

ECONOMIC SECURITY MANAGEMENT AT INDUSTRIAL ENTERPRISES: A CASE STUDY

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**Abstract.** The article aims to identify destabilizing factors of economic security and to elaborate recommendations aimed to improve the efficiency of the development of Kazakh enterprises. The authors have used methods of theoretical research, analysis and synthesis, as well as methods of concretization and analogy and an expert survey conducted with their direct participation. Results of the conducted research show that there is a relatively favorable economic environment in industrial production in the Republic of Kazakhstan. However, according to the expert survey, business activity, liquidity and profitability have been falling at many industrial concerns. Among destabilization factors restricting the operation of industrial enterprises, the following dominate: insufficient demand for manufactured products, deficit of own financial resources, tougher market competition and macroeconomic uncertainty. Even though this study mainly covers a range of issues related to Kazakhstan, its conclusions are of interest for the development of an economic strategy at enterprises that operate in other emerging economies.

**Keywords:** productive indicators; cost efficiency; threats, risks; financial stability; economic security; organizations

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## 1. Introduction

After the economic recession until 2018, the global economy has grown at a stable pace. However, real GDP growth slowed from 4.3% in 2011 to 3.6% in 2018 (International Monetary Fund, 2019). From 2011 to 2018, global trade growth decreased by nearly a factor of two – from 7% to 3.6%. According to the latest estimates for the first quarter of 2019, with global manufacturing and trade in decline, market value added (MVA) grew 2.2% compared with the same period last year (4.2%) (UNIDO, 2019). The slowdown of global economic growth gives rise to a number of short- and long-term risks that can do substantial harm to the economy and considerably worsen the prospects and complicate the attainment of sustainable growth goals. Countries, seeing import substitution rising, suffering from high external debt and experiencing a heavy and long-term national budget deficit, are especially vulnerable when adverse risk events occur (Baltgailis, 2019; Chehabeddine & Tvaronavičienė, 2020; Vigliarolo, 2020)

The Republic of Kazakhstan is a country with a developing market economy. The Kazakh economy is, however, sensitive to fluctuations in the conditions in global commodity markets, above all, energy markets. Due to the Kazakh economy's openness and integration into the global financial market, shocks related to external demand substantially impact the country's economic development. Economic instability and tough competition, resulting from global financial crises, weakened the national currency against the USD, pushed up foreign

debt and dampened a net inflow of direct foreign investment in Kazakhstan. Against a backdrop of the Federal Reserve's rate hikes and overall growth of economic and political risks worldwide, the real effective exchange rate of the Kazakh tenge dropped 2.1% vs. 2017 (the official website of the National Bank of Kazakhstan, 2019). A net inflow of direct foreign investment declined from USD 13.7 billion in 2016 to USD 4.9 billion in 2018 (National Bank of Kazakhstan, 2018). As of January 1, 2019, the country's net foreign debt amounted to USD 47.2 billion, up 3% vs. 2017.

During the first six months of 2019, Kazakhstan's real international reserves decreased by USD 2.7 billion, or 8.7%. Kazakhstan's manufacturing index dropped from 107.7% in 2017 to 104.4% in 2018 (Nomad, 2019). The operation of Kazakh enterprises is marked by high uncertainty (Kossymbayeva, Nukesheva, Kirbassova & Saubetova, 2019; Kubayev, Baisholanova, Seitova, Tarasova & Mishchenko, 2018; Lukhmanova, Baisholanova, Baibulekova, Primzharova & Kassymbekova, 2018). This is due to a number of internal and external factors that pose economic threats to the security of enterprises. Main risks faced by Kazakh enterprises are associated with weakening consumer demand, deficit of financial resources, tougher competition, external uncertainty driven by exchange rate fluctuations, escalation in inflationary factors, etc.

