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CONCEPTUAL APPROACHES TO THE PUBLIC DEBT MANAGEMENT AND ITS IMPACT ON FINANCIAL STABILITY

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Abstract. Management and regulation of public debt for many years is an urgent problem of the functioning of the financial system of the state, as it is a component of the financial systems of the vast majority of countries. In this regard, the priorities and areas of the debt policy, in the framework of which the formation and servicing of public debt are gaining particular importance. Public debt plays a significant and multifaceted role in the macroeconomic system of any state, since relations regarding the formation, servicing and repayment of public debt have a significant impact on the state of public finances, monetary circulation, the investment climate, the structure of consumption and the development of international cooperation between states. For the Republic of Kazakhstan, the problem of improving the public debt management system and its impact on financial stability is relevant because its solution requires research and the search for radically new mechanisms in the context of the transformation of the economic system into a market one, which is associated with increased economic risk. The purpose of the study is to identify the main trends in the system of managing state external borrowings of the Republic of Kazakhstan, to analyze theoretical studies of foreign and domestic authors, as well as solutions to formulate recommendations for improving the efficiency of external debt management and its impact on the financial stability of Kazakhstan. The theoretical and methodological basis of the study was the development of domestic and foreign economists, laws and regulations governing economic and social processes in this area. The information base of the study was the work of domestic and foreign scientists and specialists in the field of public debt, official statistical and informational materials of the Ministry of Finance of the Republic of Kazakhstan, data of the National Bank of the Republic of Kazakhstan, data of the Ministry of National Economy of the Republic of Kazakhstan, statistical collections and Internet resources.

Keywords: interest rates; investment climate; financial market; public debt; management; financial stability; external debt; domestic debt; budget deficit; debt burden; stagnation; gross external debt (GED); budget.

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JEL Classifications: H60, H63

1. Introduction

An important element of the system of functioning of international economic relations is external debt, which has a huge impact on the country's economy. Foreign loans, on the one hand, contribute to the expansion of international trade, the introduction of new technologies and industries, and, on the other hand, exacerbate internal contradictions and increase the risk of a financial crisis. In this regard, external debt management is one of the priority tasks of the state. As the experience of foreign countries shows, an effective system of external debt management can ensure the prompt attraction of the necessary amount of borrowing to meet the financial needs of the state, save significant financial resources by optimizing the debt structure and debt servicing schedules, and minimize the risks of borrowing in foreign currency.

Accelerating the processes of globalization and integration of global financial markets has led, on the one hand, to increased access to borrowed resources and an increase in international lending, and on the other, to an increase in the negative effects of debt crises, often the state debt crisis is an important component of wider financial shocks (Zeibote et al. 2019; Sasongko et al., 2019; Masood et al., 2019; Girdzijauskaite et al., 2019; Burhanudin et al., 2017; Strýčková, 2017).

Today, public debt management is one of the key factors of macroeconomic stability in the country, since the fiscal capacity of Kazakhstan, the state of its foreign exchange reserves, and, therefore, the stability of the national currency, the level of interest rates, the investment climate, the nature of behavior depend on the nature of solving the debt problem.

Attracting and using external loans is one of the most important areas of monetary and foreign exchange policy of the state. Considering the importance of external borrowing for the country's economy, one should take into account both their positive and negative impact. On the one hand, foreign borrowing at a certain stage contributes to the development of the country's economy, the expansion of international trade, the introduction of new technologies and industries, and is a non-inflationary source of financing the budget deficit. On the other hand, upon maturity of external debt repayment, the state's investment opportunities are limited due to the need to accumulate resources for debt repayment.

When analyzing indicators of external debt, it is customary to use a system of indicators of the country's external debt, developed by the International Monetary Fund in conjunction with other international organizations in the document "External Debt Statistics: A Guide for Compilers and Users" (External debts statistics: guide for compilers and users 2003). An important indicator in the system of indicators of the country's external debt is the size of the external debt (The World Bank Indicator External debt).

Considering public debt in the financial system, it should be noted the main theoretical approaches to the formation of the definition of this financial and legal category, which have developed both in foreign and in domestic science.

