

¹D. B. Muratova²L.T. Sarykulova³K.A. Abdykulova

M.H.Dulati Taraz Regional University, Taraz, Kazakhstan

(E-mail: ¹muratova_diana77@mail.ru, ²Sarykulovalt@gmail.com, ³abdykulova_787@mail.ru)

Improving the methodology for assessing models of public debt management in Kazakhstan

Abstract. One of the macroeconomic instruments of state activity is the public debt. For the stable functioning of the state, the fulfillment of all strategic goals and the fulfillment of obligations assumed, the state attracts borrowed funds, distributing them to finance the relevant budget expenditure items. The state of public finances is influenced by numerous parameters of the country's macroeconomic policy, including, of course, the level of public debt, the policy of the state in terms of its management. In world practice, the use of government borrowing is widespread to ensure a balance of budget revenues and expenditures. State borrowing is inherent in all countries of the world, and this is the norm in current realities, and the Republic of Kazakhstan is no exception.

The amount of public debt varies significantly from country to country. In some states, this is a significant ratio of public debt to GDP, while in others it is low. In this regard, the question of effective management of public debt and the impact of public debt on the economic security of the country logically arises. Effective public debt management assumes that the state has the ability to control the volume of its debt obligations, the main parameters of financial stability, such as the stability of the stock and financial markets, regulate economic processes, as well as establish the necessary norms and rules for the functioning of public debt.

Keywords: Public debt, public debt management, evaluation criteria, management models.

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Introduction

In Kazakhstan, the types of risks that can affect the country's economy are considered by the Government when developing the Social Economic Development Forecast (PSED) for the medium term, which is the basis for planning the republican budget.

Since 2018, an assessment of the sustainability of public finances has been presented as part of the FSED. According to the experts of the International Monetary Fund, despite the disclosure of a set of risks in the PSED, the current modeling methods are limited to the analysis of a narrow range of mechanisms for the impact of macroeconomic risks, built on the supply side of the economy. As a result, there is an underestimation of the degree of influence of economic shocks on budgetary positions, which leads to the realization of budgetary risks.

At the same time, indicators of socio-economic development are projected for five years and budget parameters are drawn up for three years. At the same time, the observed trend in other countries associated with demographic indicators, such as population aging, an increase in the birth rate, or with climate change, is also relevant for Kazakhstan, as it has consequences for economic growth, pension programs, health and social services, taxation and others, which will also affect the parameters of the state budget.

For Kazakhstan, the introduction of a system for managing budgetary risks and assessing the long-term sustainability of public finances is an important addition to the currently used strategic planning in the budget process. Uncovering fiscal risks and evaluating long-term sustainability will help balance the costs and benefits of policy decisions and provide insight into long-term pressure points.

One of the important directions in the formation of an effective state policy in the field of ensuring the sustainability of public finances is the reform of the mechanism of public debt management [1].

Methodology

To reform the mechanism for managing the public debt of Kazakhstan, it is necessary to ensure transparency in the methodology for calculating the safe level of public debt, as well as the introduction of a mechanism for analyzing the effectiveness of external borrowing.

In this paper, the usual least squares (OLS) and vector autoregression (VAR) models are used. Based on empirical data, an analysis was carried out on the ratio of public debt to GDP, the structure of public debt of Kazakhstan by the main variables. Such an empirical analysis is necessary to assess Kazakhstan's public debt management strategy. The goal is reliable management of the country's debt.

Discussion

Five theoretical models of public debt management are considered: Giavazzi and Pagano (1990) [2], Calvo and Guidotti (1990) [3], Missale, Giavazzi and Benigno (2002) [4], Barro (2003) [5] and Giavazzi and Missale (2004) [6].

Today, there are three basic approaches to public debt management in the scientific community. The dynamic inconsistency of fiscal policy is the basis for the models of Giavazzi and Pagano (1990) and Calvo and Guidotti (1990). The optimal structure of public debt in external public expenditures is considered by Barro (2003) from the side of smoothing the tax burden. And the following concept of Javazzi, Missale and Benigno (2002) and Javazzi and Missale (2004), which is based on the stabilization goal of the ratio of public debt to GDP. All these three approaches are united in one thing: increasing the average maturity of public debt and partial debt indexation are optimal strategies.

Result

As the analysis shows, the fiscal policy of Kazakhstan in 2021 was characterized by an increase in budget spending on social assistance and social security (an increase in pensions, scholarships, benefits), healthcare, education, and defense as part of the continued fight against the consequences of the COVID-19 pandemic.

