ESTIMATION OF KAZAKHSTAN'S EXTERNAL DEBT AND ITS GROWTH FORECAST

At present, almost every state attracts external loans and credits, which ultimately form an external debt or external debt. The study of this work on external debts of the Republic of Kazakhstan is one of the most important tasks of the monetary policy of the National Bank, in which the emphasis is on assessing trends in the development of external debt, forming a linear model for assessing external debt, obtaining and forecasting the development of external debt based on the obtained models and drafting proposals for reducing external debt.

In the work I used the sampling method, analysis of macroeconomic indicators, correlation and regression statistics. As a result of the resulting linear equation, there is an increasing trend in the growth of external debt, which is based on the macroeconomic parameters of GDP, repayment of external debt, exports of goods and services.

For the current study, three scenarios for the development of external debt for 2023 were made. At the same time, the main parameter influencing the change in external debt is the export of goods and services. It is clear that the use of natural resources in the structure of exports will not allow it to increase at a rapid pace. Therefore, there is a need to increase the export of goods and services should be carried out through the industrial production of high-quality goods. Considering this, the Republic of Kazakhstan should invest the received loans and loans in industrial technologies that will increase the export of goods.

Key words: external debt, external debt assessment, external debt assessment model, Republic of Kazakhstan, forecast of external debt growth.

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Оценка внешней задолженности Казахстана и прогноз ее роста

В настоящее время почти каждое государство привлекает внешний займ и кредиты, которые в конечном счете образуют внешнюю задолженность или внешний долг. Исследование данной работы по внешним долгам Республики Казахстан относится к одной из важнейших задач денежно-кредитной политики Национального банка, в которой акцент определен на оценку трендов развития внешней задолженности, формировании линейной модели по оценке внешней задолженности, получение и составление прогноза развития внешней задолженности на основе полученной модели и составление предложений для снижения внешней задолженности.

В работе использовал метод выборки, анализа макроэкономических показателей, корреляционно-регрессионная статистика. В результате полученного линейного уравнения происходит нарастающий тренд роста внешней задолженности, которая базируется на основе макроэкономических параметров ВВП, погашение внешнего долга, экспорт товаров и услуг.

Для текущего исследования были сделаны три сценария развития внешнего долга на 2023 год. При этом, основным фактором, влияющим на изменение внешнего долга, является экспорт товаров и услуг. Понятное дело, использование природных ресурсов в структуре экспорта не позволит его наращивать стремительными темпами. Поэтому существует необходимость увеличения экспорта товаров и услуг должна осуществляться за счет промышленного производства товаров высокого качества. Учитывая это для Республики Казахстан следует вкладывать получаемые кредиты и займы в промышленные технологии, которые позволят увеличить экспорт товаров.

Ключевые слова: внешний долг, оценка внешней задолженности, модель оценки внешней задолженности, Республика Казахстан, прогноз роста внешней задолженности.

Introduction

The external debt of the Republic of Kazakhstan began to accumulate with the emergence of our state’s independence. On December 4, 1991, a treaty on the succession of the external economic debt and assets of the USSR was signed between the former republics of the Soviet Union. According to this treaty, the Russian Federation inherited 61.34% of the Union's external debt, which amounted to approximately 57 billion US dollars (10% of GDP). However, on April 2, 1993, the Russian government announced its assumption of all obligations of the former Soviet republics for servicing the external debt of the USSR, in exchange for their renunciation of a share in the foreign assets of the USSR (the so-called zero option). As a result, Russia took on the entire external debt, amounting to 96.6 billion US dollars (Sakharov, 2005).

As of April 1, 2023, the volume of external debt of the Republic of Kazakhstan reached 161.4 billion US dollars, increasing by 0.6% or 1.0 billion US dollars since the beginning of 2023 (Official website of the National Bank of the Republic of Kazakhstan, 2023). This information has a time lag, with processing taking approximately 6 months. However, as of January 1, 2023, it stood at 160.5 billion US dollars (State Debt of Kazakhstan, 2023).

Undoubtedly, the issue of external debt plays a significant role in the economy of any country. This topic is relevant given that, according to the International Monetary Fund, the global debt reached 226 trillion US dollars in 2020 (Gaspar et al., 2021), and almost every country on Earth has debt, highlighting the need to study this issue. Each state strives to develop its mechanisms for debt reduction, using macroeconomic parameters such as GDP, inflation, exports of goods and services, population size, etc.
Debt is a double-edged sword. For progressive governments of developing countries, debt financing can improve infrastructure and provide higher-quality services, significantly boosting growth rates and average income. Transparent and responsible increases in government debt and investments are vital for development. However, debt used for unproductive expenses and investments poses serious risks to economic growth and stability. Excessive government debt can negatively impact economic development through various channels: debt burden, reduced budgetary space, crowding out, expectations regarding future policies, and increased risk during crises (World Bank Group President David Malpass, 2022).