An enterprise's constant interest in improving the management of operations and financial performance prompts it to look for new management methods (Golovetsky, Ivanova, Galiy, Vypryazhkina & Lebedeva, 2019; Kurochkina, Voronkova, Lukina & Bikezina, 2019). The study of factors relating to an enterprise's economic security can be a productive step in improving corporate management (Gagarina, Sorokina, Chainikova, Sizova & Nadyrov, 2019). An enterprise's economic security stipulates its ability to develop, increase its competitiveness and that of its products and hold positions in competitive markets. It characterizes the strength and economic potential of enterprises to counteract an adverse impact of the domestic and external environment. This study is topical because it is essential to introduce advanced methods and models for the management of economic security at the micro level.

## 2. Literature Review

At present, there are diverse approaches to the understanding of the system of an enterprise's economic security due to the lack of a single consolidated opinion about the definition of the main notion "economic security of an enterprise". The study of various approaches towards the construction of the term "economic security of an enterprise" (Ianioglo & Polajeva, 2017; Atamanov, 2011; Samatov, 2018; Balyasny, 2008; Bezuglerodny, 2010; Blakytta & Ganushchak, 2018) allows us to give an original definition of this term. Economic security is a comprehensive category reflecting the ability of the productive system to counteract the destabilizing impact of the micro and macro environment for the more efficient use of resources (capital, personnel, technologies, information, etc.), existing market opportunities (competitiveness) and the accomplishment of other objectives set out in its charter during the current and future periods.

There is also such a term in literature as "a comprehensive system designed to ensure an enterprise's economic security" including a certain aggregate of interrelated components (organizational, economic and legal measures), which, if an enterprise attains the main business goals, ensures its security against real or potential threats that can lead to material losses (Dykha, Liubokhynets, Tanasiienko, Moroz & Poplavska, 2019). The essence of an enterprise's economic security is to ensure its progressive economic development in order to manufacture necessary goods and to provide services that meet the enterprise's needs and those of the society (Gurinovich, Vrazhnova & Anastasov, 2019). The enterprise's economic security shows itself in the assurance of stable operations and the prevention of any information from leaking (Tsvetkov, Gurinovich & Afanasiev, 2019).

In a joint study, K.S. Pylypenko and I.V. Babiy define key components of the economic security system at enterprises that are the most sensitive to internal and external factors (Pylypenko et al., 2019).

A lot of articles have been written about the study of methods applied to assess economic security of enterprises considering their sectorial features (Altukhov, Predeus & Predeus, 2019; Cherchyk, Shershun, Khumarova,

Mykytyn & Cherchyk, 2019; Nikitina, Pobirchenko, Shutaieva & Karlova, 2018; Shtangret, Melnyk, Shevchuk, Sydoruk & Shyra, 2019; Gurinovich et al., 2019).

For the development of a system designed to ensure economic security, many authors consider within the unified context such interrelated and interdependent categories as “danger” “risk”, “threat” and “challenge” (Prus, 2014; Adedigba, Khan & Yang, 2018; Khan, Wang & Yang, 2016; Karanina, Ryazanova & Timin, 2018).

In his article, Bogomolov classified threats to enterprises’ internal and external security (Bogomolov, 2009). He concludes that threats to economic security or any form of damage usually result in material and financial losses, thus producing a negative impact on the balance of payments.

A group of authors including V. Finaev, I. Kobersy, D. Beloglazov, I. Shapovalov, E. Kosenko and V. Soloviev, studied interrelations between threats to economic security and long-term risk factors when thresholds characterizing risk factors are exceeded (Finaev, Kobersy & Beloglazov, 2015).

A study conducted by K. Pylypenko, I.V. Babiy, N.V. Volkova, L.K. Feofanov and N.B. Kashchena (2019) defines key components of an enterprise’s economic security system that are the most sensitive to internal and external factors and proposes a structural model to assure comprehensive strategic economic security.

Notwithstanding the theoretical and practical importance of the category “threat to economic security”, the analysis of scientific literature shows that a single approach to the definition of this term has not yet been developed. Most often, authors do not propose any definition but limit themselves to specifying negative consequences that, as they think, pose a threat to economic security (Mamychev, Sulimova, Yakovenko, Savvidi, Molchan & Dianova, 2016).

