил почти 1,8 млн. тонн, что превышает уровень аналогичного периода прошлого сезона на 45% и составляет более 60% годового объема экспорта сезона-2017/18.

Основным потребителем казахстанского ячменя, как и в предыдущие 3 сезона, является Иран. Доля экспорта в эту страну не падает ниже 90% от общего экспорта ячменя последние 3 года. Спрос на данную зерновую не снижается, о чем свидетельствуют растущие цены, которые также являются самыми высокими за последние 3 года. Согласно данным, ОЮЛ ЗСК средняя экспортная цена казахстанского ячменя составляет 220-230 долларов США на FOB Актау. Учитывая высокую динамику, объем экспорта ячменя в 2019/20 МГ может стать самым большим за всю современную историю Казахстана.

Исламская Республика Иран является одной из крупных экономик в исламском мире после Турции в Западной Азии. По конкурентоспособности занимает 76 место, по индексу

экономики занимает 94 место в мире. По оценкам специалистов, население Ирана составляет порядка 80-88 млн. человек. Из-за преобладающего горного рельефа, к пашне пригодно только 20% территории, всего орошается не более 7,5 млн. га земли. Вышеперечисленные факторы, а также американскими экономическими санкциями, вынудили Иран импортировать практически все конечные товары. Основные статьи экспорта ИРИ являются сырая нефть и продукты переработки нефти, руды металлов. Основные статьи импорта: продукция тяжёлого машиностроения и химической промышленности, автомобили, железо, сталь, минеральное сырьё, текстиль, бумага, товары сельхоз-назначения.

Согласно, данным USAD, мировой рынок ячменя находится в пределах 30 000 тыс. тонн в год. Основными производителями и экспортерами являются: ЕС – 6 500 тыс. тонн, РФ – 5 600 тыс. тонн, Украина – 5 000 тыс. тонн, Австралия – 3 800 тыс. тонн, Аргентина 3 200 тыс. тонн, Канада – 2 500 тыс. тонн, а также Казахстан – 1 800 тыс. тонн. Основными импортерами являются: СА – 8 500 тыс. тонн, КНР – 6 500 тыс. тонн, ИРИ – 3 200 тыс., тонн, Япония – 1 200 тыс. тонн, Иордания – 1 100 тыс. тонн, Марокко – 1 000 тыс. тонн.

**Внешнеэкономические и внутренние факторы, способствующие увеличению и дальнейшему развитию казахстанского экспорта ячменя:**

- Увеличение посевных площадей под выращивание ячменя, а также более высокая урожайность в пределах 16 ц/га;
- Наличие двух морских зерновых терминалов в порту Актау с круглогодичной навигацией и большими мощностями по перевалке (АО "Ак-Бидай" и ТОО "Актауский морской северный терминал");



- Возросший спрос в странах Центральной Азии, в силу высокой плотности населения, а также засушливого климата. (Узбекистан, Таджикистан, Афганистан);
- Высокий спрос в Иране. Доля Ирана в мировом импорте зерновых составляет 3.3%, по оценкам специалистов, эта доля вырастет до 4%, примерно до 5 000 тыс. тонн ячменя. В ноябре 2018 года США возобновили экономические санкции в отношении Ирана, в частности отключили иранские банки от международной платежной системы SWIFT. Отмечу, что импорт продовольствия прямым образом не подпадает под объявленные США санкции, однако финансовый сектор Ирана испытывает серьезное санкционное давление;
- Подписание Министерства Сельского Хозяйства РК и ГУНККИК КНР в декабре 2018 г. протокола согласования фитосанитарных требований для экспорта ячменя из РК в Китай и соответствующая аккредитация казахстанских предприятий.

В целом, исходя из выше проведенного теоретического и практического анализа, основными факторами, определяющими волатильность цен на ячмень, являются: размер посевной площади, численность населения страны импортера, ВВП страны импортера, ВВП страны экспортера.

### **Методология исследования**

Основным методологическим инструментом исследования рынка ячменя явился количественный и качественный анализ основных показателей по выращиванию и потреблению ячменя в основных странах производителях и потребителях. В число основных показателей анализа вошли экономический потенциал страны производителя, численность его населения, размер посевной площади и цена продажи по годам. Временным периодом послужили данные за 2001-2019 годы. В целях сопоставимости и надежности основными

источниками данных послужили данные Министерства экономики Республики Казахстан, данные Министерства сельского хозяйства Республики Казахстан, данные различных международных организаций и ведомств. В частности данные Департамента Сельского Хозяйства Соединенных Штатов Америки.

При построении методологии и анализе модели цены ячменя авторы сформировали и исследовали следующие гипотезы:

H1. Цена ячмень зависит от экономического потенциала страны экспортёра;

H2. Цена ячменя зависит от размера посевных площадей стран экспортеров;

H3: Цена ячменя зависит от численности населения страны импортера.

H4. Цена ячменя зависит от экономического потенциала страны импортера;

В основе расчетов развития рынка ячменя, явилось использование корреляционно-регрессионного анализа показателей, определяющих экспорт и импорт ячменя по основным странам производителям и потребителям.

В числе основных исследуемых переменных явились такие переменные как цена ячменя, ВВП страны импортера и экспортера, численность населения страны импортера, размер посевных площадей страны экспортера. При расчетах основной зависимой переменной явилась цена ячменя, а остальные были независимыми переменными. Основным программным обеспечением в проведении расчетов явилась программа SPSS.

Основной сутью в проведении анализа явилось не только определение тренда или динамики роста экспорта (импорта), но и определение коэффициентов регрессии основных факторов, влияющих на цену ячменя (ВВП, население, Цена и т.д.)

На основе рассчитанных коэффициентов регрессии приводиться прогноз цены ячменя до 2025 года.

#### **Анализ данных:**

Казахстанская отрасль зерновых является одной из перспективных отраслей после нефтяной и металлургической. За последние 10 лет сформировался пул традиционных потребителей нашего зерна. Традиционные импортёры зерна в силу высокой плотности населения и природно-климатических условий не обеспечены собственным производством. Можно смело утверждать, что высокий спрос на наши зерновые сохранится в долгосрочной перспективе. Как было отмечено в работе, основным потребителем казахстанского ячменя является Исламская Республика Иран. ИРИ входит в тройку крупнейших мировых потребителей ячменя после КНР и СА. На данный момент емкость рынка импорта ячменя в Иране находится в районе 3,2 млн. тонн, с перспективой роста до 5 млн. тонн к 2025 году. Кроме того, устойчивая динамика роста населения в странах Центральной Азии будет стимулировать высокий спрос. Большие перспективы для экспорта ячменя имеет рынок КНР. Наши элеваторы и товаропроизводители начали проходить лицензирование для получения квот от COFCO. Как известно, COFCO контролирует более 90% квот на импорт зерновых в Китай.

Благодаря большому притоку инвестиции в размере 4 млрд. долларов США со стороны государства за последние десятилетие и привлечение новых технологий в зерновую отрасль создан устойчивый производственный фундамент. Несмотря на высокие риски, периодические засушливые годы, в долгосрочной перспективе зерновая отрасль сохраняет инвестиционную привлекательность. Кроме того, государство создает программы субсидирования, которые позволяют возместить часть затрат на постройку зерновых хранилищ, на покрытие части железнодорожных услуг, а также на проведение весне-полевых работ.

## **Вывод:**

Зерновые являются важнейшим объектом внешнеэкономических торговых связей. Главными зерносеющими регионами являются Акмолинская, Костанайская и Северо-Казахстанская области, на долю которых приходится около 75% всех посевных площадей и 85% валового сбора зерновых культур. Казахстан - один из ведущих стран - производителей продовольственной пшеницы мягких сортов, пшеницы дурум (твердых сортов), ячменя, чечевицы и муки. Географическое расположение ограничивает возможности доступа отечественных экспортеров к глобальным рынкам зерновых. На данный момент стратегия экспорта отечественного зерна направлена на пограничные или близлежащие к Казахстану рынки сбыта, куда реализуется более 75% экспорта зерна от всего экспорта зерна РК. Но к нашему счастью, ближайшие рынки являются самыми крупными импортерами зерновых, а спрос на этих рынках будет только расти в геометрической прогрессии. По оценкам специалистов из КазАгро, экспорт ячменя может прибавлять дополнительно от 200 до 500 тыс. тонн ежегодно. По моим субъективным оценкам, экспортный потенциал из Казахстана может увеличиться до 2,3 млн. тонн до 2025 года. Иными словами, с текущих 1,8 млн. тонн до 2,3 млн. тонн, примерно по 150 тыс. тонн. Исходя из данных USAID, за последние 10 лет импорт ячменя в Иране вырос в 5 раз, с 500 тысяч тонн до 3,2 млн. тонн. В ближайшей перспективе, для нас откроется Китайский рынок ячменя от 200 до 500 тыс. тонн в год. Потребление в странах ЦА может увеличиться до 100 тыс. тонн.

Согласно установленным гипотезам, можно сделать вывод, что цена ячменя не зависит только от одного определенного фактора. Существует ряд факторов влияния такие как размер посевной площади, численность населения страны импортера, ВВП страны импортера, ВВП страны экспортера, которые определяют волатильность цен на ячмень.

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## Анализ текущих вызовов для нефтегазовых компаний

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### 1. Введение

Развитие человечества непрерывно движется вперед, соответственно растет и количество вызовов для нефтегазовых компаний связанных не только геологической неопределенностью, технологическими проблемами, цена на нефть и газ, COVID-19, также ограничение выбросов в атмосферу и внедрение углеродного налога потребуют дополнительных усилий.

В данной работе пойдет речь об текущих вызовах для нефтегазовых компаний, также влияния программных продуктов для расчётов математических моделей, на примере разработки месторождения, а также влияния погрешностей на исходные и выходные данные. Эти данные далее закладываются в бюджет компании и может даже стран, в основном зависящих от экспорта нефти и газа, а также их составляющих.

Компьютерное моделирование используется для подсчета запасов нефти и проектирования разработки месторождения. В основном, все крупные компании используют компьютерные модели, построенные с помощью программных пакетов разных производителей, но наиболее зарекомендованным является компания Schlumberger.

Анализ чувствительности представляет собой стандартный метод количественной оценки рисков, который заключается в изменении значений критических параметров. Полученные данные подставляются в модель оценки рисков нефтегазодобывающего предприятия и в расчеты показателей эффективности при каждом таком изменении.

Запасы нефти – является богатством за которым непрерывно ведется борьба, начиная с самого обнаружения нефти в конце 19 века и по сей день, на примере Венесуэлы и Ливии. И только доказанные запасы нефти имеют наибольшую значимость, которые предполагается коммерчески извлечь в результате реализации проектов разработки известных залежей с заданной даты при определенных условиях.

Компании для своей выгоды иногда завышают нефтяные запасы, что на примере компании Shell привело к отставке руководства, штрафам и потери общего доверия к этой компаний, также снижению цен на акции.

Казахстан является сырьевой страной и занимает 12 место по доказанным запасам нефти, 13 месте по добыче нефти. Ввиду этого, цена на нефть имеет значительное влияние на экономику страны. Текущие цены на нефть достигли исторических минимумов, но ввиду растущего населения земли и спроса, через некоторое время в течении 1-2 лет, цены опять начнут расти, что должно улучшить экономическую ситуацию. С другой стороны, это может быть и

сигналом для сырьевых стран, в необходимости в переключения в диверсификацию экономики на другие сектора. К примеру, иностранные компании начали вкладывать инвестиции в ветровые и солнечные источники энергии на территории Казахстана, это очень обнадеживает и в скором будущем в стране наладится переработка, металлов, нефти и других полезных ископаемых.

## 2. Теоретическая часть

### ▪ Моделирование

По определению, моделирование - это метод воспроизведения и исследования определённого явления, процесса, основанного на вводных данных. К примеру, любое нефтегазовое месторождение является большой неопределенностью с самого обнаружения, ввиду этого строятся разные виды моделей воспроизводящие физические процессы в пласте.

В основном выделяют следующие методы моделирования: простые аналитические методы, стохастические и гидродинамическое моделирование. Математические методы моделирования нефтяных и газовых коллекторов стали активно применяться в середине прошлого столетия, последовательно ставшие наиболее популярными в наши дни. Как известно модели состоят из систем уравнений.

Компьютерное моделирование прочно вошло в практику подсчета запасов и проектирования разработки. В основном, все крупные компании используют компьютерные модели разрабатываемых месторождений, построенные с помощью программных пакетов разных производителей, но наиболее зарекомендованным является компания Schlumberger. В частности по части геологии можно выделить программный софт Petrel<sup>24</sup>, а для гидродинамического моделирования хорошо зарекомендована программа Eclipse<sup>25</sup>.

С этими двумя программами вполне можно проводить полный цикл анализа, начиная с обнаружения и до завершения разработки того или иного месторождения.

### ▪ Запасы

Запасы разделяются на геологические и извлекаемые, разница заключается в коэффициенте извлечения (КИН) который варьируется согласно качеству пласта и применяемой технологии добычи (Диаграмма 1).

Геологические запасы можно определить по следующей формуле объемным методом:

$$Q_{n0} = F * h_{\text{эф.н}} * K_{\text{п}} * K_{\text{н}} * \theta_{\text{н}} * \sigma_{\text{н}}$$

- $Q_{n0}$  – начальные геологические запасы, тыс. тонн (далее переводят в баррели);

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<sup>24</sup> Petrel – один из мощнейших инструментов по обработке данных, начиная с сеймики и заканчивая созданием геологических данных, в настоящем происходит слияние, также пакета гидродинамического моделирование, что приведет к объединению в единую мощную программу.

<sup>25</sup> Первоначально Eclipse был написан на языке программирования FORTRAN, в дальнейшем была обновлена дополнительными пакетами для обработки, анализа исходных и выходных данных.

- $F$  – площадь залежи, тыс. м<sup>2</sup>
- $h_{эф.н}$  – эффективная нефтенасыщенная толщина, м;
- $K_n$  – коэффициент пористости пласта, т.е. поры, заполненные пластовым флюидом, доли ед. или проценты;
- $K_n$  – коэффициент нефтенасыщенности пласта, находящаяся во время проведения каротажа и определяют в пропорции находятся нефть газ и вода, доли ед. или проценты;
- $\theta_n$  – пересчетный коэффициент, учитывающий усадку нефти доли ед.;
- $\sigma_n$  – плотность нефти в поверхностных условиях, т/м<sup>3</sup>;

На примере месторождении Великобритании, где применяются последние технологии по добыче нефти, так и по анализу данных, можно выделить некоторые месторождения, достигающие КИН больше 50%, как видно и качество<sup>26</sup> пласта и месторождения значительно лучше. Если сравнить месторождения Казахстана, где КИН может достигать 30 - 40%.

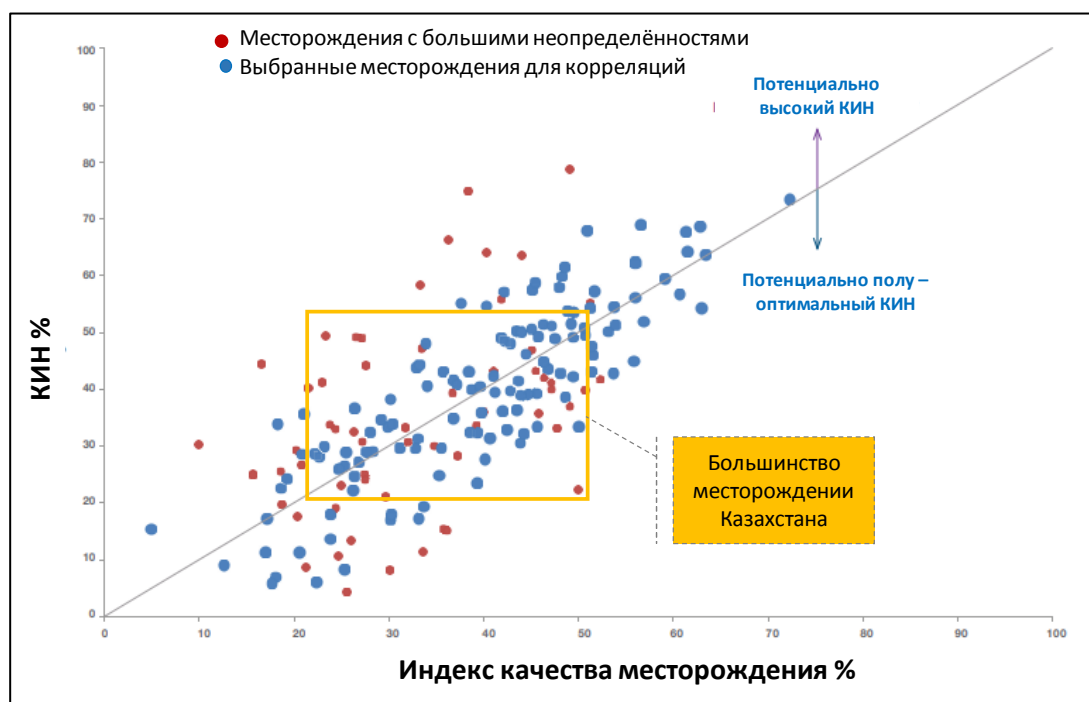


Диаграмма 1 Изменение Коэффициента Извлечения Нефти с Качеством пласта или месторождения

<sup>26</sup> Имеется ввиду, как можно больше добыть нефти и меньше оставить в пласте, разделяются по качеству породы, также качеству нефти, в основном на песчаные (свойства лучше) и карбонатные месторождения (в виду присутствия трещиноватых или ухудшенных свойств).



Извлекаемые запасы находятся по упрощенной формуле ниже и по международной классификаций разделяются на доказанные<sup>27</sup> (разведанные), вероятные (предварительно оцененные) и возможные (перспективные).

$$N_p = Q_{no} * RF$$

- $N_p$  –извлекаемые запасы тыс. тонн;
- $RF$  – Коэффициент Извлечения Нефти (КИН), доли ед.;

Нефть и акции нефтяных компании торгуется на биржевых площадках Лондона, Сингапура и Нью-Йорка, где одно из правил учитывать только доказанные запасы нефти, которые являются и капитализацией компании.

Доказанные Запасы - это такое количество нефти<sup>28</sup>, которые на основании анализа геолого-геофизических и технологических данных, можно с обоснованной уверенностью оценить [6].

#### ▪ Анализ чувствительности

Неопределенность в объёмах запасов способствует планированию эксперимента, которая является процедурой выбора числа и условий проведения опытов, необходимых и достаточных для решения задач с наименьшими погрешностями. Последующие действия могут применяться для анализа чувствительности на месторождениях:

- Выявляются параметры пласта, которые имеют значительное влияние на запасы (например, геологические и геофизические данные);
- К примеру, можно выбрать 79 случаев при помощи центрального композиционного плана (ЦКП) для получения линейной модели и 20 случаев для подтверждения выборки;
- Потом проводится прокси моделирование и метод генераций случайных величин Монте-Карло;
- После этого строится кривая распределения и в конце анализа выводится 3 вида категорий запасов: доказанные (P90), вероятные (P50) и возможные (P10).

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<sup>27</sup> Доказанные запасы сертифицируются независимыми компаниями и утверждаются Комиссией по ценным бумагам и биржам США (англ. The United States Securities and Exchange Commission, SEC) - агентство правительства США является главным органом.

<sup>28</sup> Может быть не только нефть, но и газ, газоконденсатная смесь.

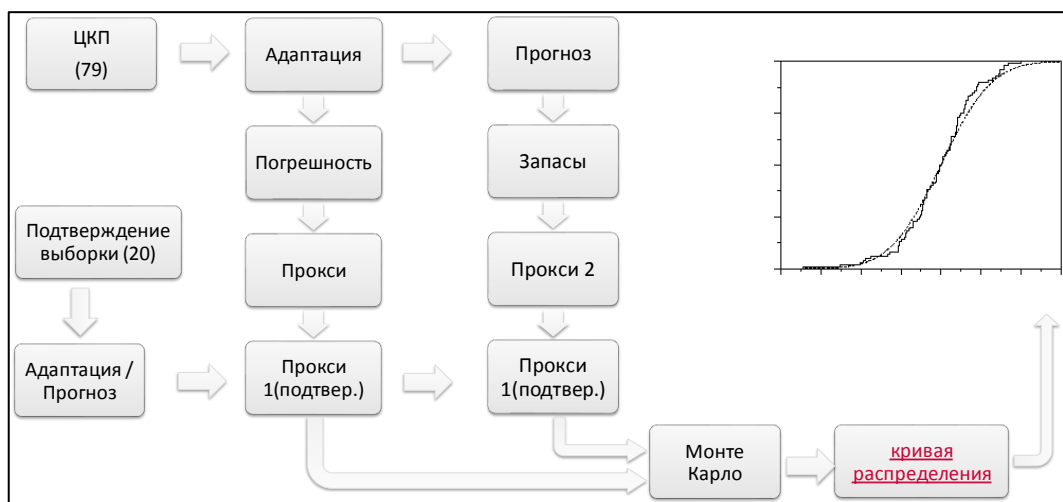


Диаграмма 2 Последовательность проведения плана эксперимента по оценке запасов

### 3. Методология исследования

Добыча нефти становится все неопределеннее с появлением новых вызовов таких как введение углеродного налога и с текущей ситуацией с Ковид 19 пандемией. Помимо, с усложняющимися условиями добычи и затратными изучениями новых нефтегазовых месторождения связанных с геологическими неопределенностями, обводненностью и т.д., ниже показан набросок возможных проблем, с которыми сталкиваются компании и требующие решения. В частности, можно перечислить в этом порядке:

- Цена на нефть – одна из ключевых факторов, способных влиять на существование компании и ее активов, в том числе персонал компании, что связано с социальным воздействием.
- Поддержание добычи или запланированной полки добычи нефти и газа, с постоянным усложняющимися технологическими проблемами и геологической неопределенностью.
- Получение займов с банковских институтов становится также сложнее, например относительно других сфер, например связанных с ИТ.
- Кибер опасность становится еще одной частью затрат компании, в то время как приходится сокращать операционные затраты.
- Экологические факторы, бережное отношение к водным ресурсам также требует значительного внимания, также затрат, что, конечно, должно отразиться в будущем и следующее поколение должно перенять и воплощать эстафету.
- Снижение выбросов в атмосферу – еще один из текущих влияющих вызовов, который повлечет внедрение углеродного закона.
- И конечно, COVID-19, также другие вызовы или “black swon” входит в обычную практику перестраховки, что усиливает неопределенность во всех сферах.