The goal of this work is to definitively determine the possibility of assessing and managing external debt and understand the tools for its reduction. To achieve this, the following steps will be taken:
- identifying trends in external debt development;
- forming a linear model based on the trend for assessing external debt;
- forecasting the development of external debt based on the obtained model;
- making recommendations for reducing external debt.

All calculations are based on the actual data of the National Bank of the Republic of Kazakhstan, with the subject and object of the study being the external debt of the Republic of Kazakhstan. The implementation of the research involves analyzing the dynamics of Kazakhstan’s external debt, using correlation-regression statistics. The main hypothesis is to determine the future external debt and the possibility of its reduction, considering macroeconomic indicators.

The practical significance of the study is aimed at exploring the possibility of assessing and forecasting external debt when formulating the country’s development strategy.

Materials and Methods

Within the framework of this research, the following research methods were employed: structural-functional, economic-statistical, economic-mathematical methods, forecasting methods, evidence-based approach, comparative analysis method, graphical method, expert opinion materials, scenario methods, and decision-making methods, among others.

Using descriptive methodology (analysis of theoretical concepts of external borrowing management, international experience, research methodology, description of information flows, survey results, etc.), results were obtained on the current practice and regulation of reducing external debt in Kazakhstan.

Through the scenario method, a forecast of Kazakhstan’s external debt was conducted. As a result, based on the obtained trend in external debt development, some systemic problems influencing the growth of the country’s external debt level and its impact on national economic development were identified. The results also contributed to defining recommendations for reducing our country’s external debt volumes in the long term.

Based on information from the National Bank of the Republic of Kazakhstan, as well as considering the Statistics Bureau of the Republic of Kazakhstan, a data sample was taken from 2005 to 2022. Although information on external debt is available as of the first quarter of 2023, we did not use this information. While the volume of external debt constantly changes dynamically, the GDP and exports of goods and services require additional forecast calculations, as they are provided on an annual basis. Given the existing data, we standardized all information into the same unit of measurement since the volume of external debt, exports of goods and services, and servicing payments were provided in million US dollars, while GDP was in billion US dollars. Additionally, external debt assessment information is presented as of a specific date and is determined cumulatively.

This information is presented in Table 1. Using the external sector methodology, we conducted a correlation-regression analysis in EXCEL to establish the relationship between parameters and their impact on the country’s external debt.

Taking this into account, the correlation dependency is high. Figure 1 visually illustrates the dynamics and correlation between the volumes of external debt and GDP in Kazakhstan for the years 2016-2022. Additionally, Figure 1 demonstrates that by 2022, the external debt of the Republic of Kazakhstan decreased by 2.1% compared to 2021. However, when comparing it to 2019, the external debt increased by 0.62% by 2022, indicating a rise in the level of external debt.

As evident from Figure 1, the dynamics of Kazakhstan’s external debt and GDP volumes over the past seven years show a positive trend, indicating the stabilization of socio-economic development in the country in recent years.

Table 2 displays the multiple R, which stands at 94%, and R² – 88%. Based on regression statistics, a forecast model for external debt has been developed, as described in Equation (1).
Table 1 – Information on External Debt, Payments, and Exports of Goods and Services (Billion US Dollars)