Due to limited resources and financial possibilities that are typical for many Kazakh enterprises (Mukhametzhanova, Daurenbekova, Zhanibekova, Syzdykova & Kaliakparova, 2019), one of the most important principles of economic security is the principle of economic feasibility and substantiation (Gabunia & Korelin, 2015; Bondarenko et al., 2019).

An important component of an enterprise’s security system is a mechanism of its management that assures the attainment of goals and objectives of security assurance (Zasko, Dontsova, Osokina, Bazhaev & Komarova, 2019). The mechanism in an enterprise’s economic security system should be understood as a certain regulated sequence of conditions and processes assuring the enterprise’s economic security (Berdnikova & Vokina, 2015). The main goal of the economic security management mechanism is to increase the level of the occurrence of potential if an external environment changes, which is achieved by the maximum utilization of available resources (material, financial and intellectual) when elaborating and pursuing the relevant strategy to assure working capital is sufficient at strategic enterprises (Karanina, Ryazanova & Gritsuk, 2018; Tohirov, 2012).

At the same time, the experience shows that the formation of the economic security system is at the initial stage at many Kazakh enterprises. Little attention is paid to the identification of threats and their modeling; internal and external risks are assessed without any system. This results in poor performance and weaker economic security (D’yakonova, Nikitina, Sukhonos & Zhuravka, 2018).

The analysis of scientific articles related to anti-crisis and strategic management and management of economic security shows that for the efficient and stable operation of an enterprise, it is necessary to improve management mechanisms with a focus on resource planning (Kiseleva, 2017).

The hypothesis of this study is that the proper diagnosis of the current situation and the identification of destabilizing factors and potential threats contribute to solidifying economic security of enterprises.

### 3. Methods

The information-analytical base of the conducted study consisted of articles published by researchers in professional periodicals and statutory legal acts that form the basis for the operation of industrial enterprises in Kazakhstan.

Major threats and sectors of economic security at Kazakhstan industrial concerns were identified using the expert research method. The method assumes the collection, analysis and assessment of opinions expressed by independent experts that consequently form the basis for managerial decisions.

Expert research is based on the principles of legitimacy, independence of an expert, impartiality, comprehensiveness and completeness of research conducted using the latest scientific and technical achievements.

To conduct the research, we surveyed 35 independent experts who were senior executives at middle-sized and large industrial enterprises from chemical, machine engineering, power, metal processing, textile and food industries. The survey covered executives from 26 cities and towns in Kazakhstan, including 11 industrial companies from company towns.

All participants of the expert group had professional knowledge about the economic security assurance system and managerial experience of at least 3 years. The survey was conducted in October 2019.

A questionnaire containing the following questions was used as a tool of the expert research:

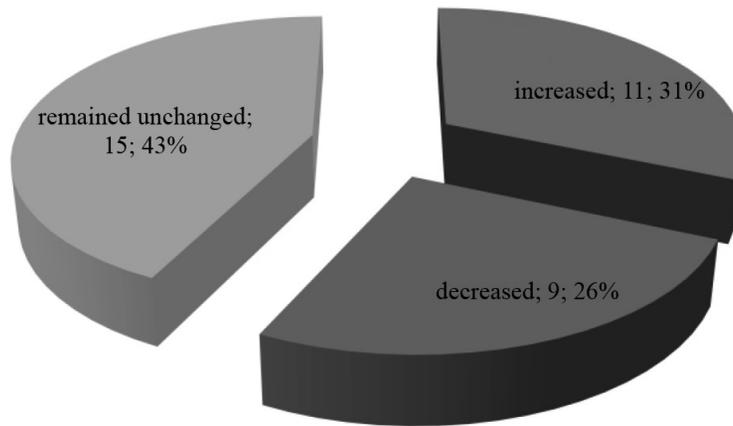
- How have production volumes and inventories changed at your enterprise over the past 12 months
- How has your company's financial standing changed over the past 12 months
- What profitability do your operations show as of October 1, 2019?
- What is your enterprise's current liquidity as of October 1, 2019?
- How do you assess the economic condition of your enterprise as of October 1, 2019?