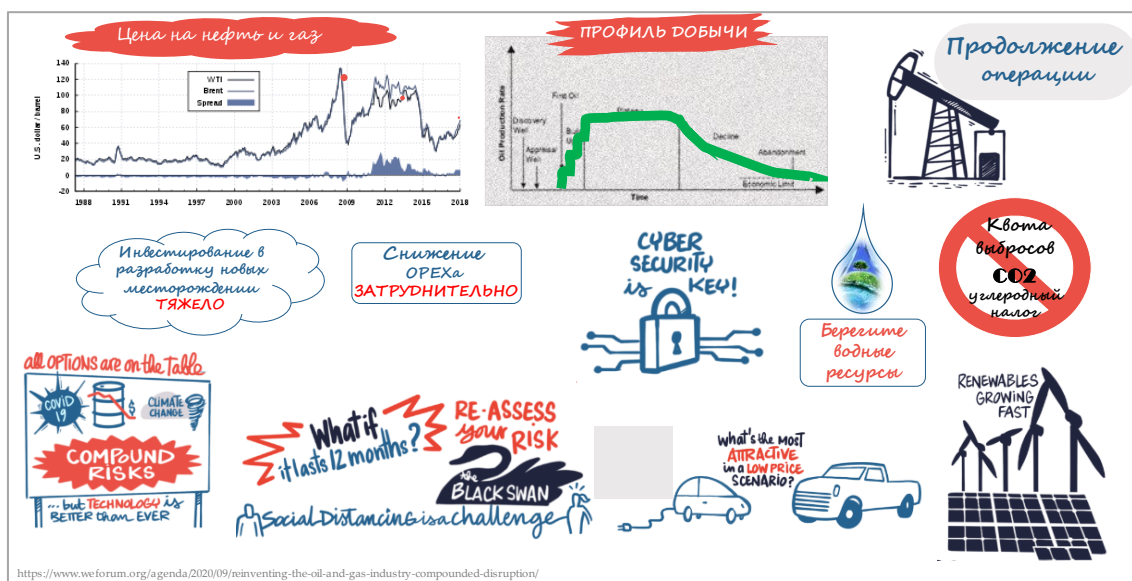


Диаграмма 3 Набросок с вызовами нефтегазовых компании

### ■ Погрешности в моделирование

Гидродинамические модели используются для обоснования и выбора концепции геологического строения пластов, составления проектных документов на разработку нефтяных месторождений и подсчета извлекаемых запасов при различных вариантах разработки. В добывающих компаниях, общепринятая погрешность в рамках между замеренными данными и данными моделирования следующие:

- отклонение расчетной накопленной добычи жидкости и нефти/газа не должно превышать 5 %;
- отклонение расчетной годовой добычи жидкости и нефти/газа не должно превышать 10 %;
- отклонение расчетного тренда пластового и забойного давлений не должно превышать 25 %.

Теоретически, анализ чувствительности должен покрыть неопределенности, связанные с погрешностями. Анализ чувствительности представляет собой стандартный метод количественной оценки рисков, который заключается в изменении значений критических параметров, подстановке их в модель оценки рисков нефтегазодобывающего предприятия и расчете показателей эффективности при каждом таком изменении.

Анализ чувствительности очень нагляден, однако главным его недостатком является то, что анализируется влияние только одного из факторов, остальные считаются неизменными. На практике же обычно изменяется сразу несколько показателей. Оценить подобную ситуацию помогает сценарный анализ. Для начала необходимо определить перечень критических факторов, которые будут изменяться одновременно. Для этого, используя результаты анализа чувствительности, можно выбрать факторы, оказывающие наибольшее влияние на результат проекта.

## ▪ **Завышение запасов нефти компанией Shell**

В 2004 году Royal Dutch / Shell Group заявила, что завышение доказанных запасов нефти и газа привело к преувеличению прибыли на 276 миллионов долларов, а «неуместный» учет в других областях привел к увеличению прибыли на дополнительные 156 миллионов долларов.

Пересмотр произошел после серии раскрытий, комиссией по ценным бумагам и биржам США, которые в целом сократили заявленные запасы компании почти на четверть и привели к уходу нескольких высших руководителей.

Самый большой пересмотр в сторону понижения произошел в 2002 году, когда неправильный учет привел к завышению прибыли на 208 миллионов долларов. В 2001 году сокращение составило 56 миллионов долларов США; в 2000 году это было 122 миллиона долларов. До 2000 года это было 46 миллионов долларов.

Компания раскрыла завышенную прибыль в заявлении в Комиссию по ценным бумагам и биржам, объяснив, что в дополнение к учету проблемных запасов она также допускала ошибки в способах учета затрат на разведку, определенных газовых контрактов и прибыли на акцию.

В результате капитального ремонта чистая прибыль Royal / Dutch Shell в 2001 году снизилась до 10,35 млрд долларов с 10,85 млрд долларов, заявленных в феврале 2002 года, а чистая прибыль в 2000 году увеличилась незначительно до 12,87 млрд долларов по сравнению с 12,7 млрд долларов в начале 2001 года.

В череде четырех пересчетов, начавшихся в январе, Shell снизила свои доказанные запасы на 4,47 млрд баррелей, или на 23 процента.

Завышение резервов привело к отставке руководства и привлекло внимание регуляторов в США и Европе.

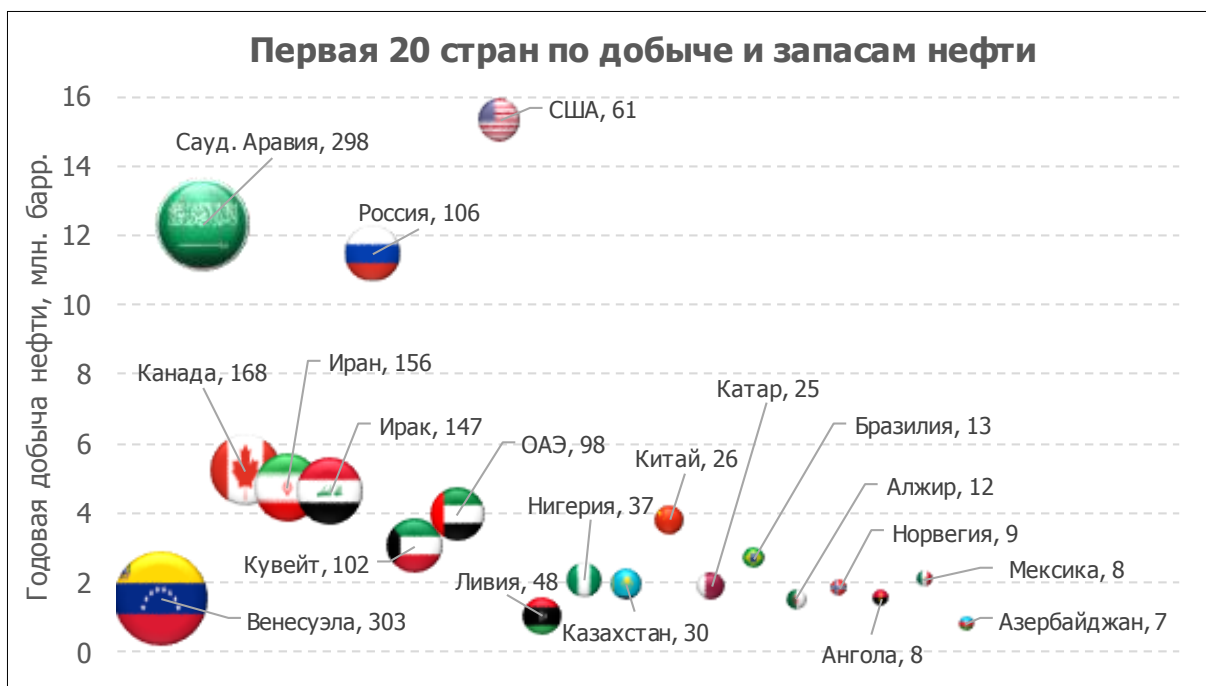
У Shell необычная двусторонняя структура, в которой Королевская голландская нефтяная компания Нидерландов контролирует 60 процентов группы, а британская транспортная и торговая компания Shell - оставшиеся 40 процентов.

Такая манипуляция с запасами нефти и газа происходят, довольно часто в энергетических компаниях, ввиду того, что фактически невозможно точно предсказать какое количество нефти и газа находится в том или ином месторождении.

## ▪ **Запасы нефти Казахстана**

Запасы нефти – является богатством за которым непрерывно ведется борьба, начиная с самого обнаружения нефти в конце 19 века и по сей день, на примере Венесуэлы и Ливии. Запасы – это количество нефти, которые предполагается коммерчески извлечь в результате

реализации проектов разработки известных залежей с заданной даты при определенных условиях. Запасы должны удовлетворять четырем критериям: быть открытыми, извлекаемыми, коммерчески целесообразными и остаточными (на дату оценки) при реализации конкретного проекта (проектов) разработки.



*Диаграмма 4 Первая 20 стран по добыче и запасам нефти*

В Казахстане преобладают в основном зрелые месторождения<sup>29</sup>, открытые 50-70 годах прошлого столетия. В то же время гигантские месторождения такие, как Тенгиз, Карачаганак и Кашаган еще находятся на стадии изучения и дальнейшего развития. Поэтапный анализ данных моделирования, способствует принятию дальнейших решения по разработке, построению плана для увеличения добычи. Полученные результаты отражается запасами, что очень экономически выгодно для инвесторов, недропользователей.

Казахстан сырьевая страна, и экономика в значительной части зависит от цены на нефть. Как видно из кривых в диаграмме, текущие цены на нефть достигли исторических минимумов, но ввиду растущего населения земли и спроса, есть вероятность что через некоторое время в течении 1-2 лет, цены опять начнут расти, что улучшить экономическую ситуацию. С другой стороны, это может быть и сигналом для сырьевых стран, в необходимости в переключении в диверсификацию экономики на другие сектора. К примеру, иностранные компании начали вкладывать в ветровые и солнечные источники энергии на территории Казахстана, это обнадеживает что в скором будущем в стране наладится переработка металлов, нефти и других полезных ископаемых.

<sup>29</sup> Имеются ввиду месторождения, находящиеся на стадии добычи, например, первые месторождения такие как Доссор уже истощены и ликвидированы.

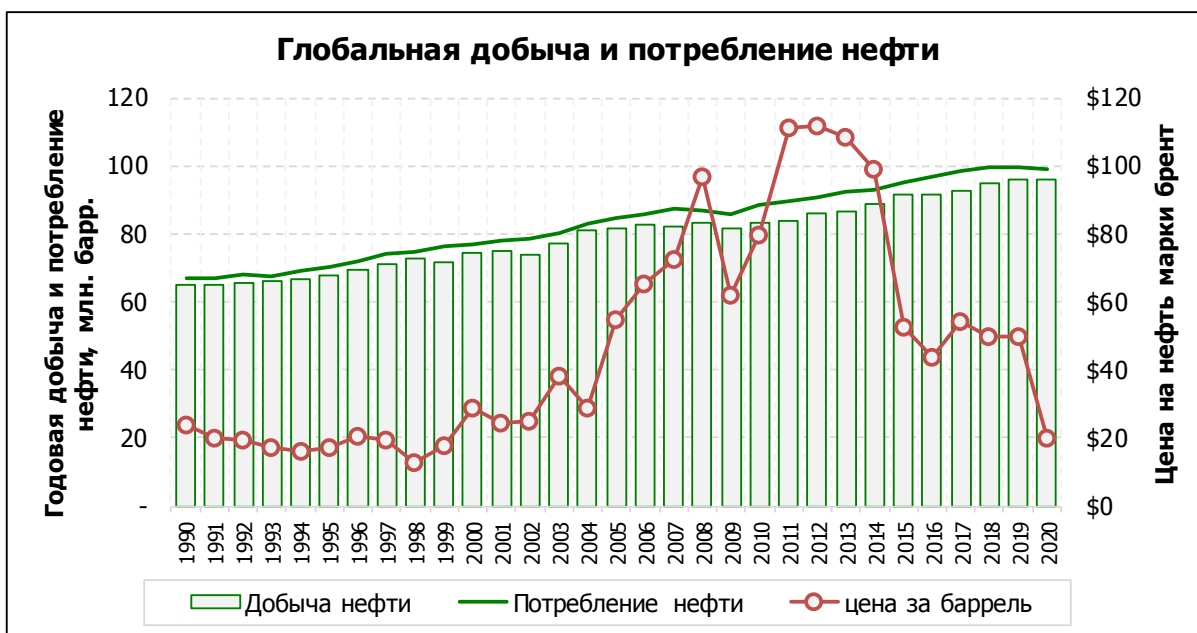


Диаграмма 5 Глобальная добыча и потребление нефти

#### 4. Выводы

Ввиду того, что Казахстан сырьевая страна и экономика в значительной части зависит от цены на нефть. Текущие вызовы, с которыми сталкиваются компании, в значительной степени повлияют на нефтегазовый сектор, где в свою очередь возможно компании изменят курс в сторону зеленой энергетики, потребуется десятилетие чтобы разобраться в правильности этого решения.

В то же время, по доказанным запасам нефти Казахстан занимает 12 место, 13 месте по добыче нефти, являются привлекательными для инвесторов. На текущий момент, цены на нефть поднялись из исторических минимумов, но ввиду растущего населения земли и спроса, через некоторое время, цены опять должны расти, что улучшить экономическую ситуацию. С другой стороны, это может и послание для сырьевых стран о необходимости переключения в диверсификацию экономики на другие сектора. Иностранные компании уже начали вкладывать в ветровые и солнечные источники энергии на территории Казахстана, это очень обнадеживает и верится в скором будущем в стране наладится и переработка сырых нефти, металлов и других полезных ископаемых.

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## «Особенности развития женского лидерства в Казахстане»

Хамитова Айжан, ID 20191801, EMBA

### **Аннотация:**

Целью данной работы является изучение особенностей формирования женского лидерства в Республике Казахстане, одной из центрально-азиатских стран, описание сложностей при профессиональном и личностном становлении успешных женщин, выделение региональных особенностей отношения общества к таким женщинам.

Объектом «женского» исследования стали мужчины (152 респондента) в возрасте от 20 лет и старше 50-ти, достигшие различного уровня в профессиональной, служебной и социальной иерархии. Им было предложено ответить на несколько вопросов, а также высказать личное мнение о проблеме женского лидерства в стране. В следующем этапе исследования планируется провести опрос среди женщин двух групп: женщин-управленцев и женщин среднего и младшего звена. В качестве объективного критерия успешности женщин-лидеров в развитии их карьеры будут рассматриваться достигнутый ими должностной статус, скорость карьерного продвижения, сложности, с которыми им приходится сталкиваться в социуме и в бизнесе, и как результат - уровень удовлетворенности их положением (семья, карьера, достаток, здоровье и тд). Вторая категория будет рассматриваться с точки зрения планирования их жизненного и карьерного пути, готовности столкнуться со сложностями и пониманием уровня этих трудностей.

### **Основная часть:**

#### **Анализ особенностей женского лидерства.**

Эксперты, занимающиеся вопросами женского лидерства, подробно изучают препятствия, которые общество выставляет перед женщинами на пути к лидерству. И они отмечают существование понятия "стеклянный потолок" ("glass ceiling"): это невидимая, но реальная преграда, на которую наталкивается женщина-лидер, когда пытается достичь вершин успеха; для мужчин такой преграды не существует. Исследования подтвердили, что женщины имели больше препятствий для служебного роста, чем мужчины.

Одним из главных препятствий является отношение окружающих. Оно проявляется в осуждении и близких и друзей (особенно в азиатских странах), в устоявшемся предпочтении иметь на позиции босса мужчину, а также в скептицизме мужчин-управленцев по отношению к женщинам-лидерам. В большей психологической изоляции оказываются именно успешные женщины-менеджеры.

В то же время сравнительный анализ мужского и женского менеджмента позволяет говорить о том, что женщина-лидер зачастую действуют более успешно, обеспечивая более устойчивые условия существования для своего предприятия.



На основе исследований российских психологов можно составить перечень отличительных характеристик женщин и мужчин — лидеров — руководителей.

#### Гендерные отличия в управленческой деятельности

Таблица 1.

<b>Характеристики</b>	<b>Мужчины</b>	<b>Женщины</b>
Способ преодоления препятствий	Интеллект, сила	Хитрость, ловкость
Ориентированность на проблемы	Перспективная	Текущая
Направленность	На задачу	На межличностные отношения
Потребность в эмоциональных стимулах	Пониженная	Повышенная
Основа решений	Рассудок	Чувства
Характер	Замкнутый	Открытый
Отношение к внешнему миру	Реалистическое	Идеализированное
Поведение	Сдержанное	Эмоциональное
Тип мышления	Словесно-логический	Наглядно-действенный
Объект внимания	Содержание	Форма
Наблюдательность и точность	Пониженные	Повышенные
Ориентированность	Деловая	Личная
Отношение к другим	Прямолинейность	Гибкость
Действие словесного поощрения	Расслабляющее	Возбуждающее
Реакция на критику	Агрессивная	Спокойная

Мы считаем, что рассмотренные выше особенности поведения женщины-лидера далеко не являются полным перечнем, и позволяют нам опровергнуть традиционное представление об ограниченных возможностях женщины-руководителя. Женщины-лидеры достигают высот не в результате копирования мужского стиля управления, а путем использования своих творческих способностей, реализации внутренне присущих только женщине черт и качеств.

## **Введение и цель:**

Предметом данного исследования стали особенности женского лидерства, в том числе и на примере Казахстана, его формирование и отношение мужского населения к этой проблеме.

Основную гипотезу исследования можно сформулировать следующим образом: существует комплекс социально-психологических характеристик менталитета в нашем регионе, которые оказывают влияние на процесс формирования женского лидерства в стране. И несмотря на то, что за рубежом исследование психологии женской карьеры имеет почти тридцатилетнюю историю, в странах Центральной Азии эта тема еще мало изучена и представляет интерес.

## **Обзор современной литературы:**

1. Отчеты и обзоры McKinsey & Company:

а) <https://www.mckinsey.com/featured-insights/gender-equality/women-in-the-workplace-2018>;

б) Women in the Workplace, 2018

в) "Women Matter Time to accelerate .Ten years of insights into gender diversity», 2017

2. USAID, 2018. «Advancing Gender in the Environment: Making the case for women in the energy sector»

3. «Роль женщин в энергетическом секторе Казахстана», Совместное исследование KAZENERGY и Европейского банка реконструкции и развития (ЕБРР) -IV Форум Женского энергетического клуба KAZENERGY, г. Нур-Султан, 25 сентября 2019 г.

4. Печатные и электронные издания, брошюры.

## **Методология исследования и инструмент сбора данных:**

Феномен лидерства изучается различными науками, такими как психология, политология, история, социология, философия и т.д. Все они рассматривают проблему исходя из своей специализации. Традиционно проблема лидерства изучалась почти без учета пола, так как лидерская роль считалась исключительно маскулинной. Первые исследования в гендерной психологии лидерства появились в США (Д. Уайт, 1945 г., А. Харвел, 1953 г.) Но, благодаря появлению большого числа женщин на управляющих позициях в организациях, феномен женского лидерства привлек внимание исследователей. Все больше стало распространяться мнение, что женщины тоже могут выполнять роль лидера. Однако, они и по-прежнему составляют меньшинство, особенно на среднем и высшем уровнях управления, даже в странах Скандинавии - регионе с относительно большим гендерным равенством. В связи с тем, что продолжало существовать мнение о том, что женщина не способна так же эффективно выполнять роль лидера, как и мужчина, возникла необходимость сравнительного исследования лидеров обоих пола.

Существует достаточно много теорий лидерства, рассматривающих лидерство с гендерной точки зрения и причины диспропорций. Среди них: теория гендерного потока; теория гендерного отбора лидеров; концепция токенизма и инграциации.

Первая теория, как было указано выше, говорит о доминировании гендерного фактора над лидерской, и была выдвинута Барбарой Гутек: фактор пола является более мощным, чем другие факторы. Согласно этой концепции, восприятие лидера зависит прежде всего от его пола. В некоторых других исследованиях было установлено, что женщины воспринимались как менее компетентные лидеры.

Концепция гендерного отбора лидера (Дж. Боумэн) базируется на идее о различных требованиях, выдвигаемых к лидерам разного пола. Считается, что требования к женщинам-лидерам значительно выше, нежели к мужчинам.

Концепция токенизма (Р. Кэнтер) утверждает, что члены группы с наименьшей представленностью получили название «токены» (символы), и в результате малочисленности максимально заметны, а их характеристики преувеличены. Так, лидеры-женщины в мужской группе являются своеобразными токенами. Неадекватное отношение к женщинам-лидерам приводит к необходимости дополнительных действий и усилий для того, чтобы вызвать у окружающих любовь и симпатию

Среди гендерных теорий лидерства нужно также выделить еще две: одна, согласно которой лидерская позиция и пол являются равноценными, и вторая - где доминирующим фактором считается лидерская позиция.

#### **Анализ данных с критическим мышлением и обсуждением:**

#### **Изучение мнения мужского населения к проблеме женского лидерства в РК.**

Социологи отмечают, что в оценках роли женщин пост-советском обществе все же еще остается традиционным. Например, согласно данным социологического опроса ВЦИОМа (2019 г.) «Лидерство: гендерные стереотипы отстают», проведенного с участием 1,6 тыс. респондентов, 58% опрошенных не видят связи между половой принадлежностью человека и его лидерскими качествами. Лидер, на их взгляд, это тот, кто может вести за собой (62%), организовать команду (53%), пользуется уважением среди коллег (35%) и достиг высокого уровня профессионализма (32%).

Однако, как следует из отчета, треть россиян (32%) все еще считают, что мужчины имеют большую предрасположенность к лидерству. «Так принято в патриархальном обществе» (7%), объясняют они свою позицию, а также потому что мужчины «сильны характером» (6%) и являются карьеристами (4%).

На верхних этажах власти и в России, и в Казахстане – будь то политика или бизнес – женщин все еще мало, это факт. Положение дел примерно одинаковое и у нас, и на Западе, где женщины всегда всерьез боролись за свои права.

Данные, доказывающие это утверждение на примере РК, представлены ниже на графиках: Ассоциация энергетических компаний РК «KAZENERGY» и Европейский банк реконструкции и развития (ЕБРР) на IV Форуме Женского энергетического клуба в сентябре 2019 года презентовали результаты совместного исследования «Роль женщин в энергетическом секторе Казахстана» (г. Нур-Султан).

Доля женщин в общем количестве рабочей силы:

График 1.



Численность казахстанских женщин в руководстве энергетических компаний РК.  
График 2.