<table>
<thead>
<tr>
<th>Years</th>
<th>External Debt</th>
<th>Payments for the Redemption and Servicing of Long-Term External Debt</th>
<th>GDP</th>
<th>Exports of Goods and Services for 12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>43.4</td>
<td>13.7</td>
<td>57.1</td>
<td>31.8</td>
</tr>
<tr>
<td>2006</td>
<td>74.0</td>
<td>16.3</td>
<td>81.0</td>
<td>42.6</td>
</tr>
<tr>
<td>2007</td>
<td>96.9</td>
<td>28.5</td>
<td>104.9</td>
<td>55.4</td>
</tr>
<tr>
<td>2008</td>
<td>107.9</td>
<td>33.7</td>
<td>133.4</td>
<td>71.3</td>
</tr>
<tr>
<td>2009</td>
<td>112.9</td>
<td>38.8</td>
<td>115.3</td>
<td>52.0</td>
</tr>
<tr>
<td>2010</td>
<td>118.2</td>
<td>25.3</td>
<td>148.1</td>
<td>66.8</td>
</tr>
<tr>
<td>2011</td>
<td>125.3</td>
<td>29.5</td>
<td>192.6</td>
<td>93.4</td>
</tr>
<tr>
<td>2012</td>
<td>136.9</td>
<td>31.9</td>
<td>208.0</td>
<td>92.3</td>
</tr>
<tr>
<td>2013</td>
<td>150.0</td>
<td>31.8</td>
<td>236.6</td>
<td>93.7</td>
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<tr>
<td>2014</td>
<td>157.1</td>
<td>31.7</td>
<td>221.4</td>
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<tr>
<td>2015</td>
<td>153.0</td>
<td>38.2</td>
<td>184.4</td>
<td>47.8</td>
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<tr>
<td>2016</td>
<td>163.5</td>
<td>31.4</td>
<td>137.3</td>
<td>43.1</td>
</tr>
<tr>
<td>2017</td>
<td>167.5</td>
<td>37.1</td>
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<td>160.3</td>
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<tr>
<td>2019</td>
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<td>37.0</td>
<td>181.7</td>
<td>67.3</td>
</tr>
<tr>
<td>2020</td>
<td>164.0</td>
<td>34.1</td>
<td>171.1</td>
<td>49.3</td>
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<tr>
<td>2021</td>
<td>164.1</td>
<td>32.0</td>
<td>197.4</td>
<td>71.7</td>
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<tr>
<td>2022</td>
<td>160.5</td>
<td>42.0</td>
<td>224.0</td>
<td>93.3</td>
</tr>
</tbody>
</table>

Note – compiled by the authors based on data from the source (Official website of the National Bank of the Republic of Kazakhstan, 2023)

Figure 1 – Dynamics of External Debt and GDP volumes in Kazakhstan for the years 2016-2022.
Note – compiled by the authors based on data from the source (Official website of the National Bank of the Republic of Kazakhstan, 2023)
Table 2 – Regression Statistics

<table>
<thead>
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<th>Regression Statistics</th>
<th></th>
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<tr>
<td>Multiple R</td>
<td>0.94</td>
</tr>
<tr>
<td>R-Squared</td>
<td>0.88</td>
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<tr>
<td>Normalized R-Squared</td>
<td>0.86</td>
</tr>
<tr>
<td>Standard Error</td>
<td>13.25</td>
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<tr>
<td>Observations</td>
<td>18</td>
</tr>
</tbody>
</table>

Note – compiled by the authors based on their own calculations

Based on the correlation-regression analysis, we obtain the linear equation shown in formula (1).

\[ Y = 34.5777 + 1.3481 \times X_1 + 
+ 0.7683 \times X_2 + (-1.0697) \times X_3, \text{ where} \quad (1) \]

\( X_1 \) – payments for the Redemption and Servicing of Long-Term External Debt;

\( X_2 \) – GDP;

\( X_3 \) – exports of Goods and Services for 12 months.

Based on Table 2, we can conclude that the normalized coefficient of determination is 0.86, which explains 86% of the effectiveness of the equation in the obtained model. Additionally, the correlation between the predictor variables and the outcome measures was 0.94, as observed from the Multiple R, indicating a high and close degree of association on the Chedoke scale.

**Literature Review**

Research and publications related to Kazakhstan’s external debt provide valuable information for analysis and decision-making. Here are some key works and authors who have explored this topic:


“Kazakhstan’s External Debt: Trends, Composition, and Risks” (2020) – Author: B. S. Nurmakhanova. This article examines the debt situation in Kazakhstan, analyzes the structure of external debt, and identifies risks. It also assesses the implications for the country’s economy.


Currently, issues related to assessing Kazakhstan’s external debt in the modern period are insufficiently addressed in the works of domestic researchers, indicating a scarcity of such studies. Existing research largely touches upon theoretical aspects of country’s external debt management, with limited exploration of evaluating Kazakhstan’s external debt and forecasting its growth based on scenario analysis.

Management and monitoring of Kazakhstan’s external debt have been discussed to varying extents in the works of scholars and practitioner specialists such as N. Kuchukov, S. Makyshe, R. Berstembayev, and others.