Which factors, in your opinion, produce an adverse impact on the economic security of industrial concerns in Kazakhstan?

### Results

Taking into account the viewpoints of the experts participating in the research, it can be said that the industrial sector of the Kazakh economy experiences a relatively favorable economic environment.

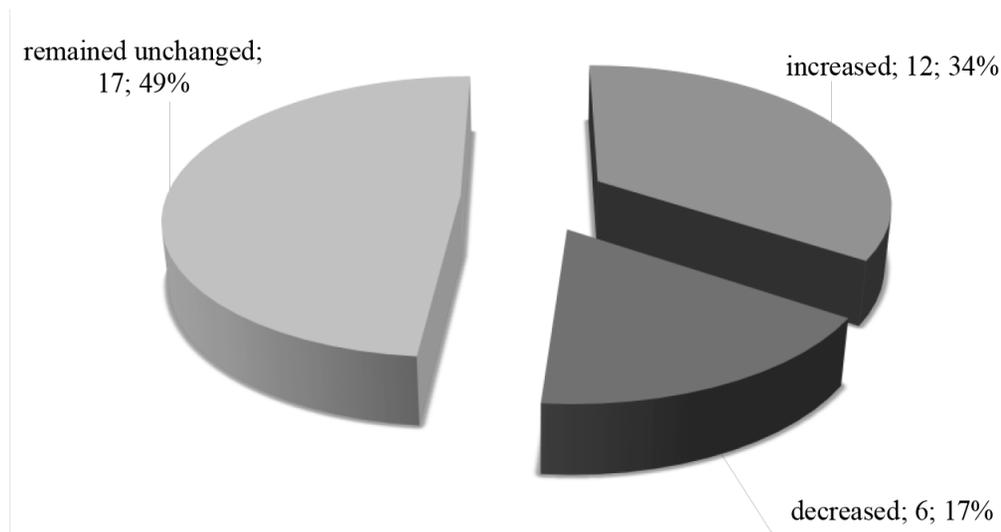
31% of experts (11 out of the surveyed) pointed to higher output of industrial products in January-September 2019 while 26% of respondents (9 people) answered that production had decreased compared with the previous year. Nearly 43% of the surveyed pointed out that output had remained unchanged against the same period of 2018 (Figure 1).



Source: compiled by authors

**Figure 1.** Experts' viewpoint on changes in output at Kazakh enterprises (compiled by the authors on the basis of the expert survey)

According to the expert survey, warehouse inventories at industrial enterprises in Kazakhstan were stable. Over 34% of the respondents pointed to an increase in inventories as of October 1, 2019 and 17 experts thought that inventories remained unchanged compared with the same period of last year (Figure 2).