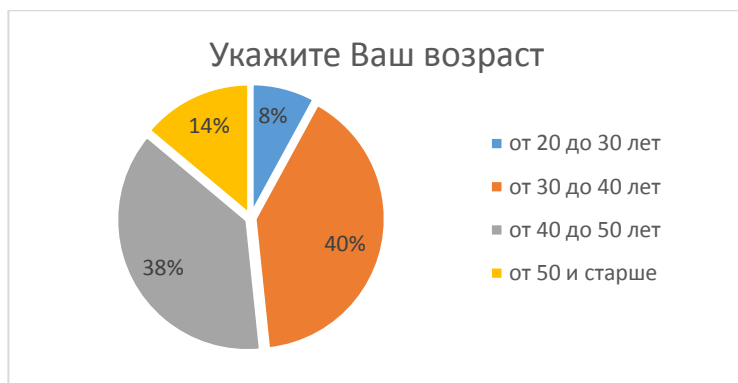


Вопросов много: кто виноват в неравенстве? Что делать? Что мешает женщинам занимать лидирующие позиции? Из чего состоят видимые или невидимые причины, тормозящие их карьеру? Открытой дискриминации, как таковой, уже нет, женщины высоко развиты, с хорошим образованием, с хорошим достатком, но легко ли им выживать в «мужском мире» бизнеса?

Мы провели краткий онлайн опрос среди мужчин для выяснения их отношения к проблеме женского лидерства. Участниками опроса «О роли женщины в обществе» стали 152 человека разных возрастов, из разных регионов республики, достигшие различного уровня в профессиональной, служебной и социальной иерархии:

Почти 80% опрошенных – экономически активные, работающие, твердо стоящие на ногах мужчины.

График 3.



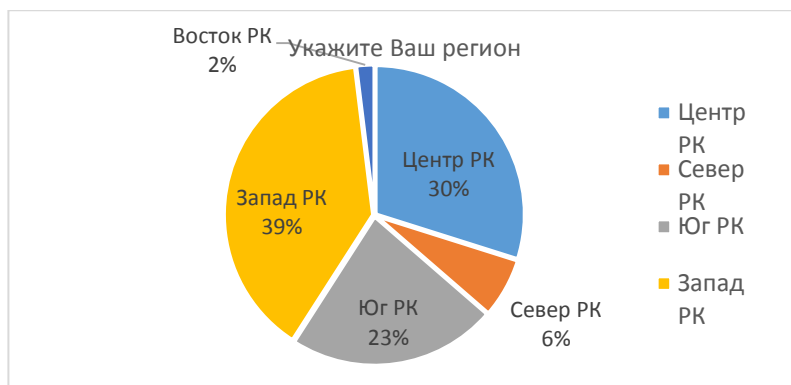
Основная масса мужчин, согласившихся на участие в опросе – семейные, что позволяет предположить, что они имеют четкое и ясное понимание и мнение о роли и месте женщины (жены, дочери) в обществе.

График 4.



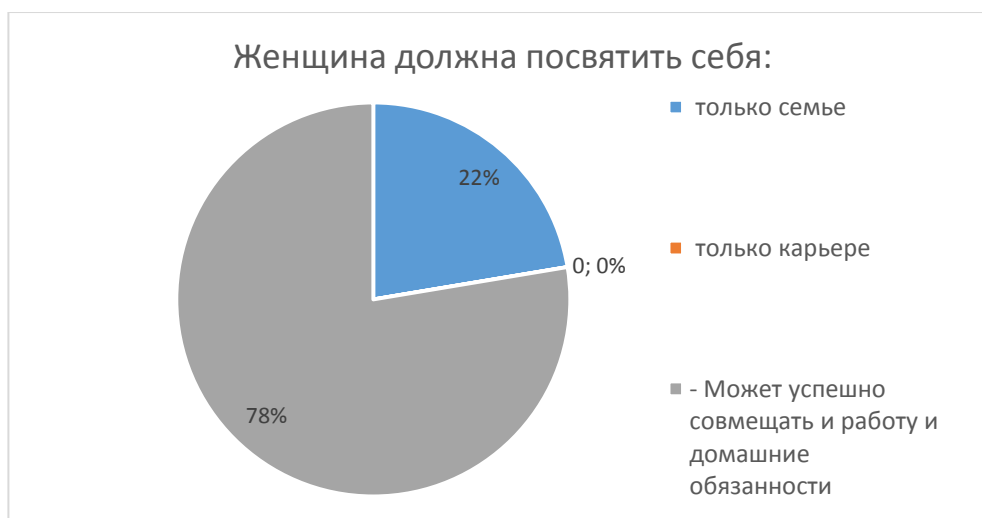
В связи с тем, что онлайн опрос проводился в моих рабочих чатах, в основном связанных с нефтегазовым сектором, машиностроением, обслуживанием промыслов, обучением технического персонала для работы на месторождениях, большая часть респондентов – из западных регионов (Атырау, Актау, Уральск), из центра и юга (г. Нур-Султан и г. Алматы, где находятся их представительства и штабы).

График 5.



78% мужчин считают, что женщина может успешно совмещать и карьеру и работу, при этом ни один не ответил, что ее жизнь должна быть посвящена только карьере, и 22 % полагают, что женщина не должна работать.

График 6.



Нам было интересно узнать, готовы ли мужчины разделить с женщиной домашние обязанности: почти 90% ответили положительно.

График 7.



Самое интересное мы обнаружили в комментариях респондентов, где мы их попросили дать развёрнутое объяснение своего отношения к проблеме женского лидерства. Было получено 85 ответов .

Мы попытались их сгруппировать и получили 3 основные позиции, схожие по тональности, по отношению к проблеме, по приоритетности роли семьи и карьеры в судьбе женщин. Если коротко, кто их можно обозначить так:

- 1) «Женщина может совмещать и семью и карьеру, она может заниматься тем, что ей нравится, но во всем важна гармония» - 23 ответа;
- 2) «Женщина имеет право на самореализацию, ее роль недооценена, она может занимать руководящие посты, ее роль в обществе велика» - 30 ответов;
- 3) это, собственно, противники участия женщин в жизни общества, считающие, что, в первую очередь, женщина - это жена и мать – 32 ответа.

Судя по ответам, от женщины по-прежнему ожидают, что она должна успевать на всех фронтах – от нее зависят уют и благополучие в семье, успешность карьеры мужа, воспитание детей. На нее возлагают чуть ли не самую большую ответственность за будущее страны, так как она должна достойно воспитать детей, будущее страны. И эта двойная, иногда и тройная нагрузка – важнейший тормоз женской карьеры. Трудно встретить деловую женщину в Казахстане, которая бы не испытывала чувства вины по отношению к собственным детям и мужу из-за своей постоянной занятости. При этом, ни один респондент не сказал, что воспитание будущего поколения - это и ответственность мужчины, что мужчина и женщина должны принимать равное участие в воспитании детей.

Только один респондент не связывает лидерские качества с гендерной принадлежностью, и несколько человек заметили, что роль женщины в обществе еще мала и недооценена, хотя должна быть значимой: «Женщины Казахстана это наше «секретное оружие» и один из не раскрытых потенциалов общества, которым мы неизбежно должны будем воспользоваться как можно скорее. Грядут большие перемены!».



## **Краткое изложение, выводы и рекомендации:**

Сегодня женщины в целом лучше образованы, чем мужчины: их доля среди выпускников высших учебных заведений выше, их уровень знаний выше. Как было показано ранее на графике по численности женщин среди управленцев энергетических компаний РК, женщин-руководителей еще достаточно мало. На низших и средних должностях они вполне конкурируют с мужчинами.

По данным исследований компании McKinsey, дальше, при карьерном росте поток женщин убывает. На уровне старших вице-президентов их уже всего 24%, на уровне высшей исполнительной власти – 19%, в крупных компаниях доля женщин на высших должностях – около 5%.

Организацию, в которой я работаю, можно назвать исключением из правил: недавно состоялись выборы Президента компании (в головном офисе, в Италии), и на этот пост опять была выбрана женщина; в составе совета директоров – несколько женщин. Полагаю, это могло произойти, в том числе, и из-за того, что «женская квота» в Европе сейчас закреплена законодательно.

С точки зрения истории человечества женское равноправие – это новое явление. Мы помним, что в США женщина получила право голоса в 1920 году, в России – в 1918 году, во Франции – в 1944. В этом плане удивителен пример Швейцарии, где права женщин были узаконены только в 1971 году.

Наше же, казахстанское, общество веками воспринимало женщину как существо несамостоятельное, вторичное по отношению к мужчине. Некоторые ответы респондентов до сих пор отражают эту тенденцию («Управлять государством должен мужчина», «Чем больше женщина дома, тем сильнее мужчина в работе»). И казахстанской женщине приходится выдерживать предубеждения не только социума вообще, но и его мужской половины в частности. Многие женщины вынуждены тормозить развитие своей карьеры, чтобы сохранить семью. Эти проблемы будут более подробно изучены в продолжении данного исследования.

Мы не хотим переоценить такой фактор как дискриминация, и считаем, что фактор «личного выбора», наоборот, недооценивается. Но «личный выбор», как бы парадоксально это не звучало, казахстанская женщина делает и под давлением регионального менталитета, который очень четко прослеживается по ответам третьей группы (оппоненты женского лидерства).

Тем не менее, женское лидерство имеет хорошие перспективы развития в нашей стране. У нас уже создано большое количество женских клубов, ассоциаций, союзов, которые успешно продвигают идеи не просто женского лидерства, а «гендерного равноправия» – а это пятая цель устойчивого развития ООН (UN Sustainable Development Goals), программы которую на вооружение взяли все страны мира, Казахстан – не исключение.

## **Использованная литература:**

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## **“Strategic Review of Toyota Automotive Marketing Strategy”**

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### **Introduction and objective**

The 2013 Toyota Corolla requires the implementation of a marketing plan which incorporates five main focuses: repairing damages of excessive recalls in past units; reinventing the image of the Corolla; redefining new audiences; building relationships; and remaining measureable. Developing these objectives into a well-oiled campaign relies on clear understanding of, and effective representation of the company’s goals to the right audience. Using the strategies of company marketing plan, which has been defined by credible marketing research, we seek to increase American sales by seven to ten in the 18-34 year-old range by the conclusion of the fourth quarter in 2013.

Driving towards increasing the sales of this market seven to ten percent, company campaign is formulated on a positioning strategy that considers competitors, offers opportunities that build brand awareness in company target market through optimized tactics, and remains measureable. Like everything else within company marketing plan, company positioning strategy maintains congruency

with company intended market to increase the maximum reach—that is, ascertaining the consistent marketing message tactic is actually hitting and sticking to the intended market by conducting effective research and monitoring of metrics throughout the campaign. To increase company reach, we focus on brand building opportunities in frequency—or the number of times we can put the message and the Corolla in the way of the consumer on a regular basis through integrated media channels such as commercials, billboards, magazine, and much more.

The details of the marketing plan—or the companies of promotional action that will deliver a consistent message across a variety of channels for the Corolla—are built upon company objectives and strategies which have been identified not only through marketing research, but conducting a situational analysis. The situational analysis provides insight to the environments affecting the Corolla and constraints which should be addressed by company marketing. Using tools, such as the SWOT analysis, to define strengths, weaknesses, opportunities, and threats surrounding the 2013 Corolla; company plan allows us to adjust objectives and/or actions to enhance company marketing tact.

Similar marketplace analyses have provided insight on the current issues surrounding the Corolla—boredom. Though company plan describes some modifications to modernize the Corolla without redesigning the entire model, one thing that resonates with familiarity among consumers of the Corolla is perfection. The Corolla’s current consumer trusts the seniority of the product to deliver on particular features they fell in love with in older models.

However, Corolla is looking for a new audience, and the reliability in the Corolla is such that we can anticipate another audience who is looking for just that—parents and teens. For parents, it means safety for their teens; and for their teens, it means freedom, trust, and responsibility. For Toyota, it means generating a new loyal consumer base.

Not only do we create a new audience through company plan, but we focus more on that consumer through the four c’s—or breed of marketing that emphasizes the gains for the consumer over the company by positioning the product based on the consumer, communication, cost, and convenience. Using the four c’s approach versus a traditional four p’s approach—which unlike the c’s approach, focuses on product, placement, price, and promotion as it relates to the company—we have devised a plan that focuses on a series of consumer relationship management tactics to take the new consumer from first-time car buyer to lifetime Corolla buyer by giving them more bang for their buck.

Like many consumers, we believe the Toyota Corolla offers peace of mind in a vehicle that has been perfected. However, recent recalls greatly affect the image of Toyota and the perception of

the company among consumers. Company plan contends, though, if parents grew up with us, then they can trust us to grow up with their children. We prove that by giving them and their children exactly what they ask for in a car they can trust at a price they can still afford. Company marketing plan not only reminds consumers of these ideas, but restores the Corolla to a degree of penetration that surpasses all others in the industry, while delivering a new image of Toyota to a new target family. The following details the approach that will accomplish company mission.

### **Company Profile**

Toyota Motor Corporation (TMC) is a multinational company that produces cars, trucks, buses and robots, with headquarters in Toyota City, Japan. Toyota is the largest car manufacturer in Asia and second largest producer. Toyota is one of the three major Asian car manufacturers competing U.S. producers on the world market, the other two are Nissan Motors and Honda Motor. Also the company provides financial services through its subsidiary, Toyota Financial Services, and works in other fields. Automotive products are sold under the names Toyota, Scion and Lexus. Toyota owns a majority stake in Daihatsu and Hino, and 8.7% of Fuji Heavy Industries, manufacturer of Subaru cars. In 2005, Toyota together with Daihatsu Motor Company produced 8.54 million vehicles, almost 500,000 less than General Motors in that year. In July 2006 Toyota exceeded sales of Ford cars, but the American manufacturer has regained a month later. Toyota has a significant market share in U.S., Europe and Africa and is the market leader in Australia. Toyota has factories all over the world, where produces and assembles vehicles for local markets. The company has manufacturing or assembly plants in Japan, USA, Australia, Canada, Indonesia, Poland, South Africa, Turkey, United Kingdom, France, and Brazil, most recently those in Pakistan, India, Argentina, Czech Republic, Mexico, Kazakhstan, Thailand, China and Venezuela. The first Toyota vehicle built outside Japan was a Land Cruiser FJ-251 built in São Paulo, Brazil, in May of 1959. The success both on the Japanese market and international market dues to its desire to make products with a quality. The Japanese believe that nothing is so good that it cannot be improved, so they constantly struggle to increase the quality of everything they do. This attitude can be expressed by a single word „kaizen”. It means „continuous improvement” and is the key word which guides them towards perfection.

### **State-of the-art literature review**

#### **Marketing Channel**

One of the most common strategy used in the market is the marketing intermediate. Marketing intermediate is a type of marketing channel that involve a group of firms to participate in the marketing process for the company. Marketing intermediaries is very helpful in term of penetrating anew market,

it provide all kind of advantages to the company and can help the company to improve their efficiency and effectiveness in the area, as the marketing intermediate have more information about the local market, the culture of the people and the spending behavior of people in that particular area. Using the marketing intermediate can save a lot of time and money for the company from studying and trying to understand the local market.

### **Marketing & Distribution Channels**

Company effective marketing strategy enhances reach—or direct influence on company target market—by incorporating all of the differentiators necessary to make the Corolla stand out to company market. These include:

- Product differentiations (features, quality, performance),
- Channel differentiations (communications with the company), and
- Image differentiations (image and perception of the brand across the marketplace).

Using the value of the Corolla to navigate much of the marketing strategy incorporates processing company message—it's new, again—through a variety of mixed media to include: interactive and non-interactive tactics in internet, television, direct mail, billboards, magazines and many other distribution channels; to inform company audience of the benefits fitting their particular needs in order to captivate and encourage their purchase of and continued loyalty to the Corolla. Maintaining consistency in measurability, company tactics take cues from maintaining a balanced scorecard, which is a tool used to track the performance of any implemented strategies. Below are some examples of company intended distribution channels and marketing tactics:

- Television-The average American household has multiple televisions with an average usage time of nine hours per day. Using data provided by the television bureau, we have narrowed in on the shows and times company audience is focused on the television the most. By exposing the audience to commercials that pinpoint the value of the Corolla as it meets their particular needs on the stations and at the times they are viewing; we generate the frequency necessary to impact company market.
- Social Media- Though mobile technology takes a chunk out of typical desktop lounging; Facebook is still on top when it comes to how much time its average users spend on the site. Facebook acknowledges 604 million monthly active mobile users make up only about 60 percent of its overall user base. However, advertising through Facebook—and other similar sites—in an interactive way to increase brand awareness among company

consumers, and to push familiarity with the message, is a strategy we have perfected to achieve company goal of increasing the sale of the Corolla.

- Email- The majority of consumer email users fall between 20 and 40 years of age. The second largest group is teenagers and young adults (15 to 20 year olds). With America accounting for 23% of all consumer email addresses, this makes for a great opportunity to reach company consumer. However, due to spam filters, only about 20% of commercial messages reach user mailboxes and only 19.1% of those get opened. Thus email requires greater care and effort to distribute without becoming spam.
- Direct Mail- Direct mail interestingly enough, transcends the age demographic, with younger consumers (the 18- to 34-year-old demographic) preferring to learn about marketing offers via direct mailers rather than online sources. Company message—it's new, again—combined with the right incentives will ultimately strike a connection with company target and draw them to company locations where they can further experience the relationship Toyota wants to build with its new consumer.

Toyota's marketing efforts in North America have focused on emphasizing the positive experiences of ownership and vehicle quality. The ownership experience has been targeted in slogans such as "You asked for it! You got it!" (1975–1979), "Oh, what a feeling!" (1979 – September 1985, in the US), "Who could ask for anything more?" (September 1985 – 1989), "I love what you do for me, Toyota!" (1989–1997), "Everyday" (1997–2001)", "Get the feeling!" (2001–2004), "Moving Forward" (2004–2012), and "Let's Go Places" (2012–present).

In Japan, Toyota currently maintains separate dealership sales channels. The first sales channel established in 1946 called "Toyota Store" sells large luxury sedans such as the Toyota Century, and the Toyota Crown. In 1955 the "Toyopet Store" arrived, originally established to sell the Toyota Corona and the ToyopetToyoAce truck. (Toyota's five channel dealerships in Japan chronology in Japanese.) Toyota also operated a commercial dealership called Toyota Diesel Shop from 1957 until 1988, that sold various commercial platform trucks, buses, and forklifts, such as the Toyota Dyna and the Toyota Coaster. Hino products were sold at specific Hino locations, and shared at Toyota Diesel Store locations after Toyota acquired the company in 1967. Starting in 1980, the Diesel Shop also sold the Starlet, Corolla, Corona, Vista and Crown installed with diesel engines. When the Toyota Diesel Store was disbanded, commercial products were divided between Toyota Store and Toyopet Store locations.

## **Research methodology and data collection tool**

### **A. STRENGTHS:**

#### **I. New Investments:**

New investment by Toyota in factories in the US and China saw profits rise, against the worldwide motor industry trend which was suffering heavy losses. Net profits rose 0.8% to 1.17 trillion yen (\$11bn; £5.85bn), while sales were 7.3% higher at 18.55 trillion yen.

#### **ANALYSIS:-**

- The Company had the right mix of products for the markets that it served.
- USA believes in 'living life king size' and is obsessed with bigger cars.
- Toyota primarily sold bigger cars in the American market and this was a great success.
- China on the other hand prefers fuel-efficient sedans. Toyota in China marketed and sold cars like Corolla.

This was possible because of much focused segmentation, targeting and positioning of their products.

#### **Ii. Manufacturing:**

In 2003 Toyota knocked its rivals Ford into third spot, to become the World's second largest carmaker with 6.78 million units. The company is still behind rivals General Motors with 8.59 million units in the same period.

#### **ANALYSIS:-**

- Its strong industry position is based upon a number of factors including a diversified product range, highly targeted marketing and a commitment to lean manufacturing and quality.
- The Company maximizes profits through Total Quality Management or TQM which is an integrative set of principles and behavior adopted by Toyota's management for continuously improving the quality of products and processes.
- The company makes a large range of vehicles for both private customers and commercial organizations, from the small Yaris to large trucks. Therefore, if the demand in one sector decreases, the company always has other sectors as back up and the chances of a complete loss are low.

#### **Iii. Strong Brand Image:**

Toyota currently sells 70 models of cars under its namesake brand with Corolla and Prius as flagship models. Toyota's brand image is also associated with environment friendly cars as it is a leader in manufacturing of 'green' cars.

#### **ANALYSIS:**

- Toyota increases brand awareness, sells more cars in order to increase the existing brand image.
- Toyota through a series of surveys and studies of customer behavior understood that customers are growing selective in terms of fuel efficiency and CO2 emissions.
- The management quickly decided to invest in 'green' technology and Toyota became one of the first companies to manufacture environment friendly, hybrid and efficient cars like the Auris.
- This greatly boosted their Brand image giving them competitive advantage over their competitors.

#### **B. WEAKNESSES**

##### **i) Large scale Recalls :**

Toyota had quite a few large-scale vehicle recalls over the past few years. The company recalled 9 million vehicles in 2009-2010 and 7.43 million cars in 2012. Such recalls does not only hurt the firm financially but significantly damages firm's brand.

#### **ANALYSIS:-**

- recalls have taken place mostly because of safety issues that have not been met or because of certain defects in the cars produced.
- Toyota must ensure that the cars produced are faultless and of good quality.
- an increase in recalls not only results in losses but also harms the brand image of the company.

##### **ii) Weak presence in emerging markets :**

Toyota markets most of its products in the US, Europe and in Japan. Therefore it is exposed to fluctuating economic and political conditions those markets. Emerging economies as China or India make only a small percentage of all Toyota's sales.



## **ANALYSIS:-**

- The Company in order to reduce this weakness has started to shift its attention towards India and China, which is a good move. But, it must do more to increase its market share in these emerging economies in order to compete with General Motors which has a bigger market share especially in China.
- Toyota must also look towards Africa. Many African nations like Tanzania, South Africa are experiencing high growth rates. Not many car manufacturing companies have ventured into the continent. Toyota should increase sales of cheaper, smaller cars in Africa. This will give them an advantage over GM in the global scenario.

## **Summary, conclusion and recommendations**

A marketing plan should have some flexibility for adjustment, especially in today's fast-paced world. It should also include a variety of well-integrated tactics to deliver a consistent message to targeted consumers. Company marketing plan for the Toyota Corolla incorporates five main focuses: repairing damages of excessive recalls in past units; reinventing the image of the Corolla; redefining new audiences; building relationships; and remaining measureable. Without simply modifying the Corolla's features, we can address qualitative goals, such as repair of company reputation and reinvention of image, through marketing the vehicle's valuable points. The Toyota Corolla is modern, stylish, safe, and more importantly, a car you can trust. Instead of focusing solely on the typical marketing mix, which utilizes a four p's approach; we use the alternative marketing mix, which puts focus on the four c's: consumer, communication, cost, and convenience.