In accordance with the Budget Code of the Republic of Kazakhstan, the management of public debt and contingent liabilities (debt guaranteed by the state and debt under state guarantees) includes:

1) an annual assessment of the state and forecast for the upcoming planning period of state and state-guaranteed borrowing and debt, debt on state guarantees, with the definition of indicators in it, in accordance with which the amounts of repayment and servicing, the limits of government debt and debt of local executive bodies, the provision of state guarantees and sureties of the state;

- 2) approval in the law on the republican budget of the limit of government debt, the limits for the provision of state guarantees;
- 3) determination of volumes, forms and conditions of borrowing by the Government of the Republic of Kazakhstan, volumes of repayment and servicing of government debt;
- 4) the implementation of registration of loans, monitoring the receipt, use of loans, repayment and servicing of debt;
- 5) preparation and implementation of measures to optimize the structure of debt and its servicing, including the early repayment of debt, the purchase and sale by the issuer of government equity securities on the organized securities market, debt restructuring, debt refinancing, borrowing and debt risk management;
- 6) debt risk management, which includes their identification, identification, assessment and minimization using methods of regulation of procedures and operations, compliance with established limits and requirements, diversification of instruments and markets, the use of various derivative financial instruments (options, swaps, forward, futures and other transactions used in the market for risk management purposes) (Budget Code of the Republic of Kazakhstan dated December 2008).

The analysis of public debt as a financial and legal category shows that there are different approaches to its definition. At the same time, common features can be distinguished in different approaches to the definition of public debt, among which:

- the will of the authorities to attract borrowed funds;
- certain conditions for attracting borrowed funds;
- regulation of budget legislation.

Summarizing the foregoing, the author proposed the following definition, characterizing public debt, as the relationship of financial and legal norms designed to ensure regulation of financial relations in which the state acts as a debtor in relation to other subjects of these relations. Therefore, public debt should be considered as a source of financing budget deficits and as a form of its spending.

2. Literature review

According to V.M. Fedosova, public debt represents the amount of debt on issued and outstanding domestic government loans, as well as the country's financial obligations to foreign creditors on a certain date (Fedosova 1991).

B.G. Boldyreva considers public debt in the same way as the amount of issued, but outstanding government loans with accrued interest, which must be paid by a certain date or for a certain period of time (Boldyreva 1990).

A similar understanding of public debt, but without specifying a time period, is laid by N.F. Samsonov, N.P. Barannikova, N.I. Strokova, defining government debt as the sum of debts on issued but outstanding debt obligations of the state, including interest accrued on them (Samsonov et al. 1998).

A deeper content of this category is presented by O.D. Khaikhadayeva, who considers it as a result of credit relations arising in connection with the movement of temporarily free funds from the national, private sector or from abroad to the state budget based on the principles of borrowing (Khaikhadayev 2000).

According I.V. Rukavishnikova, public debt is a set of obligations arising from state or municipal borrowings, guarantees for third-party obligations, other obligations in accordance with the types of debt obligations established by budget legislation (Rukavishnikova 2009).

In some foreign countries, for example, Belgium, Germany, Sweden, etc., in the constitutions of states financial

issues are singled out as an independent section, which indicates the importance and strategicity of relations in the field of public debt, since the legal regulation of the financial activities of the state in this area carried out at the constitutional level (Kozyrin 2002; Cayón & Perilla, 2018; Kliestik et al., 2018).

E.A. Sokolov in his scientific publications lays the causal relationship between public debt and public credit as the basis for the content of public debt, noting the interdependence and interdependence of state credit, state loans and state domestic debt (Sokolov 2006).

3. Methodology

Considering the conceptual approaches to public debt management, it should be noted that the concept of forming and using the funds of the National Fund of the Republic of Kazakhstan was developed in accordance with the Message of the President of the Republic of Kazakhstan to the people of the country dated November 30, 2015 “Kazakhstan in a new global reality: growth, reform, development”, where Priorities for the further development of the state were identified in the new global reality (Message from the President of the Republic of Kazakhstan to the people of the country).

The definition of new approaches to the formation and use of the funds of the National Fund of the Republic of Kazakhstan is a logical continuation of the ongoing policy of saving oil revenues for future generations of the country and reducing the dependence of the republican budget on changes in the world commodity market.

In Kazakhstan, the foreign loan management policy is linked to the Concept of the formation and use of funds of the National Fund, where the country's total debt is limited by the size of the fund's foreign currency assets. This ratio, as indicated in the document, was prescribed to maintain the financial stability of the country (Decree of the President of the Republic of Kazakhstan “On the Concept of the formation and use of funds of the National Fund of the Republic of Kazakhstan”).

At the end of 2017, according to the report of the Accounts Committee on the execution of the republican budget, this indicator approached the limit value: the country's total debt amounted to 55.5 billion dollars, or 96.2% of all foreign currency assets of the National Fund - 57.7 billion dollars. And its approach to 100%, according to committee analysts, poses significant risks of the country's financial instability (Table 1) (Data of the Ministry of Finance of the Republic of Kazakhstan for 2014-2018).