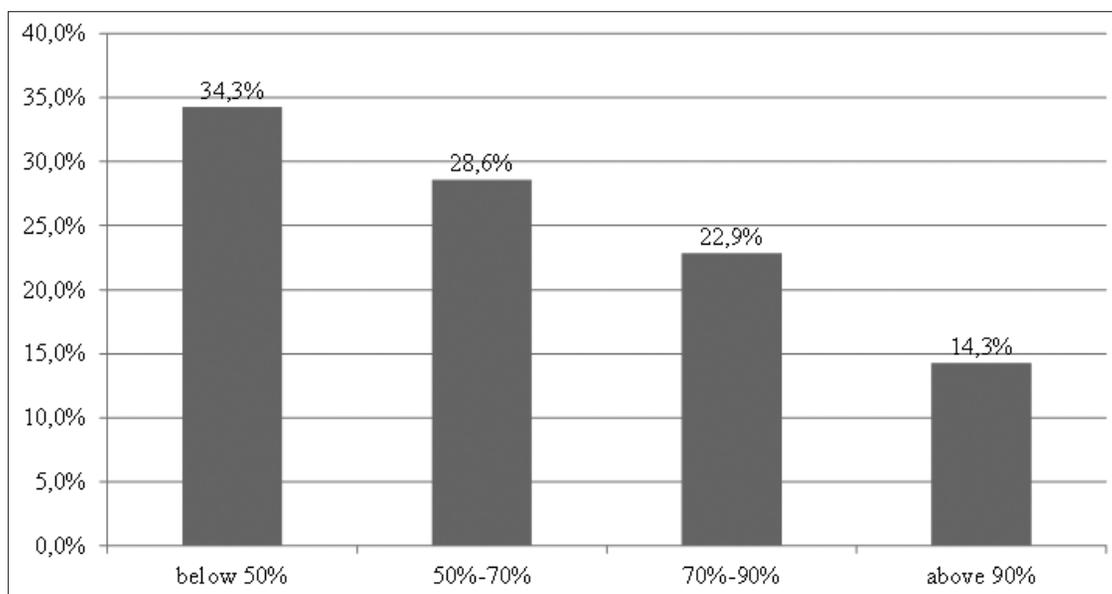


Source: compiled by authors

**Figure 2.** Experts' opinion on inventories (compiled by the authors on the basis of the expert survey).

An overwhelming majority of the experts (83%) said inventories were “normal”, 2 experts (5.7%) noted inventories exceeded the statutory threshold and 4 experts (11.4%) specified that inventories were below normal. Such a breakdown of answers can be read as relatively favorable.

In addition, roughly 37.1% of the surveyed pointed out that the capacity utilization rate at their enterprises exceeded 70%. The experts thought that the rate increased as of October 1, 2019. The breakdown of experts' viewpoints on the capacity utilization rate is shown in Figure 3.



Source: compiled by authors

**Figure 3.** Breakdown of the experts' estimates related to the capacity utilization rate, as % of the surveyed (compiled by the authors on the basis of the expert survey)

The expert survey showed that the situation surrounding the provision with own financial resources did not change at 66% of industrial enterprises. Amid relative stability of asset turnover and the portion of working capital in the assets held by industrial enterprises as of October 1, 2019, experts pointed to a decrease in asset turnover from 53.4% in 2018 to 51.9%.

As the survey's results showed, accounts receivable and debt under obligations remained marginal. Around 27.7% of the experts noted an increase in receivables overdue at industrial enterprises. Roughly 21.3% of the experts pointed out that as of October 1, 2019 payables overdue did not change substantially compared to the same indicator for 2018.

Nearly half of the surveyed noted that their enterprises are creditors or borrowers at various Kazakh banks. Meanwhile, 4 executives (11.4%) believed that their companies' provision with credit facilities and loans did not change compared with the previous year. 17 respondents (48.6%) pointed to an increase and 14 respondents (40%) noted a decrease in credits and loans extended.

When asked about changes in profit generated, 17% of the experts said profit had increased as of October 1, 2019. Almost a third of enterprises pointed to lower profit compared with the same period of last year and 48.6% of the respondents thought that profit at their enterprises had remained the same or changed marginally.

The expert estimate shows that the portion of enterprises enjoying strong liquidity dropped in January-September 2019 to 33.6%. The average reading of the current liquidity ratio virtually remained unchanged. The difference between average figures of the current liquidity ratio (1.3) and general creditworthiness (1.9) shows that it is easier for enterprises to repay long-term obligations than short-term debt.

The expert survey's results show that the portion of industrial enterprises that deliver a low return on sales (under 5%) was in decline and stood at 20.7% as of October 1, 2019. At the same time, the portion of highly profitable enterprises increased to 39.6% of the total number of survey participants.