Through defining the vehicle's values, the new consumer profile emerges. Once communication is established, brand loyalty incentives can ensue and marketing material can be distributed at the appropriate frequency to learn more about the consumer. Marketing material is not only a great way to generate a measurable source for success, but it allows Toyota to focus on the needs of the individual consumer.

Toyota's current societal marketing strategy assists with many of the objectives of company marketing plan, as well as draws the attention of company target segment for the 2013 Toyota Corolla. That new target audience has been identified as men and women in the U.S. between the ages of 18 and 39, earning \$25-75,000 per year, who are interested in purchasing or leasing a vehicle that is reliable, affordable, and stylish in the next twelve months. As we have identified through a series of

marketing research tactics, company consumer for the re-invented Corolla also, includes an audience whose societal trends and current economic conditions greatly contribute to the new environmentalist perspective, which promotes the good of all over the status of one.

Understanding these concepts, the consumers, and the results of the Corolla's SWOT analysis lend immensely to repairing the damages of the past, while preparing the audience for the future through providing proper positioning of the Corolla on the marketplace (Armstrong & Kotler, 2006). Accompany plan seeks to reach a new market, this analysis and positioning is integral to the success of company campaign and the future of the Corolla.

Taking advantage of the opportunities of a global market, Toyota has adopted a Global strategy, but considering the characteristics of markets in which it acted. The slogan "think global, act local" implies the need to think market and business in global terms, and in the same time to achieve adapting to the local consumers' demands. Toyota's success both on the Japanese market and international market is due to its desire to make products with high quality, always perfecting and innovating automotive Technologies, creating new models, showing concern for consumption, but also for the Environment surroundings, focusing on the consumer. Thus, Toyota has committed to Develop hybrid systems as a basic factor of the eco-car technology. The company set up Design labs in Europe and USA for a better understanding of local influences and preferences of current and potential clients, showing care for their needs. Toyota's global strategies are considering entering the international growing Market, stable, slowly and surely (the European market case). Also, Toyota took advantage of the opportunities offered by emerging countries With growing economies, lower wage costs and more flexible markets of new EU's Member countries.

Japan plans envisage expansion in emerging markets like Brazil, Russia, India and China. The main weapon Toyota uses in order to conquer these markets is the low-cost Cars. Even if global economic crisis has affected the entire automobile industry, Affecting Toyota too, the company remains on the top of the most successful Multinationals companies of the auto industry. And even though, lately, Toyota cars registered some manufacturing problems and they had to be withdrawn from the market, the company management has remained in its Original principles, namely, honesty and loyalty to customer, care for his safety, asking for Public apologies for shortcomings of its cars lately and promising more attention for the Quality and safety of future products of their company. Adopting a global strategy based on the product policy, research and continuous Quality improvement, technological innovation, but also respect for consumers around the World, they can say without any doubt that Toyota Motors Company conquered the whole World.

In conclusion, although some factors or forces are more influential than others, however it does not mean that the other internal and external marketing environmental forces does not make an impact on the market. After analyzing through both the Micro and Macro environmental forces inside and outside of Toyota, which can affect the way how business is conducted. All these factors have certain impacts on Toyota, and we should all take all these forces seriously. The only way to keep the performance of Toyota in the Kazakhstan market would be to improve Toyota internal micro environmental force while keep an eye on the macro environmental forces.

Below is a summary of all the forces we have discuss in this paper.

### **The Internal marketing environmental factor**

- Organization Structure- The better cooperation among departments in the organization are what we should look at to improve the company and its products.
- Supplier- Having a list of suppliers that you can trust is as important as anything else although it won't help us on getting a bigger share of the market, but if we fail to do so it will certainly cost us a lot of sales and share of the market.
- Marketing Channel- Ensuring having the right Marketing Channel is also as important as the others factors. Selecting the right Dealers to represent the company is like selecting the players of football team to play for the company. Good dealers will directly bring more sales for the company.
- Competitors- It is arguably the most important forces in here, because the buyers are going to buy a car no matter how, it is either this company or that. To secure more sales, the company basically need to outperform its competitors.

### **The External marketing environmental factor**

- Demographic- A good understanding of the market can be gain from a demographic study on the products and its market. It is crucial for every manager and marketers to do this, so that they have a better understanding of the market and where they should lead the company to.
- Economic Forces- A good understanding of the Economy in the market we participate can help us to anticipate better on the movement of the market ahead.

- Technology- This is where we can differentiate ourselves from others. Making sure we have the right technology ahead of others is key for survival in this very competitive Automobile Market.
- Cultural Forces- Customer with different culture are sensitive towards different issues. Understanding a foreign market might take some effort but failure to do so the consequence might be costly.

In 2020, UMW Toyota Have recorded a total sales of 98,500 units of sales covering about 15.6% of total the Kazakhstan Auto-mobile market share. In a tough competition like this with more than 20 automakers in the market, as a foreign auto mobile maker in Kazakhstan Auto Mobile market. Toyota being able to take up to 15% of the market share is a very successful achievement by the marketing team of UMW Toyota Motor. To have an improve or better financial and sales in 2021 the Toyota's marketers will need to analyse all these macro and micro environmental factors in order to identify opportunities and threats in the markets and use it to the organization advantage.

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## **“Formation of national corporate governance standards and their impact on the company’s development”**

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### **1.1. Introduction**

The purpose of this study is to develop proposals for the formation of national corporate governance standards of the Republic of Kazakhstan, taking into account the best international practice, compliance with the ideas and principles of corporate governance of the OECD, taking into account the intention of Kazakhstan to become a member of the OECD, taking into account the best national practices, national characteristics and practices of companies in Kazakhstan, as well as preventing the deterioration of Kazakhstan's position in the World Bank's Doing Business rating.

In this regard, the objectives of this study are to conduct a comparative analysis of approaches to the regulation of corporate governance in the Republic of Kazakhstan in the context of best international practice to determine the general direction of development of corporate governance regulation, taking into account the desire to converge national standards with the principles of best international practice.

### **1.2. Case study:**

- ❖ Comparative analysis of corporate governance regulation in the Republic of Kazakhstan for compliance with the OECD-2015 Corporate Governance Principles, EU Directives on Corporate Governance, recommendations of the Basel Committee on Banking Supervision,

corporate governance standards of International Financial Corporation (IFC), the British Corporate Governance Code (UK Corporate Governance Code).

- ❖ Development of a new Corporate Governance Code of the Republic of Kazakhstan - a basic document describing the principles of national corporate governance practice.
- ❖ Development of a concept for adjusting legislation in terms of the mechanism for applying National Corporate Governance Standards, including proposals on adjusting the legislation and listing rules necessary for the most effective implementation of the National Standards and the introduction of corporate governance principles.

### **1.3. Problem Statement.**

Corporate governance codes are no longer a new phenomenon in the global practice of corporate governance. The appearance in the 90s of the last century of the Codes was largely due to the reaction of regulatory bodies in various countries to a series of corporate scandals. They were mainly associated with financial manipulations and corrupt actions of the top management of a number of companies and were largely caused by aggressive remuneration systems and incentives for short-term risk inherent in them, which indicated the need to bring corporate governance mechanisms and internal control mechanisms in accordance with the new realities.

Another reason for the development of corporate governance codes was the increased need for companies to attract investments by improving corporate governance practices, regulating relations between shareholders and company management, taking into account the interests of all groups of shareholders, protecting the rights of shareholders and investors. Realizing this, financial market regulators of individual states and international organizations began to develop and implement corporate governance codes, which were designed to convince investors and shareholders of that corporations will act in their best interests and create opportunities for them to promptly obtaining sufficient information about the state of affairs in the corporation.



Thus, the adoption of corporate governance codes was initially aimed at increasing the investment attractiveness of companies and reducing the negative effect of possible internal conflicts and contradictions that difficult to regulate at the legislative level.

One of the first model sets of corporate governance standards was the Principles of Corporate Governance presented by the Organization for Economic Cooperation and Development (hereinafter referred to as the OECD Principles), adopted in May 1999, and in updated edition - in 2004 and then - in 2015.

In 2000-2002 some 90 corporate governance codes have been adopted by governments and companies. In particular, the UK has adopted the Code principles of corporate governance (The Combined Code: Principles of Good Governance and Code of Best Practice 2000), in Germany - the German Code of Corporate Governance (GCCG) 2000), in Italy - Corporate Governance Code 2002 . etc .

Kazakhstan Corporate Governance Code was approved by the Board of Issuers February 21, 2005 Minutes No. 1 and the Council of the Association of Financiers of Kazakhstan March 31, 2005 Minutes No. 3. However, due to a number of circumstances (unpreparedness of the majority of companies to actually implement the principles of corporate governance, poor elaboration of the mechanisms for implementing the Code, as well as monitoring its implementation with regulatory authorities, etc.) led to the fact that he ultimately did not provide significant impact on the development of Kazakhstani corporate governance practices.

At the same time, the development of Kazakhstani legislation on joint stock companies was initially carried out taking into account international principles of corporate governance, and it was the law on joint stock companies that became the main reference point for most companies in the development of their own corporate governance practices. However, the global financial crisis of 2008-2009 led to addition and clarification a number of significant aspects of corporate governance, revision of the

content of codes in a number of jurisdictions (in particular, the UK, some EU countries). Corporate governance codes have begun to play an increasing role as guidelines for the development of national leaders "in different countries, over the past decade, the Codes of many countries have been significantly updated: German Corporate governance code 2019, UK Corporate Governance code 2019, Italian Corporate Governance Code 2018.

Based on the analysis of trends in the development of corporate governance regulation in OECD countries, it is necessary to take measures to develop a national Corporate Governance Code of the Republic of Kazakhstan, which, by analogy with similar documents in other countries, should become the basis for the development of a better national corporate governance practices and a benchmark for the further development of national corporate legislation.

#### **1.4. Research Questions**

Regardless of the size of the company and the structure of its shareholders, the overall goal of corporate governance for all companies is, as stated in the Preamble of the 2015 OECD Principles, "to foster an environment of trust, transparency and accountability that is necessary to stimulate long-term investment, financial stability and business integrity. which in turn ensures more rapid growth and development of inclusive societies ". In this regard, we proceed, first of all, from the goals of increasing investment attractiveness, business transparency, regardless of these factors. We are also based not on what problems companies have, but on what can be improved in the legislation of Kazakhstan, and how to improve the regulatory environment (taking into account these benchmarks set by the OECD, so that the activities of companies are efficient and safe both from the standpoint of public interest and and in the eyes and understanding of various private stakeholders.

The Strategic Development Plan of the Republic of Kazakhstan until 2025 provides that "The strategic goal of the Republic of Kazakhstan by 2025 is to achieve high-quality and sustainable economic growth, leading to an increase in the standard of living of people comparable to OECD countries,

based on increasing the competitiveness of business and human capital, technological modernization, improvement of the institutional environment and minimal negative impact on nature.

Kazakhstan aims to achieve socio-economic and institutional development at a level that is not inferior to the OECD member countries, and subsequent accession to OECD". The implementation of this goal presupposes an active increase in the investment attractiveness of the country as a whole, of each region and enterprise.

First, there are currently no uniform, generally accepted national corporate governance standards in the Republic of Kazakhstan. The largest companies with state participation develop their own standards, some companies (for example, those listed on international exchanges) are guided by international norms and rules of corporate governance, while most companies do not attach due importance to the development of corporate governance practices, which, according to many experts, has a negative effect on the investment attractiveness of Kazakhstani companies.

Secondly, it should be recognized that the absence of generally recognized national corporate governance standards hinders the development of the Kazakhstani stock market, does not contribute to the growth of confidence on the part of international investors.

Third, there are a limited number of examples of successful corporate governance practices in Kazakhstan, while the number of negative examples is essential. Major corporate scandals, bankruptcies, license revocations banks, asset stripping, delisting in foreign markets and scandals with minority shareholders have a negative impact on the country's image.

In this regard, it seems that the updating of national corporate governance standards and the development of tools for monitoring their implementation is the most important tool for achieving this goal.

## **2. Recommendations:**

2.1. It seems appropriate to establish a rule on unconditional applicability company legislation to any joint stock companies and companies with limited liability with some exceptions for companies that are part of corporate groups, which are governed by specific rules on corporate groups, regardless of whether these companies or another statutory or statutory corporate group. Moreover, such statutory exceptions (regulatory specifics) should also be common to any corporate group.

2.2. Taking into account the variety of types of entrepreneurial activity, it is advisable can be recognized as the consolidation of the concept of "national corporate governance standard" ("NCGS") in the field of entrepreneurship and allow the creation of such standards that are not regulatory legal acts, and also model internal corporate acts (such as model corporate governance code, company body regulations, methodology regulations) by an authorized entity in order to promote improving corporate governance practices and increasing the investment attractiveness of Kazakhstani companies. Of course, such NCGS should not contradict legislation as a minimum mandatory standard. Along with the assignment of these powers directly to the NPP, it is also possible by law to allow the NPP the right form the National Council on Corporate Governance as its advisory body to assist NPP in achieving the above purpose and, in particular, in the development and implementation of the NCGS.

2.3. Taking into account the goals of the activities and legal status of the National Chamber of Entrepreneurs "Atameken" ("NPP") and the specified goals of the development of the NCGS, it is possible to legally impose NPP of responsibility and giving it the appropriate powers to develop, approve, and adjust national standards of corporate governance.

2.4. At the same time, responsibility for the implementation, monitoring of compliance with the NCGS should be assigned to the regulator.

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**“Анализ бизнес-эффективности правил закупа, действующих в РК для  
недропользователей углеводородов”**

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## **ВВЕДЕНИЕ**

Eni SpA является одним из главных инвесторов в нефтяной отрасли нашей страны, а именно в таких проектах, как: Кашаган, Карачаганак. Контракты на разработку и добычу углеводородного сырья в этих месторождениях были заключены в 1997 г. на условиях ОСРП (окончательное соглашение о разделе продукции), согласно которому процедуры закупа устанавливаются самими инвесторами. Таким образом закуп осуществляется по закрытым внутренним процедурам.

Eni SpA не останавливается на достигнутом и рассматривает перспективы расширения бизнес в Казахстане путем приобретения лицензий на новые участки для разведки на наличие УВС и их дальнейшей разработки и добычи.

Однако с учетом того, что законодательная система РК в нефтяной сфере кардинально изменилась, в том числе и в части порядка осуществления закупа необходимых ТРУ, важно провести анализ имеющихся алгоритмов приобретения ТРУ для потенциального инвестора, чьим работником я являюсь.

### **Раздел 1 . ОБЗОР СВОДА ЗАКОНОВ И ПРАВИЛ НЕФТЯНОЙ ОТРАСЛИ РК**

Как ранее было упомянуто, основные гиганты нефтяной отрасли РК проводят закупки согласно ОСРП по своим внутренним процедурам. Государство не могло не обратить внимание на тенденцию привлечения зарубежными недропользователями иностранных подрядчиков на работы по разработке месторождений.

В 2010 году был введен в действие Закон «О недрах и недропользовании», а с ним типовой договор на разведку углеводородного сырья, в котором описывался процесс получения лицензии на разведку, требования к недропользователю, в том числе процесс закупа. Идея государства была склонить инвесторов и действующих недропользователей перейти с ОСРП на типовой контракт, дающий с одной стороны ряд преимуществ (будут перечислены ниже).

При этом процедуры закупа должны проводиться в реестре Nadloc, с требованием привлечения отечественных поставщиков работ, товаров и услуг.

После принятия нового Кодекса «О недрах и недропользовании» (далее –Кодекс) в 2018 году у недропользователей появилась возможность обновить свои обязательства путем перехода на типовой контракт по недропользованию (ТК). Но, по мнению Аскара Калдыбаева, кандидата юридических наук, они не спешат это делать из-за неопределенности по налогообложению.

Условия ТК являются более привлекательными по сравнению с текущими обязанностями недропользователей, а именно: предусматривается их освобождение на этапе разведки от инвестиционных обязательств в области:

- обучения;
- науки;
- социально-экономического развития региона.

В настоящее время обычно на обучение казахстанских кадров и на научно-исследовательские работы недропользователи ежегодно расходуют не менее одного процента от ежегодных инвестиций по контракту, что может достигать до \$100 тыс. На социально-экономическое развитие региона в среднем недропользователи тратят еще \$100 тыс. Таким образом, освобождение от данных платежей будет существенным подспорьем для недропользователей.

В определенных Кодексом случаях переход на ТК является обязанностью недропользователя. И при добровольном, и при принудительном переходе на ТК важна возможность получения возмещения недропользователем затрат, произведенных во время геологоразведки.

#### **Суть возмещения затрат недропользователя**

Размер инвестиций, вкладываемых недропользователями при разведке и добыче углеводородного сырья, довольно высок. Например, расходы на сейсморазведочные работы 3D составляют около \$2,5 тыс. за 1 кв. км участка, а бурение скважины глубиной в 1000 м – не менее \$2 млн.

При этом немногие знают, что в недропользовании, как в казино, при необходимости миллионных вложений никогда не ясно, найдешь ли ты ту золотую жилу, которая, возможно, обогатит тебя, либо буквально зароешь все имеющиеся средства в землю. Есть немало случаев, когда компании становились банкротами, пытаясь найти и разработать коммерчески выгодные месторождения.

Понимая, что недропользование является высокзатратной деятельностью с повышенным риском невозврата вложенных средств, государство мотивирует инвесторов вкладывать средства в данную деятельность: упрощает порядок выдачи права недропользования, ограничивает свое вмешательство, устанавливает адекватные и справедливые условия работы в сфере геологоразведки и добычи полезных ископаемых.

Одной из форм мотивации является предоставление недропользователю возможности снизить свои налоги на этапе добычи путем вычета из налогооблагаемого дохода произведенных затрат на этапе разведки.

Согласно положениям Налогового кодекса, при условии перехода на этап добычи на вычет можно поставить расходы по оценке, обустройству, общие административные расходы, суммы выплаченного подписного бонуса и бонуса коммерческого обнаружения, а также другие связанные расходы.

Сумма затрат на стадии геологоразведки определяется суммой заключенных договоров на закуп ТРУ. В свою очередь, в Кодексе предусмотрено, что недропользователи должны закупать ТРУ в реестре Nadloc либо, если недропользователь на 50% принадлежит национальному холдингу, каковым является АО «Национальный Фонд благосостояния «Самрук-Казына» (далее «Самрук-Казына»), тогда - по Правилам холдинга.

### **Закупки в реестре Nadloc**

Свод Правил приобретения ТРУ недропользователями УВС был впервые разработан в 2007 году. Согласно нему закупки, публикуются на так называемом реестре Nadloc (сайт [www.reestr.nadloc.kz](http://www.reestr.nadloc.kz)). За корректность и объективность закупок отвечает непосредственно Министерство Энергетики РК. В настоящий момент процесс закупа в реестре описан в документе «Правила приобретения недропользователями и их подрядчиками товаров, работ и услуг, используемых при проведении операций по разведке или добыче углеводородов и добыче урана, утвержденные Приказом № 196 от 18 мая 2018 года».

### **Закупки Самрук-Казына**

Акционерное общество «Фонд национального благосостояния «Самрук-Казына» — Фонд, единственным акционером которого является Правительство Республики Казахстан.

Фонд был основан в 2008 году Указом Президента Республики Казахстан и представляет собой коммерческую структуру — инвестиционный холдинг, миссия которого заключается в повышении национального благосостояния Республики Казахстан и поддержке модернизации национальной экономики.

В Группу компаний АО «Самрук-Казына» входят предприятия нефтегазового и транспортно-логистического секторов, химической и атомной промышленности, горно-металлургического комплекса, энергетики, машиностроения и недвижимости. Соответственно Правила закупа сконструированы обобщающе для всех отраслей. Закупки проводятся на сайте [www.zakup.sk.kz](http://www.zakup.sk.kz)

Значительные изменения были внесены в Правила закупа АО «Самрук-Казына» 16.10.2019 и введены в действие с начала 2020 г.

Понимая возможность применения 2 разных сводов правил закупа, далее проведен анализ их эффективности, что должно быть одним из существенных аргументов инвестора при составлении стратегии приобретения лицензии на нефте-геологическую разведку нового участка и дальнейшую добычу. Эффективность закупочных процессов напрямую определяет экономическую составляющую бизнес-проекта и быстроту его окупаемости.

## **Раздел 2. МЕТОДОЛОГИЯ ИССЛЕДОВАНИЯ**

В течение последних двух лет мне посчастливилось поработать в операторской компании с участием Eni SpA по разведке нового участка согласно Правилам закупа АО «Самрук-Казына» и затем – по Правилам приобретения ТРУ недропользователями УВС. В связи с этим, данные для моего исследования представляют собой:

- 1 – Сравнение нормативно-правовой базы двух сводов правил закупа;
- 2 – Опрос экспертов-методологов обеих систем, а также закупщиков.