External debt significantly impacts a country’s socio-economic condition. High debt necessitates servicing, which, when substantial, constrains funding for other expenses, particularly social ones (Financial Aspects of the Third Modernization of Kazakhstan’s Economy, 2020).

The article provides an analysis of the scientific and practical views of foreign researchers on this problem. For example, the opinions of Vitor Gaspar, Paulo Medas, Roberto Perrelli on the trends in the global debt of countries and its impacts on global development align with our analysis (Gaspar et al, 2021).

Notably, the works of Benjamin Ighodalo Ehikioya, Alexander Ehimare Omankhanlen, Godswill Osagie Osuma, Ofe Iwiyisi Inua draw attention to the dynamic link between a country’s external debt and economic growth in African countries (Ehikioya et al, 2020).

Furthermore, considering the low level of internal economic activity ensuring the quality of domestic funds, the use of external debt by developing countries to address issues of economic growth and development has become more of a necessity than a choice (Ehikioya et al, 2020).

In the study by I. Doğan, F. Bilgili, the processes of nonlinear impact of high and growing public external debt on economic growth are clearly elucidated. However, concerns are voiced in various circles about the mixed dynamics of Gross Domestic Product (GDP) growth and the subsequent impact of recent external debt growth on the economy and the citizens’ living standards (Doğan & Bilgili, 2014).
Despite collective efforts, the question of whether external debt is beneficial or detrimental to economic growth remains undetermined. On one hand, external debt can alleviate liquidity constraints and provide an additional source of financing to meet the economy’s infrastructure and growth needs (Deshpande, 1997; Makun, 2021). On the other hand, an excessively high volume of external debt can negatively impact economic growth due to the ‘crowding-out effect’ on private investments, driven by expectations that the government may raise taxes in the future to service the debt (Mohd et al, 2013).

The heavy burden of external debt compels debtor countries to constantly refinance their debt obligations, significantly increasing the risk associated with adverse conditions in external financing to service the country’s external debt. In countries where external debt exceeds 100% of annual GDP, there is a very high risk of irregular debt repayment and servicing if external refinancing is discontinued (Balyuk et al, 2021).

Similarly, when domestic capital flows out of a country, the banking credit channel of monetary policy becomes destabilized, hindering the achievement of monetary policy goals. Additionally, continuous capital outflows and mass repayment of external debt increase uncertainty and risk (Ampah & Kiss, 2019).

At the same time, the impact of government debt on economic growth smoothly changes from positive to negative depending on the debt level. Moreover, we find that the debt threshold is lower for developing countries, meaning that government debt can harm economic growth at a lower debt level in these countries compared to developed ones. We also discover that short-term external debt and long-term external debt have a more pronounced and strong negative impact on economic growth at high debt levels (Karadam & Duygu, 2019).

Simultaneously, prudent debt management can be implemented to control debt accumulation and reduce dependence, easing the debt burden in the form of foreign aid (Lau & Syn-Yee Lee, 2016).

Researchers Altin Hoti, Aranit Shkurti, Pjeter Budi St., Albania Scheherazade Rehman concluded that long-term external debt does not contribute to long-term growth and, essentially, tends to have a negative impact (Hoti et al, 2022).

In this article, the authors present a relatively new material on the researched issue, which is available in the scientific domain. However, the presented problem still requires further research.

Results and Discussion

The obtained linear equation reveals a growing trend in external debt based on macroeconomic parameters such as GDP, external debt repayment, and the export of goods and services. It is noteworthy that the hypothesis regarding the prediction of future external debt and the possibility of its reduction based on macroeconomic indicators has been fully justified. The negative sign of the indicator for the export of goods and services indicates the need for growth in exports, leading to economic development. Clearly, relying solely on natural resources in the export structure will not allow for rapid growth.

Therefore, Kazakhstan should invest the obtained loans and borrowings in industrial technologies that will contribute to the increase in the export of goods.

Moreover, despite the almost unchanged external debt of Kazakhstan during the growth of exports of goods and services in 2021-2022, there was an increase in external debt payments. It is worth noting that over the entire period from 2005 to 2022, the average annual external debt repayment level is $32.4 billion. Effectively, the GDP level should increase annually by at least $40 billion to reduce external debt, as the average annual GDP growth is about $10 billion. However, during the 2021-2022 period, it increased annually by $26 billion.

Taking this into account, Table 3 presents scenarios for the development of external debt depending on macroeconomic parameters in 2023.