An overwhelming majority of the experts subscribed to the opinion that enterprises' investment activities slightly improved in January-September 2019, with an increase in the portion of companies that financed their fixed assets and working capital on their own and using bank loans and a decrease in the portion of businesses

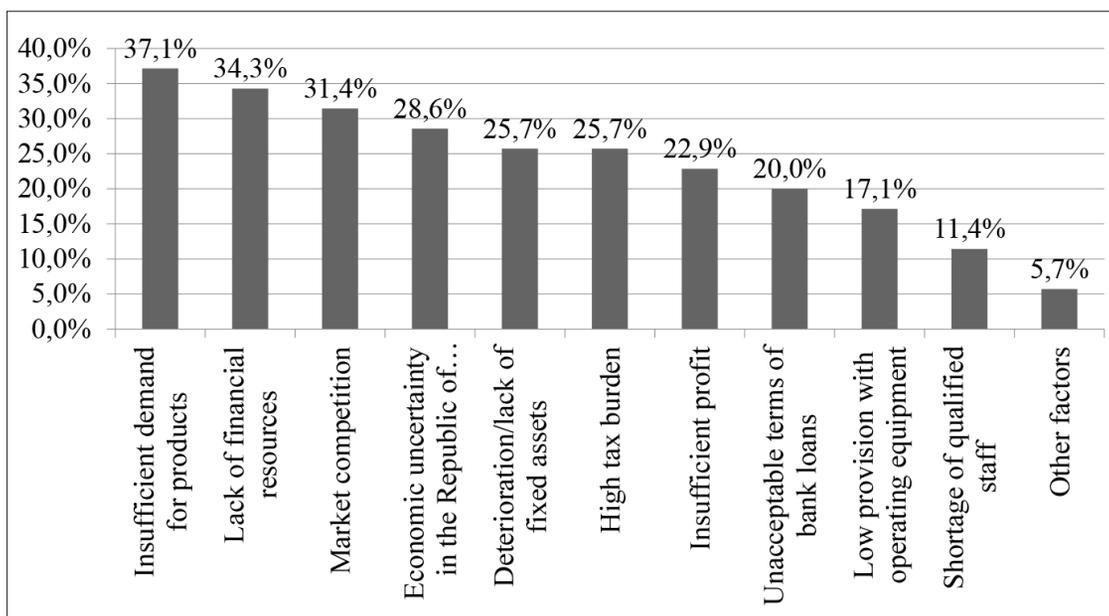
that did not finance. Most enterprises made use of their own funds to finance fixed assets and working capital (65.3% and 81.1%, respectively).

The survey's results show an increase in the portion of enterprises, which used bank loans to form fixed assets and replenish their working capital (5.9% and 15.3% of the respondents, respectively).

Around 81% of the experts assessed the economic condition of their enterprises as "good" and "satisfactory". At the same time, only 7% of the experts did note that nothing posed a threat to the stable development of their enterprises. More than half of the experts believed that there were serious threats to the economic security of their companies.

The expert estimate shows that the following dominates among factors that adversely impact the economic security of industrial enterprises: insufficient demand for items produced, the lack of own financial resources and tough market competition. The operation of 22.9% of enterprises is restrained by deterioration and the lack of equipment.

Results of the expert assessment of factors producing a negative impact on the economic security of industrial enterprises are shown in Figure 4.



Source: compiled by authors

**Figure 4.** Results of the expert assessment of factors producing a negative impact on the economic security of industrial enterprises in Kazakhstan (compiled by the authors on the basis of the expert survey).

The experts are of the opinion that the main destabilizing factor for the economic development of industrial enterprises is insufficient demand for products manufactured.

Also, 28.6% of the experts believed that the shortage of financial resources was a substantial hurdle for the development of companies. Most experts subscribed to the view that financial problems stem from weak demand for items produced that, in turn, is driven by lower public consumption in Kazakhstan.

The problem related to the high rate of deterioration and obsolescence of fixed assets remains topical for industrial enterprises in Kazakhstan. 25.7% of the experts pointed to the destabilizing effect of this factor.

In addition, 31.4% of the respondents pointed out that the pressure of market competition was a serious prob-

lem related to the economic security of an industrial enterprise. Kazakh enterprises' major rivals were domestic companies and only 22.9% of the surveyed executives named producers from foreign countries and CIS member states as major competitors.