The formation of a budget with a deficit contributed to borrowing from the Government to cover it and an increase in public debt.

In general, the debt policy of Kazakhstan is aimed at implementing government borrowing on acceptable terms to finance the budget deficit and keep public debt at a safe level.

However, one cannot fail to notice a sharp increase in the state budget deficit in 2019-2021. This is explained by the growth of government spending and the reduction in revenues, primarily due to the reduction in oil prices. Comparative dynamics of public debt and budget deficit (Figure 1) clearly illustrates the role of the budget as one of the main factors in increasing the public debt of Kazakhstan.

The increase in the budget deficit had various reasons, but its jumps, as a rule, occurred during the years of falling oil prices.

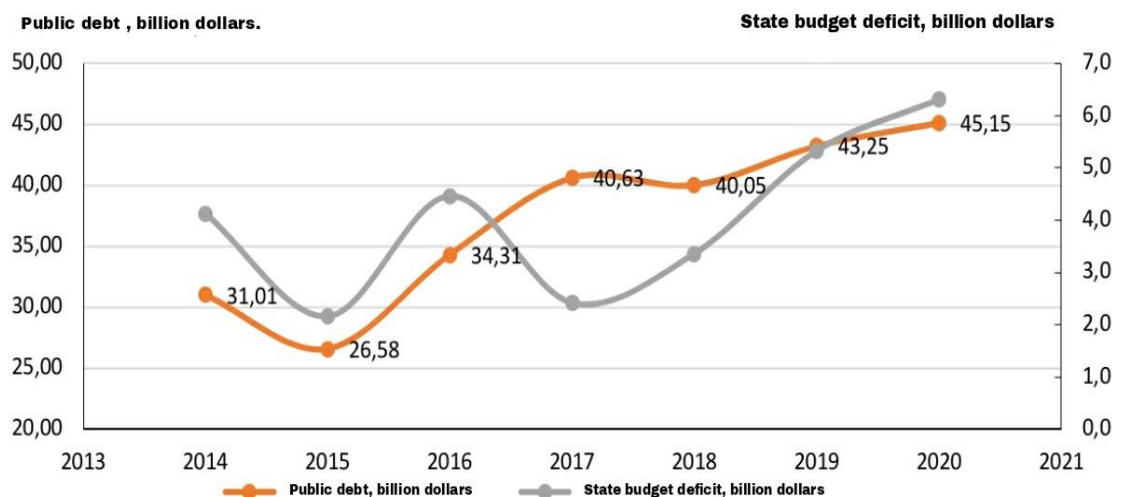
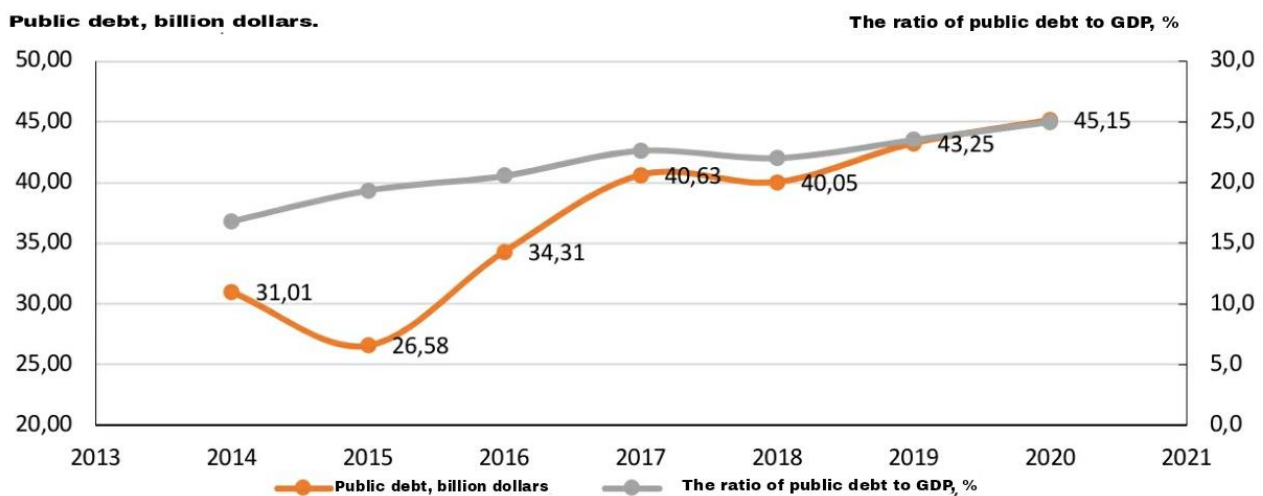


Figure 1 - Dynamics of the state debt of the Republic of Kazakhstan and the budget deficit

Importantly, over the period from 2013 to 2021, the level of public debt increased from 12.5% of GDP to 27.0% of GDP. Over the same period, in nominal terms, the public debt increased 5 times (from 4.4 trillion tenge in 2013 to 22.0 trillion tenge in 2021) (Figure 2).