**1. Сравнительный анализ нормативно-правовой базы двух сводов правил закупа**

№	Аспект	Правила приобретения ТРУ недропользователями УВС	Правила «Самрук-Казына»
<b>А.</b>	<b>ОБЩЕЕ</b>		
1	Охват применения (кто должен следовать Правилам)	(а) Недропользователи УВС и твердых полезных ископаемых, менее 50% процентов акций которых владеет национальный фонд;  (б) подрядчики недропользователей, указанных в пункте (а), которым присуждены договора на выполнение работ	Предприятия нефтегазового и транспортно-логистического секторов, химической и атомной промышленности, горно-металлургического комплекса, энергетики, машиностроения и недвижимости (более 22 крупнейших компаний. Детальная информация представлена в Приложении 1 «Промежу-точная консолидированная отчетность «Самрук-Казына» за I квартал 2019 г. )
2	Основной нормативный документ, являющийся базой для Правил	Кодекс о недрах и недропользовании РК, имеющий статус выше любых иных законов РК.	Закон РК о Фонде и национального благосостояния
3	Полномочный контролирующий Орган по закупкам	Министерство Энергетики РК	АО Самрук-Казына в лице ТОО «Самрук-казына Контракт»
4	Частота внесения изменений в Правила за последние 2 года	1 раз в год	каждые 3-6 месяцев
5	Язык интерфейса сайта, где публикуются закупки	Русский и казахский языки	Русский язык

6	Регистрация для заказчика	Бесплатная	Платная (Годовая стоимость пользования зависит от общей суммы плана закупок Заказчика на соответствующий финансовый год, что составляет от 485 тыс тенге до 44 млн тенге. Детальная информация представлена в Приложении 2)
7	Регистрация для поставщика	Бесплатно, но нужно наличие справок и ЭЦП	Бесплатно, но нужно наличие справок и ЭЦП Квалификационный отбор – платный
8	Аккредитация регистрируемых поставщиков	Отсутствует. Заказчик сам должен проверять поставщиков на лжепредпринимательство, судебные процессы и т.д.	Сайт Самрук-Казына автоматически проверяет регистрируемых поставщиков по Перечню лжепредприятий, недобросовестных поставщиков в гос.закупках. Также имеется список недобросовестных поставщиков Самрук-Казына предлагает всем поставщикам квалификационный отбор по конкретным видам закупок – платный (Детальная информация представлена в Приложении 2)

<b>В.</b>	<b>ПРОЦЕСС ЗАКУПА</b>		
1	Планирование закупок	Годовое и долгосрочное планирование на основе утвержденных бизнес-программ недропользователя	Годовое и долгосрочное планирование на основе утвержденного бюджета заказчика
2	Порядок внесения изменений в План закупок	Изменения вносятся в любой момент по мере необходимости. Строгий регламент не определен Правилами.	Изменения вносятся только после наличия утвержденной корректировки бюджета Заказчика
<b>3</b>	<b>Закуп способом проведения Тендера</b>	Применим при сумме закупа свыше 500 мрп	Применим при сумме закупа свыше 1 000 мрп
3.1	Срок подачи предложений	Не менее 10 рабочих дней	Не менее 10 календарных дней (при этом есть этап предварительного рассмотрения проекта тендерной документации, составляющий 5-7 рабочих дней)
3.1.1	Срок проведения оценки тендерных предложений	Устанавливается заказчиком (доводить до соответствия свои документы поставщики не могут)	10 рабочих дней (но есть стадия доведения до соответствия, когда поставщик может дозагрузить недостающие файлы либо исправить некорректные документы на основании предварительного рассмотрения предложений Заказчиком)

3.1. 2	Срок проведения тендера (от объявления тендера до заключения договора)	1,5 месяца	2,5 месяца
3.2	Участник тендера	Любая организация, зарегистрированная на сайте	<p>Любая организация, зарегистрированная на сайте. Но есть список квалифицированных поставщиков, отечественных производителей, которые имеют ряд преимуществ при оценке полученных предложений. При этом процесс предквалификации проводит уполномоченный орган (критерии оценки закрыты для заказчиков)</p> <p><b>!</b> В случае наличия двух и более квалифицированных поставщиков на конкретный вид закупа, тендер должен объявляться среди них. Если такой тендер не состоялся, то тогда необходимо повторно объявлять тендер среди всех зарегистрированных поставщиков на сайте Самрук-Казына</p> <p><b>!!</b> При объявлении тендера на поставку товаров, недропользователь обязан отдавать</p>

			<p>приоритет отечественным товаропроизводителям (если имеется 2 и более таких, то тендер должен объявляться среди отечественных товаропроизводителей) . Данное требование может теоретически быть ограничителем конкуренции.</p>
3.3	Требование к участникам тендера о наличии опыта	<p>Выставляется за период не более 5 последних лет на рынке приобретаемых работ, услуг и (или) в определенной заказчиком отрасли при условии, что стоимость закупа работ и услуг превышает 14-тысячекратный мрп на соответствующий финансовый год, подтвержденный актами выполненных работ и рекомендательными письмами.</p> <p>Документы, подтверждающие выполнение объема работ (услуг) на сумму, превышающую четырнадцатитысячекратный размер МРП, установленного на соответствующий финансовый год, представляются не менее чем по одному договору за весь срок опыта работы</p>	<p>Выставляется за период не более 5 последних лет при условии, что стоимость закупа работ и услуг превышает 75 миллионов тенге без учета НДС, Заказчиком на рынке закупаемых однородных работ, услуг или в определенной отрасли, подтвержденных актами выполненных работ, совокупный объем которых по одному договору, в каждом году составляет не менее 75 миллионов тенге</p>

3.4. 1	Требование к участникам тендера о наличии опыта персонала	запрещено	Выставляется за период не более 5 лет. Опыт должен быть подтвержден документально
3.4. 2	Требование к участникам тендера о квалификации персонала	Выставляется с требованием предоставления копий дипломов, сертификатов, свидетельств и другими документами, подтверждающими профессиональную квалификацию специалистов	Выставляется с требованием предоставления копий дипломов, сертификатов, свидетельств и другими документами, подтверждающими профессиональную квалификацию специалистов
3.5	Требование к описанию ТРУ	Нет ограничений, но запрещено указывать бренды, названия производителей	Разрешено указывать только функциональные характеристики требуемых ТРУ и требовать от участников тендера документальное подтверждение непосредственно их. Не допускается указание международных стандартов, которые не ратифицированы в РК.
3.6	Демпинг	Понятие демпинга отсутствует, т.е. если кто-то из участников тендера даст цену на 50% ниже рыночной, он будет признан победителем без возможности его отклонения за демпинг.	Понятие демпинга есть для консультационных услуг, работ по проектированию и строительству.

3.7	Местное содержание (МС)	Является обязательным критерием (несоответствие установленной доле МС является причиной для отклонения тендерного предложения), тем самым ограничивает конкуренцию. Кроме того, предоставление доли местного содержания от 95% и выше дает участнику тендера условную скидку (20%) при ценовом сопоставлении полученных тендерных предложений.	Является необязательным критерием в структуре тендерной документации: наличие доли местного содержания дает условную скидку при ценовом сопоставлении полученных тендерных предложений (для Товаров: условное снижение цены на 0,15% за каждый 1% местного содержания; для Работ и Услуг: условное снижение цены на 0,1% за каждый 1% местного содержания).
3.8. 1	Оценка тендерных предложений	- При вскрытии предложений Заказчик не имеет доступ к ценам. - На стадии оценки возможно запрашивать разъяснения посредством сайта, но нельзя запрашивать дополнительные документы	- При вскрытии предложений Заказчик имеет доступ к ценам. - На стадии оценки возможно запрашивать разъяснения посредством сайта, в том числе дополнительные документы
3.8. 2	Результаты тендера	Наличие одного неотклоненного предложения считается, что тендер состоялся.	Наличие менее двух неотклоненных тендерных предложений считается, что тендер не состоялся.
3.9.	Заключение Договора	Договор должен быть заключен с победителем в течение 25 рабочих дней с	Договор должен быть заключен с победителем на

		даты подведения итогов тендера. Договор заключается на бумажном носителе. В системе публикуется только протокол итогов тендера.	русском языке в течение 10 рабочих дней с даты подведения итогов тендера непосредственно в системе путем использования ЭЦП руководителей заказчика и поставщика. При этом текст проекта договора «заморожен» и нет возможности внесения изменений в текст договора, за исключением ФИО подписанта и банковских реквизитов.
3.10	Рассмотрение жалоб участников тендера касательно отклонения заказчиком их предложений/некорректности тендерной документации	Рассмотрение жалоб и принятие решений осуществляется в судебном порядке	Рассмотрение жалоб осуществляет уполномоченный орган. На период рассмотрения закупка замораживается и производственный процесс заказчика попадает под угрозу срыва.
4	Закуп способом запроса ценовых предложений (ЗЦП)		
4.1	Условия для применения	Данный способ упряднен	Закупки на сумму свыше 1 000 мрп (в основном стандартные товары, услуги, например лицензия Microsoft)
4.2	Срок подачи предложений с даты объявления закупки	-//-	5 рабочих дней



4.3	Потенциальные поставщики	-//-	Любые компании, зарегистрированные на сайте
4.4	Требование по Опыты работы поставщика или персонала поставщика	-//-	Запрещено устанавливать
4.5	Срок проведения оценки	-//-	3 рабочих дня
4.6	Срок заключения договора	-//-	10 рабочих дней с даты подведения итогов
<b>5</b>	<b>Закуп способом из одного источника (ОИ)</b>		
5.1	Админ. Закупки (обучение, страхование, услуги связи)	Перечислены в разделе «без применения норм Правил»	Отнесены к разделу ОИ
		Закупки до 500 мрп	Закупки до 1000 мрп
5.2	Производственные закупки	Чрезвычайные ситуации, выход из строя оборудования	Чрезвычайные ситуации, выход из строя оборудования
		ТРУ, на которые у поставщика имеется право интеллектуальной собственности	ТРУ, на которые у поставщика имеется право интеллектуальной собственности
		Геолого-геофизические исследования на этапе разведки	-//-
		Бурение разведочной скважины под ключ и сопутствующие работы, услуги	-//-
		-//- (при этом в целом закуп ТРУ у аффилированных организаций допускается)	У аффилированных организаций закуп ТРУ, которые по уставу увлется их профильным видом деятельности.

<b>6</b>	<b>Заключение доп.соглашений</b>		
6.1	Заключение доп.соглашений к Договорам	<p>Возможно:</p> <ul style="list-style-type: none"> <li>- при увеличении объема и неизменности цены за единицу, н не более, чем на 10% от суммы договора,</li> <li>- при изменении девальвации (ревальвации) нац.валюты более, чем на 10%</li> <li>- при изменении срока поставки товара у отечественного производителя</li> <li>- при изменении срока действия договора с нерезидентами (требование валютного законодательства рк)</li> <li>-при обоюдном согласии сторон о внесении зменений в несущественные условия договора</li> </ul>	<p>Возможно:</p> <ul style="list-style-type: none"> <li>- при увеличении/уменьшении объема и неизменности цены за единицу в рамках первоначально утвержденного плана закупа,</li> <li>- при значительном изменении валютного курса (но не более одного раза в год в годовой договор и не более двух раз в долгосрочный договор)</li> <li>- внесение альтернативных качественных изменений ТРУ в сторону улучшения при неизменности цена за единицу</li> </ul>

### 2.1. Опрос экспертов обеих систем

Один из методологов Самрук-Казына – Тажибаев К. – дал следующее определение миссии применения Правил Фонда: Одна общая площадка проведения закупок основных квазигосударственных организаций позволяет предпринимателям страны видеть потребности и предлагать свои услуги с одной стороны, и с другой стороны систематизирует закупки квазигосударственного сектора, оптимизирует расходы за закупки (путем внедрения стратегийных закупок для компаний всего холдинга).

При составлении Правил закупа Самрук-Казына методологи изучают мировой опыт молодой науки Procurement и внедряют ее. Основной проблемой системы является разноплановость организаций, входящих в холдинг Самрук-Казына. Унификация Правил для всех компаний не дает учесть специфичность определенных отраслей. Например для авиакомпаний процесс поставки топлива должен проходить быстро и своевременно, а Правила порой не дают эту гибкость ввиду частого изменения цен на

топливо. Господин Тажибаев также подчеркнул, что при периодическом внесении изменений в Правила, Самрук-Казына старается сохранить законы свободной рыночной конкуренции, не устанавливая искусственные барьеры для иностранных компаний, поскольку Казахстан стоит на пути вхождения в ВТО.

В то же время реестр Nadloc и Правила приобретения ТРУ недропользователями УВС были разработаны с учетом всех особенностей нефтяной сферы, добычи твердых полезных ископаемых и урана. Однако по словам экс-работника ТОО «Nadloc» О.Сулайманова, основной целью, преследуемой данной системой, было обеспечение доли местного содержания в закупаемых ТРУ и, таким образом защита и поддержка отечественного бизнеса.

## **2.2. Опрос закупщиков**

С точки зрения закупщика, которым являюсь, и троих моих коллег, регламент закупа Самрук-Казына очень жесткий и не учитывает часто меняющиеся потребности производства. Так например, любая задержка в подписании договорного документа на сайте на день влечет к аннулированию закупки. Подписание договора, дополнительного соглашения в электронном виде обеими сторонами также неудобно (нет возможности добавления технических документов к договору, которые стороны считают ключевыми, например график выполнения работ) . Также, в случае поступления жалоб от поставщиков (зачастую необоснованных), закупка замораживается до выяснения истины, что негативно влияет на производственные процессы компании.

Изменение объемов закупа ввиду производственных процессов и необходимость сначала утверждения плана закупа руководством и только после этого осуществления закупа занимает много времени.

Сам интерфейс сайта и документы генерируются только на русском языке, в то время как согласно Закону о языках, договорные документы должны подписываться на русском и государственном языках. В дополнении к этому, для иностранного инвестора необходимо заключение договоров на английском языке. В связи с этим, мы были вынуждены параллельно с электронным подписанием договора оформлять и подписывать договора на казахском и английском языках на бумажном носителе.

Реестр Nadloc меньше не требует подписание договорных документов на сайте, а только планы закупа, тендерные документы и протокол итогов по всем закупкам. По сути, подписание всех документов в реестре разрешают делегировать закупочному департаменту. А на сайте Самрук-Казына предусмотрена авторизация Директора, юриста, закупщика, департамента-заказчика. И для своевременного оформления документов на сайте вовлечена вся организация, что требует нахождения сотрудника в офисе (или как минимум с ноутбуком), обучения работе на сайте и т.д.

Что касается производственных закупок, реестр Nadloc дает более короткие сроки на проведение тендеров и допускает закуп из одного источника работ по бурению

разведочной скважины. При этом полностью отсутствует какая либо предварительная квалификация поставщиков.

### **Раздел 3. ВЫВОДЫ И РЕКОМЕНДАЦИЯ**

Для недропользователя углеводородов более удобными являются Правила приобретения ТРУ недропользователями УВС и реестр Nadloc. Однако здесь имеются свои недостатки:

- отсутствие этапа аккредитации/предварительной квалификации поставщиков;
- жесткие критерии по местному содержанию, что ограничивает конкуренцию;
- преференции отечественным производителям (условные скидки, обязательное требование в обеспечении местного содержания не менее 50%), которые предлагают более высокие цены и тем самым понижают рентабельность бизнес-проекта недропользователя;
- невозможность установления требований о наличии опыта у персонала участников тендера;
- ограниченный перечень случаев, когда допустимо заключение дополнительных соглашений.

В целом, еще раз важно подчеркнуть, что на стадии разведки участка на наличие УВС, на которое дается от 3х до 6 лет, сроки являются ключевым критерием и поэтому возможность закупа геофизических, геологических исследований, а также бурение разведочных скважин способом из одного источника, предусмотренное Правилами приобретения ТРУ недропользователями УВС, является соответственно главным плюсом для недропользователя.

Тенденции рыночной экономики и стремление недропользователя/инвестора максимизировать свою прибыль, в любом случае, стимулируют его к постоянному контролю и снижению затрат на закуп. В связи с этим, государство должно вовлекать инвестора в процесс разработки закупочных норм, иначе, ввиду позиции государства поддерживать отечественного производителя, инвесторы за неимением экономической рациональности и выгоды будут отказываться от проектов в Казахстане.

В свое время, когда были запущены крупнейшие проекты страны (Тенгиз, Кашаган, Карачаганак), иностранные инвесторы были привлечены на условиях ОСРП, где закупки проводятся по внутренним процедурам. С тех прошло около 20 лет, но по-прежнему именно инвесторы данных проектов являются самыми крупными налогоплательщиками в РК и доля их затрат на закуп по отношению ко всем недропользователям составляет 80% в 2020 году, 82% - в 2019 году. В то время как по введенным правилам закупа для недропользователей (Nadloc, Самрук-Казына) и Кодексу о недрах РК на сегодняшний день нет успешных проектов по разведке и добыче УВС, а наоборот несколько крупных инвесторов покинули рынок Казахстана (BP, Shell, Statoil, Корейская национальная нефтегазовая корпорация).

Большое значение имеет также обмен опытом с другими странами и повышение квалификации национальных кадров, задействованных в разработку правил закупа. Это позволит им смотреть на предмет с разных сторон, применять лучшие международные практики и учитывать интересы как государства, так и инвесторов.

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# **Strategic Management of the enterprise**

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## **Abstract**

“Strategy – is the determination of the basic long-term goals of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals” - is the classical definition of strategy formulated by Alfred Chandler, who is called the “doyen of American business historians”.

The market dynamics today is so unpredictable that without having thoroughly “calculated” strategy, accounting for possible scenarios, a company would not be able to take the leading position in the market and even exist. The reason is because the strategy helps a company to foresee the possible scenarios, to use and allocate its resources rationally and by doing so to achieve the set goals.

This work represents the research made in respect of the National company KazMunayGas, due to strategical significance of the company, being one of the drivers of the RoK national oil & gas industry development. Herewith, the company is believed to be adherent to the principles of the strategic planning and efficient organization, which allows it to rationally manage the large portfolio of assets throughout the oil & gas supply chain, integrating upstream, midstream and downstream sectors.

Alongside with this, the company is striving to achieve further ambitious goals, pursuing at the same time the principles of the sustainable development.

## **Introduction and objective**

The year 2020 has become a kind of the crucial stage in the history. In addition to strengthening economic, the humanity has also faced the new challenges. First of all, it is the direct “shock” effect on the healthcare system, and in general aggravation of the world economic recession, the ‘coronacrisis’ has caused. Due to the risk of the contamination large production enterprises have been forced to put the operations on hold, countries have closed the borders, which led to the collapse of the tourism and all related spheres of business. The extended lock-down has bankrupted the cafes and restaurants, shopping centers, places of leisure and entertainment. Summarizing now the situation happening during 2020, it can be resumed that some of the enterprises and business-owners have been able to adapt to the new reality, find the solution, moreover some have even turned the circumstances into the advantage. On the contrary, other companies have been destroyed due to not having been able to transform for facing the challenge. The described situation has clearly demonstrated that the companies applying the strategical management, setting the specific goals and effective processes have turned out to be in more favorable condition, by having the necessary resources to stay afloat. In other words, “by using and applying the concepts of strategy on practice a company has a chance to take market forces under control”. [1]

The actuality of the given research is based on the fact, that in the recent past, plenty of the companies in our country have not recognized the importance of the strategic management, having relied more on the “situational” management of business and swift solution of the emerging problems. However, with time passing, most of the companies have come to realize that under the contemporary market conditions, assuming high volatility, it is extremely hard to exist and be profitable without figuring out the vision of the desired position in the market, mission underlying the company’s

existence, corresponding objectives and, of course, comprehensive strategy, i.e. the strategic management.

Speaking about the oil & gas industry, due to the worsening of the market conditions, which began in the end of 2014, the crash of oil prices by the end of 2015 reached 35%. The COVID-19 pandemic and following isolation measures have caused the deepening of the oil market crisis, due to shutdown of production, transport connection and consequently the drop of demand for oil and oil products. In addition to that, the price war between Russian and Saudi Arabia, which erupted in March 2020, against the background of the OPEC – Russia negotiations on the reduction of oil production output due to excess supply, has resulted in the oil prices fall to the minimum from 1991. [2] Such situation has put under the unprecedented risk millions of people employed throughout the supply chain of the oil & gas industry, and in general, the countries, whose economies are oriented at the export of nature resources. Needless to say that the current crisis will have not only immediate consequences, already experienced by humanity, but also the continuous influence on the global economic situation, including one of its main drivers – oil & gas industry. The 2020 outcomes have indicated the reduction of the funds invested into exploration and production by the oil companies, which however need to mitigate the natural decline of the production output at the mature oilfields and ensuring the future growth. Besides, the reduction of the revenues of the oil&gas companies threatens the research and development activity conducted by such companies aimed at the transit to the eco-friendly technologies and decarbonization.

The described aspects have obviously been reflected in the anti-crisis strategies and programs adopted by the world oil&gas companies as the response to the current situation. The present negative dynamics has forced the companies to mobilize resources, reduce costs, while maintaining the social, financial, and ecological sustainability.

Subject to the foregoing, the objective of the research is defining the key aspects to the strategical management of the company under influence of the external and internal environment. Thus, with the example of the case company the work is intended to reveal the process of the strategy building and advantages of the strategic management for achieving the set strategic goals, herewith based on the accomplished analysis of the factors of external and internal environment, identifying the possible gap in the company's orientation for future development.

The case company chosen for the research is the National company “KazMunayGas” JSC.

Research subject – strategic management through elaboration and implementation of the development strategy of the case company.

### **Literature review**

The subject of strategic management rises much interest from all kinds of public, from historians and researchers to the business owners, because strategic management has direct connection to the performance of an enterprise and can directly influence its activity and determine the development course. So, it's not of a surprise that there are plenty of texts and publications giving the insights into strategic management.

The core, to my view, consists of the fundamental works of the pioneers of the strategic management concept, Alfred D. Chandler, Igor Ansoff and Peter Drucker.

In his book “Strategy and Structure” (1962), Alfred Chandler has revealed that large companies of XIX–XX have experienced the transformation as a result of implementing new strategical concepts of business management, influenced by the changes in the main aspects of the environment ( such as demography, technologies development, etc.).

Another great contribution to the adoption and development of Strategic Management concept has been made by Igor Ansoff. His book “Strategic Management” (1979) may be considered as a

“guidance” for the companies even now, because he has elaborated the main principles for running business and succeeding in the unpredictable market environment.

The works of Peter Drucker, one of the outstanding figures in the sphere of management, were mainly devoted to the issues of effective management in the constantly changing environment. He believed that only those managers and companies can survive, who are able to adapt to the new circumstances and are ready to transform.

Although the works of these authors have been published several decades ago, they are still relevant and are still being referred to and cited by the contemporary managers and theoreticians, providing the ‘basis’ and expertise.

Among the latest works, covering the events of the newest history, and also considered as one of the fundamental books on strategy is the 9<sup>th</sup> edition of the “Contemporary Strategy Analysis. Text and Cases” by Robert Grant (2016). The book familiarizes the reader with such concepts as strategic management, corporate strategy, strategic analysis, and competitive advantage. And further to introducing the reader to the competitive advantage, the author explores the resources and capabilities behind such advantage and the variety of business strategies, depending on the available resources and field of activity of a company. The book demonstrates the correlation between the strategy and deep analysis, as the latest allows a company or individual to assess the available resources and current situation and thus build an appropriate strategy for achieving success.

Another book worth mentioning is “The Mind of the Strategist. The Art of Japanese Business” (4<sup>th</sup> edition, 2015) by Kenichi Ohmae. This work of a famous business strategist is highly valued by managers of all levels for giving the practical advises on business processes, mindset and planning methods by studying the real examples of the certain companies.

The work of Avinash K. Dixit and Barry J. Nalebuff, “The Art of Strategy: A Game-Theorist’s Guide to Success in Business and Life” (2008), is another brilliant manual on the hacks of strategic thinking and making the right strategic choices for winning in a competitive world. The authors demonstrate how the strategic processes work in correlation with the interrelation among companies and individuals. The book will be of a high value not only from professional standpoint, but also as a guide to become more successful in life.