About 48.6% of the experts stated that products manufactured by their enterprises competed with the best international samples. 37.1% of the respondents pointed out that their products slightly lagged behind the best international samples but overall can rival by some characteristics. 11.2% of executives noted that their items were inferior to products of global rivals and were mainly sold in the domestic market. Only 17.1% of the surveyed did note that Kazakh industrial products could hardly meet competition in the domestic and external markets.

The experts' estimate of uncertainty surrounding prevailing macroeconomic conditions and its impact on the performance of Kazakh industrial enterprises quite adequately reflect socio-economic conditions in the country. Also, 28.6% of the experts pointed to the impact on this factor on an industrial enterprise's economic security. Most of them are executives employed by companies with long investment and production cycles.

The shortage of qualified workforce can hardly be called a major problem for Kazakh enterprises. Based on the survey's results, HR problems do not play a serious role and are a secondary problem caused by the shortage of financial resources.

Overall, the results of the expert evaluation show that the strength of the negative impact of most aforementioned factors on the economic security of industrial enterprises has come down.

## **Discussion**

The experts highlighted a set of state support measures in order to strengthen the economic security of industrial enterprises:

a) To improve access to funds for small and medium-sized industrial enterprises. Although small and medium-sized entrepreneurship is recognized to be playing a role in the Kazakh economy, limited access to funds remains a hurdle for growth and development of industrial enterprises. Small and medium-sized enterprises have narrower access to funds compared with large companies. The access to funds is decisive because it allows enterprises to use their limited internal funds and provides additional resources to expand their turnover and investment. Apart from bank loans, small and medium-sized enterprises have few options to finance their operation. The market of non-banking financial instruments, such as bonds and shared financing, is not sufficiently developed. At the same time, banks are reluctant to extend loans to small and medium-sized enterprises due to higher potential risks and the lack of collateral to cover these risks. High operating expenses related to a limited group of creditors or limited products that are tailored to meet small and medium-sized enterprises' needs also negatively impact small and medium-sized enterprise lending. Micro finance and credit unions are among the most popular sources but the market of non-banking financial instruments, such as bonds and shared finance, is not sufficiently developed. As a rule, stock markets dominate among big companies and are beyond the reach of small and medium-sized enterprises owing to the compliance with accounting standards. The Kazakh government currently maintains small and medium-sized enterprises' access to funds by means of interest rate subsidization, direct loans and tax benefits. However, the experts think these measures target limited sectors of the economy. Helping some enterprises in the short term, these instruments usually distort market competition and for this reason, they should be applied with caution. At the same time, there are some innovations that can provide broader access to funds. They provide creditors with additional information about borrowers' ability to service debt or get risk-minded investors connected with startups that can offer high returns. Introduction of comprehensive credit reporting and open banking operations. Comprehensive credit reporting will provide creditors with more information about credit histories of potential borrowers compared with the current standard when only negative credit information is made publicly available. This will make it possible to reduce the cost of the creditworthiness assessment process, thereby allowing creditors to assess risks more accurately. This might also encourage creditors not to look for additional collateral or personal guarantees

to lend small businesses, especially for just established concerns. Specifically, personal guarantees are wider used in Australia than in other countries, such as the UK and the US, in which well-established comprehensive regimes of providing credit reporting are in place.

b) Major technology companies can use information about their customers to provide financial services such as term credit facilities and trade finance while competing with banks. Specifically, technology companies can use transaction data of their trading or payment platforms to identify creditworthy borrowers and can lend these enterprises using funds held on their balance sheets. This can provide small innovative businesses that make active use of these online platforms with a new source of funds. However, from the viewpoint of a business borrower the drawback is that if a credit facility is overdue, technology firms will be able to freeze assets or limit access to their platforms. An example can be Amazon and PayPal, which provide funds to some companies that use their platforms, above all in the US. Some major Chinese technology giants, such as Alibaba and Tencent, have also begun to provide financial services over the past few years. Some of them use algorithms to identify companies with a good sales track record and offer them funding only by invitation. According to one provider, loans can total USD 750,000 for a term of up to one year at the rates ranging from 6% to 14%, with interest automatically debited from a borrower's sales revenue. For online accounting, software providers also offer loans to small businesses on the basis of the status of their accounts.