Source: Ministry of Finance of the Republic of Kazakhstan

Figure 2 - Dynamics of the public debt of the Republic of Kazakhstan and the ratio of public debt to GDP

About 80% of the public debt is the debt of the Government, which increased from 4.4 trillion tenge in 2013 to 18.7 trillion tenge in 2021, or from 10.1% to 23.0% of GDP.

The increase in government debt has led to an increase in the cost of servicing it. Republican budget expenditures on servicing government debt increased from 177.3 billion tenge in 2013 to 977.7 billion tenge in 2021, or from 2.8% to 6.4% of the total republican budget expenditures.

In this regard, the main task of the Government will be to contain the growth of public debt and the cost of servicing it.

The ratio of public debt to GDP reached 27.04% (in 2020 – 29.4%) and exceeded the limit of 27%

established by the New Budget Policy Concept. This fact indicates inefficient planning and management of public debt.

The debt of the Government of the Republic of Kazakhstan increased by 12.4% to 18,730 billion tenge, which is 23% of GDP (in 2020 – 23.8%) and approaches the established limit (25%) (according to the draft Concept – no more than 23.0% of GDP in 2021).

It should be noted that the established limit of government debt (18,260 billion tenge) is exceeded by 470 billion tenge (in 2020: limit – 15,500 billion tenge, excess – 1,158 billion tenge). Explanations of the Government about the objective reasons for exceeding the limit due to the exchange rate difference. The Accounts Committee, as before, considers it not quite justified, since the limit is exceeded both in tenge and in US dollars. Thus, the limit for 2021 was determined at the rate of 425 tenge per US dollar, in fact, the rate was 431.67 tenge per dollar. At the same time, when recalculated at the rate for calculation, the limit in dollar terms is 43 billion US dollars. In fact, the debt of the Government amounted to 43.4 billion US dollars, exceeding the limit by 0.4 billion US dollars.

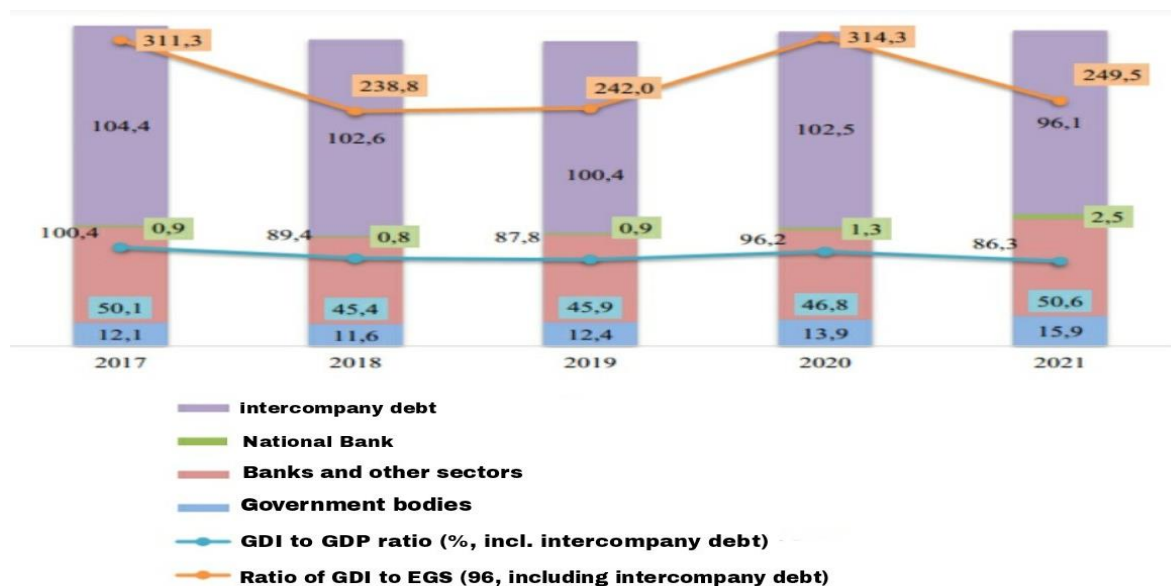
Domestic debt reached 11,330.4 billion tenge (26.2 billion dollars) with an increase of 16.1% compared to 2020, external debt – 7,399.5 billion tenge (17.1 billion US dollars) with an increase of 7.3%. As a result, the share of domestic debt increased to 60.5% (in 2020 – 58.6%), the share of external debt decreased to 39.5% from 41.4% in 2020. Despite the improvement in the structure of government debt, a significant share (52.4%) of Eurobonds in external debt remains. As the analysis shows, the policy of borrowing through the issuance of Eurobonds is not aimed at minimizing the cost of servicing debt and significantly limits the development of the domestic market for debt instruments.