The real forecast of external debt development unequivocally shows that the existing external debt is increasing annually, negatively impacting the economy of Kazakhstan. Many researchers, such as the IMF, World Bank, and other organizations, have expressed concerns about the negative consequences of excessive external borrowing. However, with appropriate debt management, there is an opportunity for the country’s economic development. Examples of this can be found in the histories of Saudi Arabia, South Korea, and other Southeast Asian countries.

In summary, external debt is one of the important indicators of a country’s economic development and financial stability. It reflects the obligations of a country’s residents to non-residents, which require repayment of principal debt and/or interest. External debt can be categorized into government, quasi-government, and private debt, depending on the borrower’s sector. Additionally, external debt can be classified by maturity as long-term or short-term.
It is worth noting that according to data from the National Bank of Kazakhstan, as of October 1, 2023, Kazakhstan’s external debt amounted to $161.9 billion, which is 90.7% of the GDP. Over the year, external debt increased by $1.3 billion, or 0.8%. The largest share in the structure of external debt is held by inter-firm debt of the private sector ($101.3 billion, or 62.9%), related to major projects with foreign participation in the oil and gas industry. The government’s external debt stands at $13.2 billion, or 8.2% of the total debt, while quasi-government debt is $20.1 billion, or 12.5%. The ratio of government and quasi-government debt to GDP is 18.8%, which falls within the safe level according to international standards (Official website of the National Bank of the Republic of Kazakhstan, 2023).

Kazakhstan’s external debt is characterized by its long-term nature, as 94.2% of the debt has a maturity period exceeding one year. The short-term debt amounts to $9.4 billion, constituting 5.8% of the total debt. The majority of the external debt is denominated in foreign currency, primarily in US dollars (86.4%). The average interest rate on the external debt stands at 4.2% annually. The debt service payment schedule indicates that the largest payments are due in 2024-2026, amounting to $17.1 billion, $16.9 billion, and $16.7 billion, respectively.

The projected growth of Kazakhstan’s external debt depends on various factors, including GDP dynamics, exchange rates, oil prices, investment activity, and fiscal policies. According to the International Monetary Fund’s assessment, Kazakhstan’s external debt is expected to reach $165.5 billion (equivalent to 86.4% of GDP) in 2024, gradually decreasing to $156.8 billion (or 74.3% of GDP) by 2026. While relative debt reduction is anticipated due to accelerated economic growth, improved trade balance, and reduced budget deficits, the absolute volume of external debt remains high, necessitating continuous monitoring and control by the government and the National Bank. (Official website of the National Bank of the Republic of Kazakhstan, 2023).

**Conclusion**

Currently, almost all countries in the world have external debt, and its presence does not indicate negative economic development for a state. The impact of external debt on economic development depends not on the volume but on the quality, structure, and type of these debts, as well as the conditions of their borrowing. Under favorable borrowing conditions, external resources can even have a positive impact on economic development by providing significant financial inflows for the strategic development of key sectors and priority projects in the country’s economy. However, countries face the challenge of reducing external debt through effective management, employing various approaches and tools.

In line with the set goals and objectives, we have assessed Kazakhstan’s external debt and, from a macroeconomic policy perspective, proposed measures to reduce external debt. As a result of this research, a growing trend in Kazakhstan’s external debt has been identified. Utilizing a linear model, an assessment of external debt has been provided, along with a possible forecast based on the developed model and recommendations for reducing external debt.

Considering projected trends and considering the external debt of the Republic of Kazakhstan, several key strategic recommendations can be highlighted:

- Kazakhstan should diversify its sources of borrowed funds, including various international markets, to reduce dependence on specific creditors;
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- evaluating the dynamics and structure of external debt will help determine the optimal balance between debt instruments (such as bonds and loans) and repayment terms. This approach can mitigate risks and ensure stability;
- Kazakhstan should continue improving transparency and reporting in external debt management. This is crucial for attracting investors and maintaining creditor trust;
- predictive analysis of both internal and external economic factors will aid in identifying risks. Kazakhstan should develop hedging mechanisms to prevent financial risks;

- balanced Approach to Attracting New Credit Resources: A balanced approach, including diversification of funding sources (both international and domestic markets), will promote stability and effective utilization of borrowed funds.

Thus, the study of trends in Kazakhstan’s external debt using a scenario-based approach emphasizes the importance of assessing external debt for systematic monitoring of key indicators influencing the country’s economic development, both in the current situation and in the long term.

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Estimation of Kazakhstan’s external debt and its growth forecast

Literature


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Поступило 29 августа 2023 г.
Принято 12 февраля 2024 г.