c) Alternative financial platforms. Alternative financial platforms, including market credits and crowdfunding platforms, make use of new technologies to sign fundraisers directly up to funding sources. Their goal is to avoid expenses and delays related to conventional financing via intermediaries. Even though alternative financing platforms expand rapidly, at the current stage, they are still quite a small funding source for enterprises, including in Kazakhstan. Australia is one of the most striking examples of the development of alternative funding mechanisms for enterprises. The Australian government and financial regulators strive to promote innovation in business financing. The Australian Securities and Investments Commission (ASIC) established an innovation center to help provide startups with financial technologies for navigation in the regulation system. The Australian government amended some laws to assist these markets in growing at a sustainable pace, including by allowing small unregistered public companies to draw capital from crowdsourcing platforms. Market-based credit platforms provide debt finance by comparing separate individuals or groups of creditors with borrowers. These platforms, as a rule, target retail borrowers and small businesses with low credit risk, offering much cheaper credit products and more flexible terms than conventional creditors.

d) To improve the state procurement system in order to stimulate the growth of industrial production. As big amounts are spent on state procurement programs, the government of every country is a real market participant, sometimes quite large. State procurement policy is a legal tool of stimulating domestic production and consumption. Entering into agreements targeting specific sectors or community groups, the government can promote the policy of redistributing wealth, promoting industrial strategies or assuring sustainable development. We think that it is reasonable for Kazakhstan to study global practices relating to the development of state procurement policies. For example, the UK government intends to increase small and medium-sized business-related budget spending to one-third of the central government's spending. In 2015, the British government made amendments to the regulations of tenders conducted under state contracts. These amendments include the following:

- requirement that all economic operators in the state sector's supply chain should be paid within 30 days;
- procurement in a simpler and faster way, e.g. by cancelling prequalified questionnaires for low-value public sector contracts;
- requirement for all corporate clients to publish information about contract possibilities and contract decisions in the national database Contracts Finder;

It is necessary for the Kazakh government to explore the possibility of applying special measures to help small and medium-sized businesses get access to public procurement programs, such as:

e) A lighter administrative burden. Most experts (87.6%) believe that administrative burden is one of the main obstacles for the participation of small and medium-sized industrial enterprises in public procurement because

it is necessary to present a long list of certificates or other documents that are related to exclusion and selection criteria. For this reason, a reduction in the list of documentary evidence required for the participation in procurement procedures is a key change in the directive that is especially advantageous for small and medium-sized business.

f) The use of the European Single Procurement Document (ESPD). In order to simplify procurement processes in EU member states, the ESPD was introduced. ESPD is a standard self-declaration form that an economic operator fills in and provides to the corporate client. The corporate client should accept ESPD as preliminary evidence replacing certificates issued by authorities or third parties. ESPD contains an official statement that the economic operator will be able, upon request and with no delay, to provide these confirming documents. The EU has developed a free online service for corporate clients, economic operators and other parties that helps complete the work on ESPD in an electronic form.

## Conclusions

Results of the conducted study allowed us to conclude that most Kazakh enterprises operate in an efficient and stable manner. However, around 20% of enterprises are in a hard financial condition. The study allowed us to identify key factors that negatively impact the economic security of businesses. Experts think that main destabilizing factors are insufficient demand for products, shortage of financial resources, toughening competition and economic uncertainty in Kazakhstan. It looks reasonable to improve conditions to stabilize the financial state and operating efficiency of Kazakh enterprises. Experts believe that priority measures designed to strengthen economic security at Kazakh enterprises are those to develop alternative funding sources for small and middle-sized enterprises and to provide them with wider access to state orders.

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