The level of debt burden on the budget amounted to 16.5% and exceeded the limit (15%) established by the Concept for the formation and use of the National Fund (according to the draft Concept – no more than 15% of the republican budget expenditures). At the same time, in 2019-2020, this restriction was observed (in 2019 – 12.9%, in 2020 – 12.1%).

The Accounts Committee has repeatedly focused on the fact that the reason for the increase in the Government's debt is inefficient planning and disbursement of loan funds, insufficient study of risks and the impact on the country's economy of instruments of external and internal borrowing. To implement the provisions of the Budget Code to develop the competitive advantages of the country's economy, it was recommended to adjust the state's debt policy with the establishment of specific goals to reduce debt and develop the domestic securities market.

Moreover, there is no transparency in information on the volumes of repayment and servicing of the principal debt, amounts of remuneration, commissions and other payments in accordance with the terms of the loan. According to the National Bank, for 2021, the volume of the country's gross external debt increased by 0.3% or 0.5 billion US dollars and amounted to 165.1 billion US dollars, mainly due to balance of payments operations (2.6 billion US dollars), which were partially offset by a decrease in the market value of Eurobonds of state and quasi-state issuers and exchange rate, cost and other changes.

Against the backdrop of growth in nominal GDP, the relative parameters of external debt improved, approaching pre-pandemic levels. The external debt-to-GDP ratio for 2021 was 86.3%, down from 96.2% in 2020 (87.8% in 2019). The ratio of external debt to exports of goods and services improved, reaching 249.5% in 2021 compared to 314.3% in 2020 (242.0% in 2019). According to the National Bank, as of January 1, 2022, in the context of creditor countries, the largest volume of Kazakhstan's external debt falls on the Netherlands (42.7 billion US dollars or 26% of GDI), Great Britain (21.9 billion US dollars or 13.3% of GDP), USA (12.9 billion USD or 7.8% of GDP), Russian Federation (11.7 billion USD or 7% of GDP), France (11.5 billion tenge or 7% of VVD), as well as to international organizations.



Source: National Bank of the Republic of Kazakhstan

Figure 3 - GDI dynamics for 2017-2021, USD billion

The total debt of the quasi-public sector increased against the level of 2020 by 1,236.2 billion tenge, or by 7.7%, amounting to 17,267.1 billion tenge (40 billion US dollars). External debt increased from 7,016.8 billion tenge (\$16.7 billion) in 2020 to 7,640.2 billion tenge (\$17.7 billion) in 2021. In relation to GDP (according to operational data), the quasi-public sector debt decreased to 21.2% in 2021 from 22.9% in 2020.

In total, the external debt of the Government and subjects of the quasi-public sector in 2021 amounted to 34.8 billion US dollars, or 62.9% of the foreign exchange assets of the National Fund (55.3 billion US dollars) (in 2020 – 33.1 billion US dollars or 56.3%). At the same time, the limit value of the foreign exchange assets of the National Fund (100%), established by the Concept for the formation and use of funds of the National Fund of the Republic of Kazakhstan, and the state debt and debt of the quasi-public sector (no more than 60% of GDP), defined in the Concept of the new budget policy, are observed. The issues of reforming the debt policy of Kazakhstan are of particular relevance in the light of the speech of the Head of State at the expanded meeting of the Government held on February 8, 2022.

The Accounts Committee has repeatedly noted the annual upward trend in public debt exceeding the limit of 27% of GDP, as well as the lack of transparency in the methodology for calculating these limits. Thus, in the draft Concept, among the target indicators, the preservation of public debt in 2030 is not higher than 35% of GDP, including the Government's debt at a level of no more than 30% of GDP. At the same time, according to the draft Concept, "within the framework of improving government debt statistics and bringing it into line with international methodology, the debt of the National Bank, as the only issuer of the national currency, whose short-term notes are not subject to credit risk and exclude the possibility of default, will not be taken into account as part of the state debt."