Other valuable sources helping to develop a thorough understanding of the strategic management concept for the purpose of writing the given work, include the texts of Pankaj Ghemawat “Strategy and the Business Landscape” (3<sup>rd</sup> edition, 2009), “Strategic Management and Business Policy” (13<sup>th</sup> edition, 2012) by Thomas L. Wheeler and J. David Hunger, “Foundations of Strategy” (2<sup>nd</sup> edition, 2015) by Robert M. Grant and Judith J. Jordan.

### **Research methodology and data collection**

The empirical research was conducted using mainly abductive approach. The research is based on progress from theoretical framework to analysis of the chosen company’s case.

The data collection method chosen for accurate observing and studying the work’s subject can be considered as the mix of the quantitative research and qualitative one. This assuming that during the research on the one hand the cause-and-effect relationships, measurable data (such as key figures and indicators of the company’s profile, ratios, historical performance) and conclusive approach based on the obtained quantitative data have been applied. On the other hand, the qualitative research provided the grounds for characterizing such subjective aspects as the management of the company, social factor, the position of the company in the market and the factors effecting it, figuring out in the end the competitive advantage of the studied company.

Concerning the sources for obtaining data, minding the objective of the work, which is to explore the role of strategic management and its comprehensiveness against the factors of the



company's environment, the secondary sources have been utilized to make analysis-based conclusions. Thus, the information for assessment and input data have been mainly obtained from the annual reports on company's performance, reports on sustainable development, official website of the company, which enabled the thorough analysis by comparison and understanding the trends. Herewith the choice of the case study research strategy is fully justified by the subject of the work and related underlying purposes it envisages.

### **Data analysis with the strategic management analysis tools**

The strategic management is necessary for the companies to identify purpose and give direction, to utilize its capabilities effectively and coordinate decisions of different individuals. [3] Based on this definition, vitally important part of the strategic management is completion of the accurate comprehensive analysis of the internal environment of a company (i.e. strong and weak points of a company), external environment (factors that can potentially affect a company) and the complex analysis of the obtained findings. Once the analysis process is accomplished, what a company gets is the input data for building up the accurate strategy, providing for the correlation of existing internal resources to the possibilities and challenges of the constantly changing environment, which means that a company will have the actions plan for achieving its targets and ability to amend such plan in case where the environment changes.

In pursuance of the objective of the work following strategic analysis tools have been applied.

PESTEL analysis (political, economic, social, technological, environmental legal) is the widely spread tool for discovering the factors of the external environment, which may potentially influence a company. It shall be noted that such factors are out of control of a company, however a company shall consider the consequences for a company, which may be brought by the changes in such factors. Finally, the strategy shall account for these factors. [4] Process of the PESTEL analysis consists of the following steps:

1. identification of the external environment factors;
2. estimation of the level of influence of the factor on a company;
3. estimation of a factor's change probability;
4. estimation of the factor's influence in the case of its change.

Following tool of the strategic analysis, which makes the most contribution to building mission and vision of a company is the VRIO analysis applied for analyzing the internal environment of a company. Such analysis provides for identifying the resources and capacities of a company, which could form the sustainable competitive advantage. [5] The analyzed internal aspects are assessed against four essential criteria: Value, Rarity, Imitability, Organization. As a matter of rule, the assessment considers the financial resources (own capital, access to financing), human resources (skills, knowledge, expertise), material resources (materials, equipment), and nonmaterial resources (brand, intellectual property, know-how). The purpose of such assessment is to discover the resource, which may become the sustainable competitive advantage of a company.

After having completed the assessment of the external factors of influence and identifying the strengths and weaknesses of a company, these findings shall be analyzed in complex. SWOT analysis is the highly useful tool for defining the strategic goals of a company and compiling the strategic plan for their achievement. This becomes possible thanks to ability to show the direction for the future development of a company, which resources to involve for realizing the competitive potential, which risks shall be foreseen and mitigated.

The SWOT abbreviation assumes the combination of the generalized factors of external and internal environment into four scenarios: Strengths x Opportunities, Strengths x Threats, Weaknesses x Opportunities, Weaknesses x Threats. The task of SWOT analysis is to provide structured

description of a situation, for which the decision should be made. The outcomes of this analysis are descriptive in nature and do not provide recommendations or priorities. [6] Herewith these outcomes become the basis for elaborating the strategic objectives and corresponding strategy.

The results of having applied the aforementioned strategic analysis tools to the case company are given in the following tables.

1. PESTEL analysis (applicable to external environment).

External environment factor	How company is influenced	Influence level	Probability of trend (factor) change in the short-term perspective
Political / Geopolitical	1.Relations with the competent authorities in RoK and abroad	Medium	Low
	2.Relations with the trade and strategic partners	Medium	Low
	3.Sanctions against Russia	Low	Low
Economic	Financial sustainability	High	High
Social	Productivity, efficiency, safety of human resources	High	High
Technological	Digitalization, processing and analysis of bigdata	High	High
Ecological	Pollution, carbon footprint, climate change	Medium	Medium
Legal	Anti-corruption regulations of RoK and foreign states, which have the force abroad	Medium	Medium

Based on the table it is evident that out of the described factors of external influence, the most significant are economic, social and technological spheres. Economic and social factors may entail potential risks for the company. In the technological sphere on the contrary the company may achieve the competitive advantage.

2. VRIO analysis of the internal factors of the company, which may create the competitive advantage.

Resource	Valuable	Rare	Imitable	Organization
Ability to generate capital	Yes	No	Yes	Yes
Production facilities and other related assets	Yes	Yes	Yes	Yes

Resources base + perspective increase in reserves	Yes	No	Yes	Yes
National company status	Yes	Yes	Yes	Yes
Implementation of innovative technologies, digitalization	Yes	No	No	Yes
Organization of corporate management	Yes	No	No	Yes

As shown in the table the research company possesses two strong aspects, which can develop the long-term competitive advantage: first, availability of production facilities and other related assets (oil refineries, oil transportation routes). Second is the nonmaterial resource of having the national company status. Due to this, KMG has the priority in obtaining the subsoil use rights for the strategic subsoil use areas, receives the state support in loading the oil refineries. Besides, being the national company, KMG has the control over the oil transportation infrastructure of Kazakhstan, having created the diversified oil transportation system with high transit and export potential. The KMG group is the monopolist at the market of oil refinery. The other factors described in the table also play a significant role in the company's activity, yet the other companies from the market have equal access to the described resources.

### 3. SWOT analysis of the external and internal aspects of influence, analyzed previously

	<b>Strengths</b>	<b>Weaknesses</b>
<b>Opportunities</b>	<p><b>Strengths x Opportunities</b></p> <p><b>Strengths:</b></p> <ul style="list-style-type: none"> <li>- National company status</li> <li>- Assets in transportation / refinery sectors</li> <li>- Participation shares in the large oil&amp;gas projects</li> </ul> <p><b>Opportunities:</b></p> <ul style="list-style-type: none"> <li>- Attraction of strategic investors under carry-financing terms</li> <li>- Realization of transit and export potential</li> <li>- Increase in reserves base</li> </ul>	<p><b>Weaknesses x Opportunities</b></p> <p><b>Weaknesses:</b></p> <ul style="list-style-type: none"> <li>- Debt burden / impossibility of further borrowing</li> <li>- Non-core assets</li> <li>- High operational costs</li> </ul> <p><b>Opportunities:</b></p> <ul style="list-style-type: none"> <li>- Use of positive credit rates for the debt refinancing</li> <li>- Improvement of the capital structure by attracting investment (carry-financing by investor of the joint projects)</li> <li>- IPO, SPO (i.e. attraction of financing without additional debt burden)</li> <li>- Implementation of ERP system</li> <li>- Automatization and digitalization of management processes</li> </ul>

<b>Threats</b>	<b>Strengths x Threats</b>	<b>Weaknesses x Threats</b>
	<p style="text-align: center;"><b>Strengths:</b></p> <ul style="list-style-type: none"> <li>- National company status (attraction of the strategic investors under the carry-financing terms, easing of tax-regime in the periods of low oil prices)</li> <li>- Ongoing digitalization aimed at production costs reduction</li> </ul> <p style="text-align: center;"><b>Threats:</b></p> <ul style="list-style-type: none"> <li>- High market volatility</li> <li>- Growth of capital intensity of the oilfields development</li> </ul>	<p style="text-align: center;"><b>Weaknesses:</b></p> <ul style="list-style-type: none"> <li>- Social factor due to presence in the social tension regions <ul style="list-style-type: none"> <li>- Debt burden</li> <li>- High operational costs</li> </ul> </li> <li>- Decline in production output at the mature oilfields</li> </ul> <p style="text-align: center;"><b>Threats:</b></p> <ul style="list-style-type: none"> <li>- Further growth of social tension in the presence regions</li> <li>- High market volatility</li> <li>- Growth of capital intensity of the oilfields development</li> </ul>

Completed analysis of the internal and external environment of the research company together with SWOT analysis provide a solid basis for elaborating the mission and vision of a company. This becomes possible since the analysis of the external environment reveals the main opportunities and threats to the company, whereas the analysis of the internal environment gives an understanding of the internal resources, which may create the competitive advantage, as well as the weak sides of a company, the risks of which shall be mitigated. Herewith the VRIO analysis may reveal those resources of a company, which have the potential of becoming the competitive advantage, but lack some of the criteria or are not recognized by a company. The SWOT analysis in turn generates scenarios based on various combinations of internal and external aspects, which support in building the strategy of a company for fulfilling its mission (why company exists) through achieving the strategic goals. As formulated by Jordan and Grant, the components of the successful strategy are: simple, consistent, long-term goals, profound understanding of competitive environment, objective evaluation and allocation of resources plus effective implementation. [7]

“KMG **Mission** is in ensuring maximum benefits for the Shareholders from participation in the development of national oil & gas industry.

**Vision** – by 2028 KMG shall become the highly efficient vertically integrated operational company, complying with the highest standards of safety and corporate management” [8]

Further to formulating the mission and vision, strategic management process requires to set the strategic goals of a company, whose achievement will contribute to realization of a company’s mission and vision.

For the research company following strategic goals have been defined:

1. Value creation and financial sustainability;
2. Increase of manageability of the subsidiary companies;
3. Corporate governance and sustainable development. [9]

After analyzing the strategies of some of the large international companies, it can be stated that all of them share a common feature, which is adherence to the principles of sustainable development and creation of value for the shareholders, which is conditioned by the modern development trends.

Minding that major shareholder of KMG is the state, the national company plays an important role and bears responsibility for fulfilling its tasks on energy security, development of the RoK oil & gas industry, maintaining the social peace in the regions of its presence, and of course significant contribution to the budget and economic development of the country. Alongside with this KMG represents the interests of the state in terms of the subsoil use, strategic partnership with foreign investors in realization of the joint projects on exploration, production, and export of the hydrocarbons. Therefore, the development strategy of KMG complies with the national development goals in economic, social and ecological spheres.

“The development strategy adopted in 2015 was elaborated under the conditions of drastic fall of oil prices and so was intended first of all at the adaptation of the business model to the low prices scenario.” [10] In 2018 the company adopted new strategy for the 10-years period, considering the factors of the internal and external environment and being guided by the possible development scenarios and trends existing at the moment in global economic, geopolitical, and ecological spheres. The principal objective of KMG development strategy can be described as steady organic growth for 2018-2028. Analysis of the key indicators of the company performance shows that up to now the adopted strategy has been successfully realized. Thanks to the operative measures based on the existing anti-crisis program, the company succeeded to overcome the negative affect of the oil market crisis and give response to the faced challenges.

More importantly, unlike the 2014-2015 crisis, the company faced the crisis of 2020 more prepared and financially sustainable, thanks to systematic smooth work, being performed, aimed at strengthening the financial sustainability, corporate management and other enhancements. As noted by the Chairman of the Board of Directors of KMG Christopher Walton, “KMG has proved its sustainability, and many years efforts in all strategic directions have secured the good support for the company at the period”. [11] Needless to say, that under the conditions of global pandemic the key performance indicators of the company for 2020 are worse than those of the previous years. Herewith it shall be pointed out that as a result of 2020-2021 anti-crisis strategy implementation, the key indicators have exceeded the pessimistic scenario, or have been fulfilled at the planned level.

Another focus of the strategy of the research company, which shall be pointed out, is in its commitment to the principles of sustainable development, stipulating the coherence of economic, social and ecological goals.

Speaking about the strategic management, it can be resumed that the responsibility for implementation of the strategic initiatives is allocated between the relevant divisions of the company according to their specific activity. Overall, the company is striving to involving and motivating the employees of all levels into the process of strategic goals achievement. The implementation stage requires more diverse human resources than strategy’s formulation. In most of the large and multi-industry companies everyone can be an implementer of a strategic program, and every employee or manager who runs day-to-day operations has to be involved in the process. “Thus, a better organizational performance is achieved when people across all functional levels are engaged in strategy implementation.” [12] Herewith, the main body for defining the priorities, elaborating the according strategy and its implementation is the Board of Directors of KMG, basing on the proposals from the executive body of KMG. Thus, as was indicated by Peter Drucker in his book “Effective Executive”, the top-down and down-top goal setting is ensured. The strategic objectives are cascaded top-down, making the organization understand “what it exists for”, however the question “how exactly do we plan to achieve the strategic objectives” will be answered by the employees at the “front line”. [13]

Assessment of the today’s achievements of KMG may lead to the conclusion that strategic management in the company is fully integrated into all levels, which includes such aspects as: pursuing the adopted strategy accounting for all main challenges and opportunities, faced by the

company, and implementing effective measures on realization of potential or minimization of risks and overcoming the crisis situations.

Herewith, comparing the course of development chosen by the largest oil & gas companies, their transformation into energy companies shall be noted, while yet insufficient attention is paid by KMG to the alternative energy sources. Whereas the green technologies today take the core place in the development strategies of the biggest companies and even states. Therefore, including such innovative activity to its portfolio may become for KMG the long-term competitive advantage. Likewise, it is important to boost the activity in oil refinery and petrochemistry sectors, which will decrease the dependence on oil prices and enhance the resistance to market volatility. This need was also emphasized by the President of RoK in his message of 2020, stating that overall, the complexity and technological efficiency of the economy shall be enhanced and, in particular, Western regions of Kazakhstan must become the centers for attracting the investments into building the petrochemistry complexes and creation of new production cycles of processing”. [14]

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## **“Role of Hydrogen in Energy Transition”**

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### **Abstract:**

What is the current role of hydrogen in energy transition against the climate change? How the low-carbon hydrogen deployment can support to worldwide decarbonization? How the hydrogen can decarbonize the hard-to-abate industrial sectors? What is the current demand for hydrogen? What is the main bottlenecks to scale up the low-carbon hydrogen? What is the governments' view and strategy in low-carbon hydrogen deployment? These are some of the questions current thesis attempted to address in order to provide an overview of the role of hydrogen in energy transition campaign, and to outline the current challenges and recommendations on a way forward. In order to guide the thesis and better understand the terminology, attention was given to appropriately unfold the low-carbon hydrogen definition and its background. The literature review has been conducted as a survey of relevant information available in the network and provides the necessary updated information. The work concludes by recommending the key areas of improvement to address the current gaps in the low-carbon hydrogen development.

### **Introduction and objective:**

The objective of this study is to gain valuable and holistic understanding of the hydrogen application and its role in decarbonization. The overall goal was to create a framework for further understanding the role of hydrogen in the energy transition campaign and to strengthen existing research.

Over the last ten years, I have been working in the development of oil and gas projects in Kazakhstan. Having worked in the International Oil and Gas Company pursuing the energy transition, I have been recently involved in the projects to reduce the carbon emissions and to introduce the low-carbon technologies in the oil and gas assets. As I began to conduct my own research and investigations on the hydrogen development, I've discovered that albeit its high potentiality and importance, the hydrogen topic is not yet disseminated in a sufficient manner. The low-carbon hydrogen development is being promoted in the several assets worldwide, but most of the people do not have a clue on how the hydrogen can decarbonize the carbon emissions. Given the versatility of hydrogen use and supply, current topic shall be properly unfolded and clarified with all the necessary terminologies and definitions in a simple and smart way. The society should understand the key importance of energy transition against climate change and essential role of hydrogen in decarbonization. I hope that my thesis can contribute to the better understanding on the role of hydrogen in energy transition and will shed light on the areas for further improvement.

By conducting a data collection and analysis from the various information sources, I tried to investigate and answer the following questions: first, where we are with the hydrogen production and use today? Second, why we need hydrogen in the decarbonization? And thirdly, what is the peculiarities and challenges of low-carbon hydrogen production?

In order to answer these questions, I used the following research questions for the basis of my explorative study:

1. What are the goals and impacts of energy transition?
2. What is the nature of hydrogen use in various industries?
3. How the hydrogen can help in decarbonization?
4. Which factors are contributing for hydrogen development?



5. Do the countries have a strategies for energy transition and has the role of hydrogen indicated there?
6. What is government support in promotion for energy transition and hydrogen?
7. Are there any clear recommendations how to improve the hydrogen deployment?
8. What challenges are facing the further hydrogen scaling up?

### **State-of the-art literature review;**

Hydrogen and Energy have a long shared history. There have been several waves of interest in hydrogen in the past. The pilot demonstration of water electrolysis and fuel cells captured the interest of scientists in the 1800s. Hydrogen was also used to fuel the first combustion engines over 200 years ago. Hydrogen has been an integral part of the energy industry since the mid of past century, when the hydrogen use in oil refining became commonplace. However, the new wave of interest in hydrogen in nowadays is mostly driven by the worldwide campaign against climate change to deliver low-carbon solutions and additional benefits that only low-carbon hydrogen can provide.

The number of oil and gas companies as well as the entire countries have established the strategies to reduce the greenhouse gas (GHG) footprint at their assets worldwide. The 195 signatories of the 2015 Paris Agreement on climate change agreed to raise their emissions reduction efforts towards net-zero emissions from all industry sectors over the course of the century. The story initially begins from the worldwide campaign against climate change as scientists say that to avoid the worst climate impacts, carbon footprint need to be slashed in half by 2030 and reach net zero in 2050.

Being coupled with the other key pillars of decarbonizing like energy efficiency, electrification, behavioral change, renewables and CCUS, the hydrogen and hydrogen-based fuels play an important role in the global energy transition. It has been pointed out that the net-zero will be unlikely achieved without low-carbon hydrogen development. Considering its versatility, the hydrogen is promising way to decarbonize the industry sectors and to achieve a net-zero emissions. Hydrogen can do many roles:

to be an energy carrier storing the energy (from renewables), to generate power, to fuel heavy transport, and to supplement/replace the fossil fuels in hard-to-abate industry sectors (steel, cement, glass, ceramic, etc.).

Over the last years, the hydrogen production has been classified by colors referring to different hydrogen production routes (e.g. green for hydrogen from renewables electricity and blue for production from natural gas with associated carbon capture, utilization and storage).

As per Global Hydrogen Review Report by IEA (2021), the global hydrogen demand of 90 Mt in 2020 was almost entirely supplied by fossil fuel-based hydrogen, out of which the 72 Mt H<sub>2</sub> (79%) produced from dedicated hydrogen production plants. The rest 21% was by-product hydrogen produced in facilities designed primarily for other products.

#### **Research methodology and data collection tool;**

Appropriate selection of a research model is important for any research. For this research, I have mostly applied a basic research methodology to collect data to enhance knowledge, not creating or inventing anything during the process. The methodology used is a theoretical research based on investigation carried on basic principles. With this approach, I just wanted to provide in-depth and systematic overview to make the subject explanations easier. In addition, the problem-oriented methodology has been applied to outline the main challenges and constrains in low-hydrogen development. As such, some recommendations and outcomes have been given in the research.

My primary source for data collection was the open source reports and strategies available in the network. The data has been mostly collected from the open sources provided by recognized international agencies and forums, who have a strong expertise and most recent information on the hydrogen deployment around the globe.

### **Data analysis with critical thinking and discussion;**

Being analyzed the data collected, I was impressed with the strong hydrogen demand growth and the adoption of low-carbon technologies for its production thus enable hydrogen and hydrogen-based fuels to preclude up to 60 Gt CO<sub>2</sub> emissions in 2021-2050 in the Net-Zero Emissions Scenario (IEA, 2021). It was clear for me that hydrogen fuel use is particularly critical for reducing emissions in the hard-to-decarbonize sectors, where direct electrification is difficult or impossible to implement.

The several net-zero strategies have been reviewed to understand the role of hydrogen in the countries energy transition. The development of a “hydrogen economy” is still at its early stages with few countries having published strategies, though there is broadening global interest and support. To date, twelve countries and the European Union (EU) have published their national hydrogen strategies, with nine published within the last year alone. A further nineteen countries are currently drafting their strategies with many aiming to publish in 2021, demonstrating a clear acceleration of government interest. A few countries have been particularly influential with their hydrogen strategies. Japan’s early commitment catalyzed interest in the Asian-Pacific region, with South Korea and Australia publishing their own strategies shortly afterwards. Germany was an early mover in Europe and helped push the EU hydrogen strategy during its EU presidency. In Latin America, Chile has moved quickly with many neighboring countries also now in the process of developing their strategies (World Energy Council, 2021).

While when it comes to the hydrogen production sources, the summary varies country by country. The existing strategies show different forms of hydrogen based on color or carbon intensity of production for 2030 and 2050. The choice of hydrogen production methods depends largely on the resources available and existing energy systems within each country, as well as the state strategy and policy objectives being pursued.

Among the CO<sub>2</sub> emitting industry, the oil and gas sector is most proactive. Therefore, I tried to investigate the hydrogen related projects by several oil and gas majors like Eni, Equinor, Shell, and Saudi Aramco.

### **Summary, conclusion and recommendations**

Worldwide decarbonization ambitions are the key driver for increasing interest in hydrogen development. Achieving net zero emissions by 2050 will require a broad range of technologies to transform the energy system and hydrogen's unique properties and versatility make it a strong enabler for the energy transition, with benefits for both the energy system and end-use applications. However, the hydrogen production must also become much "greener" than it is today. For instance, of the ~90 Mt H<sub>2</sub> used in 2020, around 80% was produced from fossil fuels, mostly unabated. Practically all the remainder came from residual gases produced in refineries and the petrochemical industry. This resulted in almost 900 Mt CO<sub>2</sub> emitted in the production of hydrogen. In the Net zero Emissions Scenario, hydrogen production undergoes an unparalleled transformation process. By 2030, when total production reaches more than 200 Mt H<sub>2</sub>, 70% is produced using low-carbon technologies (electrolysis or fossil fuels with CCUS). Hydrogen production then grows to over 500 Mt H<sub>2</sub> by 2050, practically all based on low-carbon technologies. Reaching these goals will require that installed water electrolysis capacity increase from 0.3 GW today to close to 850 GW by 2030 and almost 3 600 GW by 2050, while CO<sub>2</sub> captured in hydrogen production must rise from 135 Mt today to 680 Mt in 2030 and 1 800 Mt in 2050. Strong hydrogen demand growth and the adoption of cleaner technologies for its production thus enable hydrogen and hydrogen-based fuels to avoid up to 60 Gt CO<sub>2</sub> emissions in 2021-2050 in the Net zero Emissions Scenario, representing 6.5% of total cumulative emissions reductions (IEA, 2021).