Thus, if the threshold for public debt is increased, the National Bank's debt will not be taken into account in the statistics. In this regard, the need to ensure transparency in the methodology for calculating the safe level of public debt, as well as the introduction of a mechanism for analyzing the effectiveness of external borrowing, requires special attention. Also, the draft concept proposes to determine the service of government debt from the republican budget – at a level of no more than 15% of budget expenditures.

In 2021, according to the calculations of the Accounts Committee, servicing the government debt from the republican budget amounted to 6% of the total expenditure. At the same time, within the framework of the previously approved Concept for the Formation and Use of the National Fund's Funds, it was envisaged that the costs of servicing and repaying the government debt should not exceed 15% of the republican budget

revenues, including transfers from the National Fund.

At the end of 2021, based on the previously approved methodology for the level of debt burden, the cost of servicing and repaying the government debt amounted to 16.5% of the republican budget revenues, including transfers from the National Fund, that is, 40 non-fulfillment of the relevant parameters was recorded while observing this indicator according to the results of 2019-2020.

In world practice, the debt burden ratio (or debt service) is mainly widely used, which is calculated as the ratio of the flow of payments on accumulated debt, including both the repayment of the principal part of the debt and the payment of interest, to the amount of current income. In this regard, there is a need to change the methodology for calculating the debt burden ratio proposed in the draft Concept for Public Finance Management.

The previously mentioned results demonstrate that using the difference in the first row is justified in regression. Although there is a possibility that in the long run there will be a gap between the rows. Based on this, it is necessary to assess whether a linear combination of series is stationary, taking into account the non-stationarity of individual series. If the series are combined, then the regression of the original series is reliable.

The model of Calvo and Guidotti (1990) suggests that in order to stabilize the ratio of public debt to GDP, it is necessary to increase the maturity along with an adequate level of indexation of public debt. The model uses two regressors: the indexation of public debt and the average maturity of public debt. This model looks like this:

$$DEBGDP = f(\text{SELINDEX}, \text{EXCINDEX}, \text{PRICINDEX}, \text{AMPD})$$

It is not possible to set the parameters of public debt indexing in advance, the average maturity can be defined as $f / \neq \text{AMPD} < 0$.

The Johansen cointegration test (1991) is demonstrated in Figure-1. Cointegration has not been confirmed at the significance level of 5%, and is confirmed by more than one relationship [9]. Based on the presence of a long-term balance relationship between the series, it is possible to estimate the use of the initial series using equation (1). The results of equation 2 demonstrate the growth of public debt when it is financed by indexed bonds. In addition, despite expectations, long maturities increase the ratio of public debt to GDP.

Picture-1

DEBGDP =				(2)
0.0251	+ 0.2971SELINDEX(-6)	+ 0.1344PRICINDEX(-6)	+ 0.0747EXCINDEX(-6)	+ 0.0102AMPD(-6)
(0.5813)	(5.1122)	(0.9372)	(0.0747)	(6.9825)
R ² = 0.7740		DW = 1.080979		n = 67
<i>Serial Correlation Test</i>				
F-statistic	9.548393	Prob. F(2,60)	0.000251	
Obs*R-squared	16.17619	Prob. Chi-Square(2)	0.000307	
<i>Heteroskedasticity Test</i>				
F-statistic	1.255561	Prob. F(14,52)	0.266603	
Obs*R-squared	16.92660	Prob. Chi-Square(14)	0.260110	

Note: t-statistics between parentheses.

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Д. Б. Муратова, Л.Т. Сарыкулова, К.А. Абдыкулова
М.Х. Дулати атындағы Тараз өңірлік университеті, Тараз, Қазақстан

Қазақстанның мемлекеттік борышын басқаруды бағалау модельдерін енгізу мүмкіндіктері

Аннотация. Мемлекет қызметінің макроэкономикалық құралдарының бірі мемлекеттік борыш болып табылады. Мемлекеттің тұрақты жұмыс істеуі, қойылған барлық стратегиялық мақсаттарды орындау және қабылданған міндеттемелерді орындау үшін мемлекет қарыз қаражатын тартып, оларды бюджет шығыстарының тиісті баптарын қаржыландыру үшін бөледі. Мемлекеттік қаржының жай-күйіне елдің макроэкономикалық саясатының көптеген параметрлері, оның ішінде, әрине, мемлекеттік қарыз деңгейі, оны басқару бөлігіндегі мемлекет саясаты әсер етеді. Әлемдік тәжірибеде мемлекеттік қарыздарды пайдалану бюджеттің кірістері мен шығыстарының тепе-теңдігін қамтамасыз ету үшін кең таралған. Мемлекеттік қарыз алу әлемнің барлық елдеріне тән және бұл қазіргі жағдайдағы норма, ал Қазақстан Республикасы да ерекшелік емес.

Әр түрлі елдердегі мемлекеттік қарыздың мөлшері айтарлықтай айырмашылықтарға ие. Кейбір мемлекеттерде бұл мемлекеттік қарыздың ЖІӨ-ге айтарлықтай қатынасы, ал басқаларында төмен. Осыған байланысты мемлекеттік қарызды тиімді басқару және мемлекеттік қарыздың елдің экономикалық қауіпсіздігіне әсері туралы мәселе қисынды түрде туындайды. Мемлекеттік қарызды тиімді басқару мемлекеттің өзінің борыштық міндеттемелерінің көлемін, қор және қаржы нарықтарының тұрақтылығы сияқты қаржылық тұрақтылықтың негізгі параметрлерін бақылауға, экономикалық процестерді реттеуге, сондай-ақ мемлекеттік қарыздың жұмыс істеуінің қажетті нормалары мен ережелерін белгілеуге мүмкіндігі бар деп болжайды.

Түйін сөздер: Мемлекеттік қарыз, мемлекеттік қарызды басқару, бағалау критерийлері, басқару модельдері.

Д. Б. Муратова, Л.Т. Сарыкулова, К.А. Абдыкулова
Таразский региональный университет им. М.Х.Дулати, Тараз, Казахстан

Возможности внедрения моделей оценки управления государственным долгом Казахстана

Аннотация. Одним из макроэкономических инструментов деятельности государства является государственный долг. Для стабильного функционирования государства, выполнения всех поставленных стратегических целей и исполнения принятых обязательств государство привлекает заемные средства, распределяя их для финансирования соответствующих статей расходов бюджета. На состояние государственных финансов влияют многочисленные параметры макроэкономической политики страны, в том числе, конечно, уровень государственного долга, политика государства в части его управления. В мировой практике использование государственных заимствований широко распространено для обеспечения сбалансированности доходов и расходов бюджета. Государственное заимствование присуще всем странам мира, это норма в нынешних реалиях, и Республика Казахстан не является исключением.

Размер государственного долга у разных стран имеет значительные различия. В некоторых государствах это значительное соотношение государственного долга к ВВП, а в других - низкое. В этой связи логично встает вопрос об эффективном управлении государственным долгом и влиянии государственного долга на экономическую безопасность страны. Эффективное управление государственным долгом предполагает, что государство имеет возможность контролировать объем своих долговых обязательств, основные параметры финансовой стабильности, такие как устойчивость фондового и финансового рынков, регулировать экономические процессы, а также устанавливать необходимые нормы и правила функционирования государственного долга.

Ключевые слова: государственный долг, управление государственным долгом, критерии оценки, модели управления.

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Information about authors:

Муратова Д.Б. – кандидат экономических наук, доцент кафедры «Финансы и учет», факультет «Экономики и права», Таразский региональный университет им. М.Х.Дулати, Тараз, Казахстан.

Сарыкулова Ляйля Турганалиевна – кандидат экономических наук, и.о. доцента кафедры «Финансы и учет», факультет «Экономики и права», Таразский региональный университет им. М.Х.Дулати, Тараз, Казахстан.

Абдыкулова К.А. – магистр экономических наук, кафедры «Финансы и учет», факультет «Экономики и права», Таразский региональный университет им. М.Х.Дулати, Тараз, Казахстан.

Muratova D.B. – Candidate of Economic Sciences, Associate Professor. of the Department of Accounting and Finance, Faculty of Economics and Law, M.Kh. Dulaty Taraz Regional University, Taraz, Kazakhstan

Lyailya T.S. – Candidate of Economic Sciences, Acting Associate Professor of the Department of Economics, Faculty of Economics and Law, M.Kh. Dulaty Taraz Regional University, Taraz, Kazakhstan

Abdykulova K.A. – Master of Economic Sciences, Department of Finance and Accounting, Faculty of Economics and Law, M.Kh. Dulaty Taraz Regional University, Taraz, Kazakhstan