Generally, the hydrogen has the following main roles in energy transition to decarbonize the major industry sectors:

- Decarbonize the hard-to-abate sector. The low-carbon hydrogen fuel use is particularly important for reducing emissions in the hard-to-abate sectors in which direct electrification is difficult to implement, i.e. steel, cement, chemical, etc.
- Support the renewable energy to become large-scale and more efficient: This can be achieved, if the excess power from renewables will be producing the hydrogen (via electrolysis) to provide a back-up power during the power deficits or can be used for other hydrogen off-takers like mobility, industry or heating.
- Distribution of green energy over the long distances: Some countries are not well positioned for renewables energy generation or have a limited power transmission resources to get the renewables electricity. Thus, the hydrogen can transport the renewables electricity over long distances.
- Decarbonize the mobility sector: the transport emissions can be decarbonized by the hydrogen-powered fuel cell electric vehicles. Such vehicles can drive long distances without needing to refuel (more than 500 km), they refuel quickly (3 to 5 minutes), which is attractive for long distance and heavy-duty transportation.
- Decarbonize the heating of buildings: the hydrogen can be used either as a fuel combustion (pure or blended with gas) or as energy converter.

In conclusion, significant areas remain for further research on the topic of role of hydrogen in energy transition. The role given to hydrogen in global energy transition varies on the energy transition strategies per each country and region. Firstly, not all strategies aim for the same CO<sub>2</sub> reduction target. The more ambitious the decarbonization target, the greater is the amount of low-carbon hydrogen expected in the industry. In the low levels of decarbonization, renewables energy and electrification might be enough, while with deeper decarbonization targets, the low-carbon hydrogen would play a larger role in the future energy mix. Secondly, not all strategies rely on the same set of enabling

regulations and policies. The state subsidies and incentives for fossil fuel removal would encourage the growth and deployment of low-carbon solutions like hydrogen. In contrast, the stricter regulations on carbon emissions will only motivate the CO<sub>2</sub> emitters to decarbonize their assets. Last, but not least, the cost assumptions in the strategies vary and as such those strategies with the highest ambitions for low-carbon hydrogen deployment are those with the most optimistic assumptions for current hydrogen cost optimization. For all these reasons, the role of low-carbon hydrogen varies widely among the national strategies. However, as long as decarbonization strategies are developed to reach the net-zero emissions, the low-carbon hydrogen is more prominently present and disseminated in strategies and public awareness.

I hope that this thesis has disseminated the topic and would contribute to the useful research works providing overview to the role of low-carbon hydrogen in the global energy transition.

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## **“Cultural Barriers in Adoption of Green Entrepreneurship in Kazakhstan”**

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### **Abstract**

The modern scientists state that global economy has suffered significantly from the "traditional business system". This way of running after the increased GDP level has created a serious danger to humanity. Today, The United Nations, as well as a number of other global organization encourage people to turn from the traditional system of economy to the sustainable one. This research paper was dedicated to analysis of Green Entrepreneurship opportunity, which rises from the world tendency of

switching to the green economy, and cultural challenges, which are considered on the example of the Republic of Kazakhstan. This work considers three factors which may affect green entrepreneurship development in the country, that are (1) Perceived Opportunity, (2) Role Model and (3) Community and Social Motivation. The main objective of this research was to identify the green entrepreneurship intention among university students in Kazakhstan and check which factors have a significant effect on this variable.

### **Introduction and objective**

The state of the ecology in the country remains extremely important in the modern world. All kinds of governmental institutions force companies, enterprises and private sectors pay higher attention to the environment and reduce harm generated by human activities. In addition, the modern green movement makes people think more about ingredients and materials that are included in the preferred products. Sometimes, consumers reject one good due to the absence of eco-friendly ingredients or, on the contrary, the presence of the harmful substances. People try to separate recyclable materials and dispose them in specific containers.

For instance, there are special separated trash cans for the plastic waste in the number of countries including Kazakhstan. Another good example is a marketing campaign presented by H&M company, which inspires people to bring an old cloth in any H&M store all over the world. After this the materials are recycled and reused in the future H&M clothes. This action attracts consumers by providing an opportunity to take part in the ecology-saving campaigns. On the other hand, company benefits from this kind of activities by using free material and cutting costs on this basis.

The chairman of the board of “The coalition of green economy and development G-Global”, Saltanat Rakhimbekovna, stated that the overall ecological situation in Kazakhstan have not been improved complexly even once during the past several decades by taking into account that the average financial investments has been increased (Strategy 2050, 2020). The Ministry of Ecology, Geology and Natural Resources of Kazakhstan republic has mentioned the most common problems that are faced by the government. Firstly, the decreasing volume of drinking water due to the problems associated with the increasing wastes. Based on the data provided by some independent specialists, the level of illnesses in the regions that suffer from the water and the soil pollution is on 40% higher than in the other parts of the country (Information and Analytical Center of the Environmental Protection, 2020).



Secondly, the ecological system in Kazakhstan is highly harmed by the oil producing stations that pollute huge territories around them. In addition, all other methods of collecting natural resources act as an additional polluting factor in the kazakh ecology. Thirdly, Almaty, that is the largest city in the country based on the population and territory, from the beginning suffers from the high air pollution. A geological structure of the city does not allow air to be cleaned in the natural way, since the mountains serve as a barrier to the air streams.

A combination of these factors creates a challenge to the production of healthy food, increasing health conditions in the country and provide an alternative way of day-to-day activities. However, this problem has different levels of importance and may vary from country to country. So, the developed countries try to pay a higher attention to the environmental problems and solve them productively. On the other hand, the developing countries such as Kazakhstan and other Central Asian countries are either tend to avoid this topic, or do not promote it actively within the country.

Business growth and increase in the entrepreneurship sector has been one of the main drivers towards the stable, positive economic growth. Enterprises create new job opportunities for the population, stimulate productivity growth and encourage development of the innovative products and modifications. The Global Entrepreneurship and Development Institute publishes the annual Global Entrepreneurship Index by each country. This statistic covers 137 countries all over the world and provides the best visualisation of countries' performance regarding both domestic and international markets (GEDI, 2020).

According to the GEDI, the Global Entrepreneurship Index of Kazakhstan in 2019 was 31. The overall dynamics which cover a period from 2015 to 2019 is negative. It can be noticed that there were several fluctuations over the years from the rapid growth to a dramatic decline. 9 out of 12 Commonwealth of Independent States (CIS) countries are showed in the Figure 1 below (Kazakhstan, Russia, Ukraine, Azerbaijan, Georgia, Tajikistan, Kyrgyzstan, Moldova and Armenia).

### **Objective of the study**

The objective of the study is to understand which factors have a negative effect on the green entrepreneurship in Kazakhstan, and how potentially profitable is the green entrepreneurship development in this region.

### **State-of the-art literature review**

#### **Global Economy**

According to the European Committee, the world economic progress has made a huge growth during the last fifty years. There is no doubt that such significant economic growth has generated high financial advantages to the countries all over the world. Based on the information provided by OECD, some researches, which analyzed the difference between the experience of the emerging countries in terms of the development progress, have shown that sustainable growth is the best provider of poverty reduction among the population. A lot of scientists state that there is a positive connection between the growth and the decreasing poverty rate. However, there are also some disadvantages that appeared on this basis. The majority of countries tried to achieve this advantage without paying attention to other criteria that may influence the society (Department for International Development, 2016).

Environmental problems become more and more accurate during the years. There is a rise of the socioeconomic forces that take place in the world and local economy (Dunlap & Jorgenson, 2012). Some sources state that the current environmental problems that are faced by humanity have occurred because of the rapid industrialization and urbanization of the global market.

For the first time in a while, sustainable development was introduced in the early 80's. Firstly, the conversation regarding the environmental problems and the risks of the ecological crisis were raised in 1983 by the United Nations (WCED, 2020). During that conference, a decision regarding the introduction of a new commission was made. This commission is now known as the World Nations Commission on Environment and Development. The main aim of it is to scan the ecological situation in the world, analyze it and provide possible solutions of the problems occurred.

In 2011 European Committee underlined the problem that had been faced by the majority of the developed and emerging countries. In that paper the experts stated that the financial and environmental crisis show the necessity of rapid changes in the system of the world economy. In other words, governments should pay a higher attention not only to the economic and financial dimensions but also to the sustainability and ecological issues within the country. For example, Bina and La Camera (2011) mentioned that the green economy has been distributed during the financial crisis as a solution to the problems in local, regional and world markets.

According to Stern (2006), scientists all over the world share a mutual opinion regarding the fact that the danger rising from the environmental issues can be solved only by applying “collective economic adjustments” to the global economy (as cited in Georgeson, Maslin & Poessinouw, 2017). Based on the summary of the seventy-fourth session of the United Nations General Assembly, where the last

scientific researches and reports were brought, the main aim today is to achieve economic, environmental and social sustainability growth (Zhemin, 2020). On this basis Bina (2013) states that the majority of the international organizations and institutions agree that green economic growth acts as the best way to overcome crisis, both financial and environmental ones.

Some authors outline the main benefits from the introduction of the world economy. For example, Janicke (2012) states that the green economy will help the current traditional industry to move from the “downstream environmental protection technology to resource-saving technologies” by taking into account innovations and competitive environment in the global market. The “Green Growth Strategy” was firstly introduced in 2011 during the OECD forum (Kasztelan, 2017). This strategy consists of the steps taken to achieve the economic growth and benefits through the minimized harm to the environment, but still using the natural resource for the increasing of countries’ prosperity. The green growth is directly related to the green economy concept. Both of them promote the “social welfare and social justice”, as well as the risk rising on the basis of the environmental problems and defence of the ecological issues (UNEP, 2011).

### **Entrepreneurship Benefits**

The past years studies on the entrepreneurship subject have outlined the main benefits of entrepreneurship that are innovations provided by the new enterprises and employment places generated by the companies. Based on the financial side of the question, entrepreneurship serves as a supplier of economic growth, increased profit and promotion of wealth among the population. As mentioned by Luke, Verreynne and Kearins (2007), some authors in the past year's studies have identified the fact that entrepreneurship itself is a combination of activities or processes that can be implemented to all kinds of businesses’ forms.

According to Zahra and Wright (2015), there are five factors affecting entrepreneurship, which also should be considered in terms of the social role played by it. The first thing is based on the people who are involved both directly and indirectly to entrepreneurship (Autio, Pathak & Wennberg, 2013). It means that there is an “entrepreneurial ecosystem” that includes not only the entrepreneur but also the rest of the society which is somehow affected by business activities of the enterprises. For instance, new firms that start their business in the energy-related industry face the challenge to deal with the number of political and economic institutions and other organizations, as well as with the

shareholders' interest, that may confront each other. This fact may shape the “entrepreneurial ecosystem” and its behavior in the world economy.

The second force is based on the characteristics of the entrepreneurship in terms of its productivity. Shane (2009) state that the majority of the entrepreneurial activities do not provide enough productivity and benefits to the economy (as mentioned in Autio, Pathak & Wennberg, 2013). However, these organizations still provide additional employment opportunities that is considered as a valuable social benefit. Format is the third factor. In other words, format means the formal activities performed by the company. On the other hand, there are informal activities that may be harmful to the sustainability concept and may spoil the humanistic approach to words the green economy. For example, human trafficking, drug dealing and exotic animal sell (Zahra, Pati & Zhao, 2013).

The fourth factor is the most important one. It identifies the fields that are affected by the entrepreneurship activities and where the effect can be felt. Despite the conventional wealth-achievement objective that directed the companies and the whole economic system towards the higher GDP growth and increase in the other macroeconomic measures, there is another side of entrepreneurship. Today entrepreneurs are headed towards the environmental and social problems' solution through the sustainable innovations and technologies that serve as a better alternative. For instance, the rising pollution problem or food and water shortage in the world market.

The fifth force is based on the way of measurement of the effect that is generated by the entrepreneurs. Traditionally, it takes into account the financial and economic criteria that may show the economic state of the company. However, some other additional measures should be also included here, such as the impact made by the company on the social development, satisfaction level and benefits gained by society.

### **Effect of air pollution on economy**

Countries all over the world have faced a number of problems in the 21st century. Several systems have suffered during the past years, including economy, ecology and social disciplines. According to the OECD, air pollution is considered as the most serious ecological problem that may have a huge number of consequences in the economic context. There is no doubt that air pollution has a harmful effect on the overall health level of the society, agricultural sector and its development, and also generate a number of other problems that are faced by humanity during the last several decades.

Based on the forecasts of the OECD, the level of the air pollution is expected to rise in the near future due to the fast economic growth, which generates a higher demand for the energy sources. This fact may act as a force to the increased throw of the emissions in the atmosphere. The same investigation conducted by the Organization for Economic Co-operation and Development has predicted the healthcare expenses growth (provoked by environmental pollution and bad ecology) among the population by 2060. This number has achieved almost eight times more than in 2015. The rise is going to be from 21,000,000,000 in 2015 to 176,000,000,000 in forty years from today. Such a huge increase of costs in the healthcare system may also have a negative effect on the work productivity due to the rising number of the lost working hours. This will result in “global economic costs that gradually increase to 1% of global GDP by 2060”.

Another negative consequence of the increased air pollution may also result in the increased number of deaths resulting from the ecological risks. For instance, there were 3,000,000 deaths for the reason of ecological problems in 2010. In fifty years after this statistics from 6 to 9 millions of deaths due to the same reason are expected in the whole world. “A large number of deaths occur in densely populated regions with high concentrations of PM2.5 and ozone, especially in China and India, and in regions with aging populations, such as China and Eastern Europe” (OECD, 2016).

## **Results and Findings**

As it was previously said, one hundred survey links have been distributed to general public in Kazakhstan. Finally, 84 responses were received. It can be concluded that the response rate is 84%, since 84 out of 100 have agreed to participate in the research. All respondents are either permanent residents or citizens of the Republic of Kazakhstan. In addition, the only criteria was an actual student status in one of the local universities or institutes. The degree level varied from Bachelor and Master’s degrees to Doctoral degree, and did not matter during the data collection.

The first three questions provide a demographic information regarding the gender, age diapason and degree level. The rest of the questions presented one of three factors that are considered in this research paper, and had a form of the statements with the answers provided in a likert scale. Significant positive effect in this study is measured by likert scale. If the majority of respondents either “Agree” or “Strongly agree” with all statements that included in one factor, then the effect of this factor is considered as significant and positive one. From the statistical side of a question, the factors are analyzed by taking into account the Mean value calculated based on the results of data collection.

Mean is an average answer entered by each respondent. It shows an average value associated with each sentence in a form of a shared opinion among the sampling population. This measure is taken as the main value based on which the significance level of each factor is identified. The criteria here depends on the numerical result of the mean. If the mathematically rounded means of all five statements that are included in one factor are more or equal to “4”, that appears as “Agree”, then the factor is considered as a significant one. If the mathematically rounded means of all five statements that are included in one factor are less than “4”, that appears as “Disagree”, then the factor is considered as a non-significant one.

**Hypothesis 1:** Perceived opportunity has a significant positive effect on green entrepreneurship intention among students in Kazakhstan.

According to SPSS calculations, the first factor (Perceived Opportunity) which was presented by PO1, PO2, PO3, PO4 and PO5 variables. The table below shows statistical measures regarding the collected results. *Mean (PO1) = 3.99 ≈ 4.00, Mean (PO2) = 3.50 ≈ 4.00, Mean (PO3) = 4.14 ≈ 4.00, Mean (PO4) = 4.14 ≈ 4.00 and Mean (PO5) = 3.95 ≈ 4.00.* The average mean for all means of Perceived Opportunity variables equals to 4.00. **Since all the mathematically rounded means of all five statements that are PO1, PO2, PO3, PO4 and PO5 are equal to “4”, then the factor “Perceived Opportunity” is considered as a significant one.** *Hypothesis 1 is accepted.*

### **Summary, conclusion and recommendations**

Economic and social changes towards sustainable society remains accurate during the years. The traditional way of doing business has caused a number of critical environmental problems that are faced today by humanity and may negatively affect a well-being of the future generations. As mentioned by Farinelli et al. (2013), developed are countries tend to be more focused on the sustainable development rather than the emerging ones. However, it even adds an additional necessity to integrate green entrepreneurship business in the developing markets. At this point of economic development green entrepreneurs face an attractive opportunity to develop some new green ideas and promote sustainable innovations.

Sometimes it is more efficient to find the factors which may affect a particular intention among the local population. According to the United Nations the direction of local economy towards the sustainable development should be a priority for the governmental institutions. This fact may help the

global economy and humanity as a whole to overcome both financial and environmental crises and promote eco-friendly way of doing business.

Since this research paper was focused on the analysis of green entrepreneurship intention among students in Kazakhstan based on three factors, that are: “Perceived Opportunity”, “Role Model” and “Social and Community Motivation”. It was assumed that all three factors have a positive sufficient effect on the green entrepreneurship intention. However, the results have showed that only two out of three factors can be considered as significant ones. So, “Perceived Opportunity” and “Social and Community Motivation” have showed a positive results. The hypotheses regarding these two factors were accepted. On the other hand, “Role Model” factor has a small motivational effect on the students, since the majority of respondents have not agreed with the provided statements.

By interpreting the results, it can be said that students in Kazakhstan, who are considered as the more active and entrepreneurship-minded part of the population, are mostly forced by the internal willingness to respond to the provided opportunity. In other words, students have an internal motivation to start a new business or they have some other personal characteristics which push an individual to take a particular risk and became a green entrepreneur.

Another factor that showed a strong positive result is related to the external motivation which is mostly formed on the basis of social responsibility and motivation to improve local community. This factor is much more specific to green entrepreneurship idea, since it underlines the main objective of sustainable economy. High Social and Community Motivation is mostly expected if person plans to start any kind of a green business idea.

This study has identified the relationship between “Perceived Opportunity”, “Role Model” and “Social and Community Motivation” factors and green entrepreneurship intention among students in Kazakhstan. To sum up, the internal motivation to catch the potential business opportunity has a significant effect on the individual intention to open a new business. In addition, a sense of the social responsibility and improving of the welfare in the local community remains accurate among the potential or future entrepreneurs.

At the same time, it can be assumed that the “Role Model” concept did not play an important role in the current research, because green entrepreneurship is comparatively a new movement that had not been popular in the last century or among the older generation. This fact may exclude the existence

of the role model or, in other words, an example for behavioural imitation of a green entrepreneur among the younger generation.

Generally, the research has provided a better understanding of the motivational factors and the overall intention that is shared by the students in Kazakhstan regarding the future green entrepreneurship business opportunity. The overall results has showed that students are mostly motivated to open their own business and develop the idea towards the global sustainability. This is a positive signal for the future economic development.

### **Recommendations for future studies**

As it was previously mentioned current pandemic situation and financial crisis in 2020 may have a huge impact on the results of the research works conducted during this period. However, despite this fact, the results have showed the impact of each of one factors on the students' intention towards starting the sustainable business development in their native country. Green entrepreneurship serves as a potential key to solve both environmental and economic problems and challenges in the near future.

Entrepreneurship itself is an important driver of economic development and financial stability in the country. It also plays a significant role in the promotion of innovations and implementation of new technologies as well as the new products and services in the life of the local population. Sustainable business development, on the other hand, serves as good solution to reduce air and water pollution problems generated by traditional business units, improve the public health in the country and support the global movement towards a limited harm to the surrounding environment. This topic remains important for the potential entrepreneurs as well as to the governmental institutions, which are expected to direct the economy towards the sustainable growth.

Due to the limited time and financial support this study was focused only on three factors that were considered as potentially most related ones. It recommended to the future studies in the same field to focus on the wider range of motivational factors or drivers which may have a significant effect on the green entrepreneurship intention. Since not all of them may create an appropriate significance to the researchers. For instance, the results of this research paper have not identified any strong relation between the "Role Model" factor and green entrepreneurship intention among students.



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## **“The literature review of energy efficiency technologies in petroleum industry”**

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### **Abstract**

Oil and Gas, uranium, plutonium; sun, water are main sources of energy. While extracting energy from these inputs some part of the energy remains improperly utilized thus, leading to more CO<sub>2</sub> emissions as well as energy loss. The extracted hydrocarbons from oil and gas wells undergo complex and energy-intensive technological processes until they are transformed into the form of finished goods. Energy efficiency is presented as a viable solution to reduce emissions, costs, and energy use. Achieving energy efficiency in upstream processes requires the reuse and integration of energy within the processing operations, thereby diminishing energy waste, costs, and the associated CO<sub>2</sub> emissions. The purpose of this thesis is to study the concept of energy efficiency in the upstream petroleum sector from the most general perspective. It discusses a literature review to reveal the characteristic attributes of energy efficient technologies, as well as how such technologies are organized and implemented. Consequently, it will draw out general research trends and highlight the empirical evidence for energy efficiency benefits. A few notable marketed solutions are analyzed as examples for practical implementation. Finally, the role of governmental intervention in the implementation of energy efficient technologies in the upstream OG industry will be evaluated.

This study finds that the general features of technologies like the organic Rankine cycle, waste heat recovery, and carbon capture systems are the economic, environmental, and operational aspects of implementing them in upstream petroleum operations. Understanding these aspects is essential to draw the complete picture of energy efficiency implementation. It is concluded that governmental regulations can have a key role in maximizing energy efficiency, and that they can increase the output capacity of the upstream petroleum industry.

## **Introduction and objective**

Hydrocarbons are the largest source of primary energy in the world (BP, 2019). They have played a central role in fueling the rapid growth of industrialization and globalization. Despite growing concerns over the degradation of the environment, global energy consumption increased by 2.9% in 2018, with the demands of oil and gas reaching up to 8000 mtoe (BP 2019). As well as being the largest source of global energy, oil and gas contribute the largest share of global CO<sub>2</sub> emissions, i.e., 55.9% in 2018 (IEA 2020). Although hydrocarbons stir up globalization effects it also leads to considerable environmental degradation.

Environmental degradation is the exhaustion of the world's resources, such as land, water, air, soil, etc. (El-Haggag 2007). The UN (1994) defines environmental degradation as “[the] depletion of renewable and non-renewable resources and pollution of air, water and soils”. In the course of the present study, the main focus will be on air pollution and the greenhouse effect, which inevitably causes increase in global temperature. According to the (EPA 2017), greenhouse gases (GHG) such as carbon dioxide, methane and nitrous oxide, cause outgoing heat to become trapped within the atmosphere. Consequently, changes in radiative balance of the Earth which is the balance between the energy received from the sun and that emitted from the Earth, results in unusual climate patterns both regionally and globally. This phenomenon is also called as the ‘greenhouse effect’.

Regardless of human intervention, there are various natural phenomenon that contribute to the greenhouse effect, such as volcanic eruptions, the carbon cycle, changes in the Earth's orbit, etc., these are only natural causes and cannot therefore be prevented nor regulated. Yet CO<sub>2</sub> remains as the leader in contributing to global warming among all the GHGs (EPA 2017).

Governments' influence at this stage should therefore be placed upon adopting sustainable development practices to minimize negative effects of environmental degradation.

## **Problem Statement**

Hydrocarbons are a non-renewable resource whose exploitation requires a careful balancing act. In order to minimize the harm to the environment, the use of this resource should be energy efficient: that is, use of the minimum amount of the resource to obtain the maximum amount of energy output (Firat et al. 2017).

## **State-of the-art literature review**

Energy efficiency is at the center of the policy agendas of various countries (World Energy Council

2008). The importance of energy efficiency is manifold, and is linked to commercial/industrial competitiveness, to energy security, and, most importantly, to environmental benefits. As the International Energy Agency (IEA) executive director stated, “Energy efficiency is key to ensuring a safe, reliable, affordable and sustainable energy system for the future” (IEA 2018). However, the term “energy efficiency” is generic, and diverse measures exist in order to quantify it. In general terms, it refers to “using less energy to produce the same amount of services or useful output” (Patterson 1996).

To improve energy efficiency, energy efficient technologies have been the subject of extensive research, and the discussion of this research will form the starting-point for the present literature review. The aims and objectives of the literature review can be formulated as follows:

- Because energy efficient technologies have widespread applications in various sectors, the major findings from the energy efficiency literature from disparate streams will be reviewed and then generalized in the form of a concept matrix. The goal here is to assess the generalized motives for the implementation of energy efficient technology in the upstream OG industry. In addition, this concept matrix can identify the most general trends of the research based on the aspects of energy efficient technologies that each study focuses on.
- This thesis will also survey how the literature has approached the birth, development, interest areas, and cost aspects of energy efficient technologies. However, the overall aim remains that of assessing the applicability and integration of these technologies within upstream petroleum operations.
- This review also discusses literature that addresses the role of energy efficiency in reducing the harmful environmental effects of OG operations, and the objective is to document the evidence of whether energy efficiency represents a viable way to decrease environmental emissions by reducing energy use in upstream petroleum activity.
- It explores alternative methods of reducing environmental emissions by looking at the electrification of upstream activities.
- Since the organization and practical implementation of energy efficient technologies involves various objectives and temporal horizons, another concept matrix which outlines the use of mathematical models for the purposes of energy efficiency planning as discussed within the literature will be presented, and this is in order to produce generalizations about the organization and planning of energy efficient technologies. These generalizations aim to provide useful insights that can facilitate more effective decision-making.

- Lastly, this study deems it vital to understand the barriers and drivers that exist in the adoption of energy efficiency; therefore the relevant literature in this context will also be reviewed. Since driving forces and barriers have a significant influence on the practical workings of energy efficiency, consideration of them should therefore play a vital role in decision-making. The aim here is to pinpoint the factors (barriers/drivers) that promote or hinder decisions to implement energy efficient solutions in the upstream petroleum sector, and to identify the effects of environmental regulations. It remains important to analyze the factors that underpin decision-making either for or against adopting policies of energy efficiency. The major findings of the review will be generalized in the form of a concept matrix, allowing one to identify the sources of the various barriers and drivers.

This literature review primarily considers research published in academic journals. The reviewed academic literature has been found in the following online databases: Science Direct, OnePetro, Springer Link, ABI Inform, Research Gate, Energies, and ASC online publications. The bulk of the reviewed research articles come from the Science Direct database. Additionally, the references used within the research that has been studied, along with the articles cited within these research outputs, have been included in order to broaden the scope of this review. Unpublished research and textbooks have not been considered for the purposes of this literature review. With only a few exceptions, the majority of the research considered here dates from after 2000. These exceptions are comprised of papers that explain pioneering research developments or that propose a taxonomy;

## **Results and Findings**

The articles included in this work have common tangent points regarding energy efficiency in oil and gas sector. These common focal points help us to construct a more generalized theory about energy efficient technology, its organization, and its implementation on hand. The major findings from literature review derives from the exploration of waste heat recovery (WHR) technology and CCS technology and their massive impact on retaining efficiency.

Aker (2020) ensures that despite the value of WHR and CCS technologies, there is no one-size-fits-all approach as to how to implement them. Put differently, not all engineering solutions providing energy efficient technology can be applied universally to every OG upstream facility; rather, implementation of such technologies requires the detailed analysis of each facility in order to design the best possible engineering solution based on the specific needs of any given facility. Table 1 in that regard, presented the articles categorized by the types of efficient technologies. The primary focus of the literature was the impact of energy efficiency on CO<sub>2</sub> emissions reduction, cost reduction, or efficiency improvement.

Comparing the aspects that have been studied in the literature allows us to identify such aspects as the main motives for why a company might shift to energy efficient technology. The corporations' decision-makers must therefore consider the economical tradeoffs between incorporating efficient technologies and going on with existing technology.

The rudimentary form of WHR application was first developed almost a century ago (Walsh and Thornley, 2012). Throughout the years it was developing and today we have well-rounded WHR technique which when applied to manufacturing plants can yield maximum efficiency. There are various types of WHR technology whose application is context-specific, depending on the particular industrial processes and its unique requirements. In other words, different WHR technologies are available for different uses, and their application will depend on the waste heat temperatures and output requirements of the target industrial process (e.g., a coal-fired power plant may require a different WHR unit than will a gas-fired power plant). WHR has a wide application, and has been adopted in various industries—especially in energy intensive industries—with proven results of energy and cost savings. Another feature of WHR technology fluid processing, and differences in working fluid can profoundly influence the costs and efficiency of the technology. Therefore, the specifications of a working fluid must be a vital consideration for firms when selecting which of the available WHR technologies to implement. The operating costs of WHR technology tend to be governed by the following characteristics: its working fluid and its energy demands. The major factor that drives up capital costs when implementing this technology is obviously the magnitude of its application. Capital costs depend on the technology's hardware requirements, such as unit components including the heat exchange plates and the pipelines used to collect waste heat.

CCS technology, in contrast, is at a relatively young stage, and is considered to be a developing technology whose utility remains uncertain for large-scale projects. The literature reveals that external forces, such as regulation, research institutes, etc., are important drivers underpinning the development of CCS technology (Lin, et al, 2018). Such forces trigger technological development and the implementation of CCS technology. In addition, the high capital cost and limited applicability of CCS technology necessitates cooperation at an international level. This cooperation should involve sharing knowledge about its cost-benefits, utility, compatibility, integration, emission-saving aspects, etc., which will facilitate further discoveries into the potential of CCS systems for prospective users. Before adopting CSS technology, top management should appraise demonstration project as the basis upon which they can evaluate the application and integration of CCS technology in their specific case. Such an evaluation based on a demonstration project also enables them to consider the emission reduction

potential, size, and performance of the technology (Jaffe and Stavins, 1994). Moreover, CSS technology allows to cut the transportation and storage costs as captured carbon occupies way less space in the warehouse. Similar to WHR, the capital costs vary based on the magnitude of application (i.e., the size and specifications of the CCS units, and CO<sub>2</sub> transport and storage). In the case of the upstream OG industry, captured CO<sub>2</sub> also allows for the option of enhanced oil recovery, which can increase efficiency and reduce the costs of CO<sub>2</sub> transport. Lin, et al, (2018) warns that, there are risks associated with CO<sub>2</sub> transportation and storage, not least the risk of leakage from transmission pipelines or the storage site, and the capacity of the geological storage site. Finally, storage costs increase with the increase in CO<sub>2</sub> concentration in the exhaust gas.

The main goal of this literature review on energy efficient technologies has been to assess the applicability of such technologies in the upstream OG industry. Figure 5 provides an abstract illustration of an upstream facility design that uses energy efficient technologies. Upstream petroleum activities require electric and heat energy for various operations (refer to Chapter 2). An upstream facility design that incorporates waste heat recovery options, such as waste heat boilers and an ORC, to salvage the excess heat from the turbine, along with a CCS system, can definitely be more energy efficient and reduce emissions. Figure 5 illustrates a gas turbine fitted with an exhaust boiler, an ORC, and CCS, and thereby constitutes the energy system of an upstream facility that provides heat and electric energy to the processing system. Consequently, as the input stream of OG enters the processing system through the manifolds it goes through various processing steps before it can be exported, and all these upstream operations have varying levels of energy demand. These energy demands can be met by the suggested energy system. This energy system can prove to be more energy efficient and can provide cost and environmental benefits to upstream operations.

The literature reveals sufficient evidence regarding the role of energy efficiency in the reduction of energy use and GHG emissions. Gurtoo and Simon (2007) ensures us that adoption of energy efficiency is proven to reduce cost and energy use and, more importantly to reduce emissions. Energy efficient technologies can be termed as a pathway to achieve sustainability in the upstream petroleum sector. The evidence presented in the literature can serve as a benchmark by decision-makers for future strategies of implementing energy efficient technologies. This evidence can also aid in the detailed organization of any such decision to incorporate energy efficient technologies within a firm's operations.



## **Summary, conclusion and recommendations**

The primary mission of this paper has been to systemize and organize existing literature about energy efficient technologies. The aim has been to assist in the processes of organizing and implementing energy efficient technologies for the decision-makers/managers of the upstream OG industry and to guide future research in the field of energy efficiency.

The general trend in the research field of energy efficiency is looking at the use of energy efficiency practices in order to reduce CO<sub>2</sub> emissions and to augment sustainability in general. Particularly there are works that have focused on efficient technologies such as ORC, WHR, and CCS, examining how to integrate those technologies into OG platforms (Aker, 2020). Additionally, some research has been devoted to offshore OG platform electrification, but this is at a relatively young stage, especially when considering the use of renewable energy as the source of electricity source. The theoretical implication of this general trend is that these different research strands complement to each other to achieve sole goal of achieve energy efficiency within the upstream OG industry. Nonetheless Gerarden, et al (2017), offers the research that explores platform electrification does not fully harmonize with the rest of the research on energy efficiency in this sector, and this is because platform electrification entails the use of energy that is external to the upstream facilities' energy systems. Indeed, the main goal behind platform electrification is to reduce the usage of hydrocarbons when generating power on OG platforms. Another pathway for future research concerns is the importance of considering operational, environmental, and economic benefits collectively in order to gain a more comprehensive understanding of how to implement energy efficient technologies. The major research trends and the literature that has been examined in this study is perceived as the novelty because such a literature review has not been done before.

The proposed life-cycle view of the energy flow in upstream OG processing operations suggests that researchers organize their strategic decision-making processes by taking into account the entire lifespan of energy (Al Dhaheri and Ali Diabat. 2010). In strategic planning, the areas of energy input, energy use, energy waste, and energy destruction only as it pertains to a single form of energy (i.e., heat energy) has tended to fall under consideration. Life-cycle thinking, however, implies that tracking the flow of energy from source to sink, while also observing all types of energy wastage as they occur in an upstream system (i.e., in form of heat energy, gases, gaseous emissions, etc.) can allow for the identification of energy- and emission-saving opportunities on a holistic scale. Such an approach can then augment the selection of the most appropriate energy efficient technological solution, and the net present value indicator can be useful when evaluating all the

benefits of the selected technology investment. Tactical and operational planning includes all actions that relate to the functioning of the energy efficient technologies for instance, operating conditions, energy savings, amount of CO<sub>2</sub> saved, etc. The specific energy requirements of any given upstream facility constitute one of the main factors controlling energy demands, and have a significant effect on operative and strategic planning; a mathematical model that incorporates these case-specific conditions and works to optimize the operating conditions can resolve questions as to the case-specific applicability of the energy efficient technologies. Moreover, just such a mathematical model could also prove useful in strategic decision-making when it comes to selecting the appropriate technology for an upstream facility.

To sum up, this paper has attempted to ensure the selection of appropriate technologies and the establishment of appropriate workflows. In practice, it can serve as a starting-point to understand the main tradeoffs in energy efficient technology implementation and organization. For instance, in the case of the procurement of new energy efficient technology, the environmental, operational, and economical aspects should lie at the core of the decision-making process. Moreover, decision-making should be directed towards the best available options across all planning horizons. In other words, this study helps identify the main characteristics and variables underlying decision-making in the context of the organization and implementation of energy efficient practices and policies. The focus that has been suggested here on the generalized flow of energy in upstream OG processing facilities represents a starting-point for the investigation of energy integration and WHR opportunities in practice

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## COLLEGE OF HUMANITIES AND EDUCATION

### “Unique aspects of education policy in Finland.”

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#### *Abstract*

*This paper discusses unique aspects of Finnish education as an established system. This document covers policy analysis including Education Policy Outlook on Finland from the lens of OECD. The article highlights teacher preparation procedures in Finland. The last part gives some recommendations from Finland to adopt as a good practice for other countries and hopes to explore the Finnish phenomenon in education.*

*Keywords: Finland, education policy, teacher preparation, good practice, Finnish educational phenomenon*

#### *Overview of facts about Finnish education*

According to Ashok Federick, Finlandia University (2020), geographically, Finland is a Nordic Scandinavian country next to the Arctic. Similar to other European states, Finland follows the philosophy of pragmatism where active involvement of society and opinion of students matters. Perhaps, Finland was able to adopt John Dewey`s philosophy and guidance on the effective studying process organization. Hence, Finnish educational system is effective since the establishment and regulation of educational policy and curriculum is conducted by the joint team of the government, the industry, parents, students and education providers who constantly cooperate among each other. Regular political elections do not affect education policy, which means that previous model programmed by all former Education Ministry teams can continue its life (Federick, 2020, p.1).

Finnish government encourages active reading and publishes more children`s books than any other country in the world. Early diagnosis or intervention in Finland is very important so that teachers can detect what exactly the student lags behind at. Early intervention is provided through student development team which consists of teachers, psychologists, counsellors and principals (Federick, 2020, p.4) Finnish TV stations broadcast foreign language programs with subtitles in Finnish so that children read the subtitles while watching movies and cartoons and comprehend the foreign language, hence Finland is on top of various world language proficiency charts (Federick, 2020, p 2-3).

Finnish government provides a budget of 5,200 euros per year for one school student and there are no tuition fees almost in every educational institution; in addition, the government provides free school meals. Majority of Finnish schools do not participate in neoliberal advertising, because all Finnish schools, are of the same high quality, so that parents are able to pick any school; the only difference

is in the choice of foreign languages and special sports. Added to that, private schools get as much funding as public schools. Since education standards and performance in Finland improved after 1950s, this resulted in 25% increase of Finnish national income (Sahlberg, 2013).

### ***Policy analysis of Finland.***

According to the Education Policy Outlook by OECD (2020, p.1), Finland possesses a powerful custom of educational outcomes. In 2018 PISA results were as previously higher than average. Moreover, in Survey of Adult skills (PIAAC, 2012), Finland took second place in literacy and numeracy section. In Finland teachers are valued, they receive a good salary and work in positive reinforcing environments. Socio-economic background of students does not have a big impact on their academic performance. Education system in the country is highly decentralized and most decisions take place at municipal level. Finland spends more on education than other OECD countries which turns to 5,5 % compared to 5.0%.

Added to that a big portion of educational funds is raised from public sources. Tuition is free for the most institutions involved in education. Students in Finland who study pedagogy do not put salary first in their list of priorities. Upon admission to a teaching position, they will earn around 38,500 USD annually, about 3400 EUR per month, which is average salary in Finland and it almost equals the wages that mid-career secondary school educators of OECD countries get every year (OECD report, 2008). For future teachers of Finland what matters the most is social prestige, professional autonomy in educational institutions where they will teach, and serving the community for public good. (Sahlberg 2010, p.2, para 7).

Despite its tremendous success, Finland experiences some policy problems. There are key issues of concern including equity, socio-economic status, immigrant background and gender. There are many immigrants and at the same time the native Finnish society is aging, so this creates problems in terms of preparing adequate amount of new future teachers. Finnish government needs to create strategies in order to provide equitable and equal access to education for migrants and children with impairments (Sahlberg 2010, p.7, para 5). Notwithstanding the high levels of skills, for young adults, employment rate has decreased since 2008.

The proportion of young people in NEETs (not in employment, education or training) category increased. This could be due to highly selective tertiary admission system and long study periods delaying entrance to the labour market (Education Policy Outlook: Finland 2020, p.1). During the beginning of pandemic one of the responses from Finnish government was to support online education and develop online information hub to guide teachers. “Devices for all” campaign ensured provision of laptops to students in need from company donations. Traditional university entrance examinations were cancelled and students now have a chance to apply providing their grades together with online selection mechanisms (Education Policy Outlook: Finland 2020, p.3).

## ***Teacher preparation in Finland***

*“Finns regard teaching as a noble, prestigious profession – akin to medicine, law or economics – and one driven by moral purpose rather than material interests. Only Finland’s best and brightest are able to fulfil those professional dreams” (Sahlberg, 2010).*

In Finland there are 8 universities which have Education Departments that involve Teacher Preparation and Training. About 1 applicant out of 10 people will be accepted as prospective elementary, secondary or high school teacher. For instance, around 5000 prospective teachers of all categories are chosen from twenty thousand applicants. First of all, candidates get checked for their high school diploma marks, GPA, volunteer and extracurricular activities and participate in admission exams. Then applicants are asked to be subjects of a case study connected to some event that presumably happened in school to demonstrate their communicative and social skills and how they would solve a certain conflict or a situation. Highest achieving applicants go through an interview and have to prove why they are the perfect candidates for teaching positions (Sahlberg, 2010, p.2)

Students who get into teacher university program represent the top 10 % of Finland’s high school graduates and need to complete 5 years degree which also includes Master’s degree. During their studies in universities, future Finnish teachers prepare to be both theoretical researchers and practical pedagogues. Finnish university curriculum for future teachers includes clinical practice at a model school where students practice research-based instruction and mentor beginners. (Darling-Hammond & Rothman, 2011). Practical teacher training comprises 15-25% of the program where students observe expert teachers teach, practice teaching kids and receive evaluation from education faculty (Sahlberg, 2011). Finland does not allow alternative approaches for teachers such as online teaching programs, because they require full-time university diploma.

Elementary school teachers are obliged to major in education, secondary school teachers have to major in the subject which they will teach and minor in any subject that they like. Because teachers are well prepared, they enjoy autonomy to teach the way they feel students will benefit the most. This freedom makes teaching in Finland enjoyable, thus it is one of the most enjoyable professions in the country. In addition, teaching profession is highly respected (Sahlberg, 2011 & 2013).

In one class usually there are three teachers: two teachers who focus on delivering the material, and one teacher that accompanies students who have trouble understanding the material. Teachers are free to choose textbooks, and teaching methods. A teacher has 4 hours of work per day and added 2 hours for self-development. On average, educators in OECD teach 703 hours a year, whereas teachers in Finland teach only 592 hours a year (Sahlberg, 2011). In Finnish schools, teachers meet weekly to plan and develop curriculum and they also make important decisions regarding syllabi, textbooks, assessments, course offerings, budgets and professional development (Wei, Andree, Darling-Hammond, 2009).

Those who apply for elementary school teacher training go over educational theory, practice or placement in schools and pedagogy. Every candidate has to write and defend a Master`s degree thesis connected to their area of academic work. These days in order to get a Bachelor`s degree in Finland, one needs to pass 180 ECTS credits and further to obtain a Master`s degree, the student needs 120 ECTS credits. On average it takes from five to seven and a half years for the Finnish student to obtain a degree in teaching (Sahlberg 2010, p.3, para 3).

Curriculum of teacher preparation departments include educational psychology, sociology, curriculum theories, assessment, special-needs education, and pedagogy in teacher`s subject of choice. As a rule, primary school teacher covers 60 ECTS credits of pedagogy and at least 60 more credits for education science. Subject teacher education involves 90 ECTS credits plus 60 ECTS credits for a second school subject. The table below shows the structure of subject teacher education at the university of Helsinki (Sahlberg, 2010, p. 3, para 4).

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**Table 1. Structure of subject teacher education program at the University of Helsinki**

Bachelor's level (25 ECTS credits)	Master's level (35 credits)
<b>First Term (18 credits)</b> <input type="checkbox"/> Developmental psychology and learning (4) <input type="checkbox"/> Special education (4) <input type="checkbox"/> Introduction to subject didactics (10)	<b>Third Term (17 credits)</b> <input type="checkbox"/> Social, historical and philosophical foundations of education (5) <input type="checkbox"/> Evaluation and development of teaching (7) <input type="checkbox"/> Advanced teaching practice in Teacher Training School or Field School (5)
<b>Second Term (7 credits)</b> <input type="checkbox"/> Basic teaching practice in Teacher Training School (7)	<b>Fourth Term (12 credits)</b> Research seminar (4) <input type="checkbox"/> Final teaching practice in Teacher Training School or Field School (8)
<b>As part of Master's program:</b> <input type="checkbox"/> Research methodology (6)	

(Sahlberg 2010, p.4, para 1).

### ***Recommendations and lessons.***

Excellent teachers play a critical role in the success of Finland. Below is a list of items that we need to consider in order to make Kazakhstani educational system improved:

- Research-based serious and strong academic teacher education programs need to be developed to make teachers ready for practical and conceptual work, and also to equip teachers with mastery of quantitative and qualitative research methods with the introduction of fieldwork monitored and conducted by the experienced senior teachers;
- Budget allocation for the education of teachers, higher than average wages, career advancement, and work-life balance with social benefits;
- Making the profession of a teacher prestigious. Allowing teachers to become the designers of their curriculum, to make them freely assess students, based on how teachers see assessment from their side in order to engage educators in policy design practices (Sahlberg 2010, p.8, para 3).



## Conclusion

Kazakhstan can learn a lot from Finland, but we need to carefully think and evaluate what can be applied in reality according to the current situation in the country. Definitely increasing the status of a teacher by rising salary would be of the utmost importance, starting from 1000 USD per month. The next reform could be in revising and modifying the national UNT test or even removing it and replacing with classical verbal exams, which would have to be organized and monitored by high ranked specialists. The last recommendation is connected to the quality of textbooks. A good quality textbook can educate a student even if the teacher lacks the skills necessary to provide comprehensive explanation. As we are moving forward, we do not lose hope.

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