Table 1. International reserves and assets of the National Fund of the Republic of Kazakhstan for the period from 2008-2018

Year	Net international reserves			Assets of the National Fund of the Republic of Kazakhstan		
	volume, million dollars	change to the previous month, %	change by the beginning of the year, %	volume, million dollars	change to the previous month, %	change by the beginning of the year, %
2008	18 236	- 8,10	- 8,10	27 964	1,74	1,74
2009	25 715	14,13	14,13	24 619	1,03	1,03
2010	30 611	10,46	10,46	31 426	1,44	1,44
2011	33 136	15,20	15,20	45 511	4,16	4,16
2012	26 415	- 4,76	- 4,76	58 480	0,95	0,95
2013	23 974	- 0,81	- 0,81	71 142	0,50	0,50
2014	28 193	- 0,24	- 0,24	71 751	- 1,96	- 1,96
2015	25 961	- 3,76	- 3,76	63 647	0,40	0,40
2016	28 866	- 0,45	- 0,45	62 871	2,70	2,70
2017	30 824	1,12	1,12	59 350	1,74	1,74
2018	30 090	- 1,15	- 1,15	58 246	0,45	0,45

Source: compiled by the author based on the source: Data of the Ministry of Finance of the Republic of Kazakhstan for 2014-2018

According to the Ministry of Finance of the Republic of Kazakhstan, as of January 1, 2019, state and state-guaranteed debt amounted to slightly more than 16 trillion tenge (\$ 41.8 billion), including public debt - 15.39 trillion tenge (\$ 40 billion). Compared to 2017, it increased by 14.7% or by 2.06 trillion tenge, but in dollars decreased by 328.3 million (Table 2) (Data of the Ministry of Finance of the Republic of Kazakhstan for 2014-2018).

Table 2. Indicators of state and state guaranteed debt and debt burden for 2014-2018

Indicator	2014	2015	2016	2017	2018
Domestic debt	4252	4755	6824	8885	9601
External debt	1511	4542	4896	5005	6252
Government debt as % of GDP	14,3	22,1	24,3	25,4	26,2
Debt servicing costs to the republican budget revenues (excluding transfers from the NF), %	15,0	16,4	18,8	16,2	17,3
Debt servicing costs to the republican budget revenues, %	10,1	9,8	11,8	8,8	12,2

Source: compiled by the author based on the source: Data of the Ministry of Finance of the Republic of Kazakhstan for 2014-2018.

Despite the fact that the ratio of public debt to GDP remains within safe limits - 26.2% (in 2020 it should not exceed 27%), its growth is 11.6 percentage points higher than in 2014:

- in 2014, it amounted to 14.6% of GDP;
- in 2015 - 22.1%;
- in 2016 - 24.3%;
- in 2017 - 25.4%.

The Accounts Committee notes that if this was justified during the stagnation of the national economy and the global crisis, now it is not. The country's external debts in the structure of state and state-guaranteed debt

amounted to 39%, which is higher than the level of 2017 (35.8%), internal debt decreased to 59.8% (63.3%) - an increase of \$ 1.2 billion (from 15.1 billion to 16.3 billion).

4. Results

To form a coherent state political activity on external and internal loans, in our opinion, economic and mathematical tools should be applied.

Structuring and systematizing economic and statistical information using the methods of statistical analysis, we will study the interaction of indicators of the size of the domestic debt with the external debt of the country, by constructing a multiple regression model based on the statistical data given in table 2.

Based on the correlation field, one can hypothesize (for the general population) that the relationship between all possible values of X and Y is linear.

The linear regression equation has the form: $y = b x + a$

The estimated regression equation (constructed from sample data) will have the form:

$$y = bx + a + \varepsilon$$

where ε – observed values (estimates) of errors ε_i , a and b , respectively, estimates of the parameters α and β of the regression model to be found.

Here, ε - random error (deviation, indignation).

To estimate the parameters α and β - use the least squares method.

The least squares method gives the best (consistent, effective and unbiased) estimates of the parameters of the regression equation. But only if certain prerequisites are fulfilled regarding the random term (ε) and the independent variable (x).

Formally, the least squares method test can be written as follows:

$$S = \sum (y_i - y^*_i)^2 \rightarrow \min$$

To calculate the regression parameters, we construct a calculation table (Table 3)

Table 3. The calculation table of the parameters of the equation

x	y	x ²	y ²	x • y
1511	4252	2283121	18079504	6424772
4542	4755	20629764	22610025	21597210
4896	6824	23970816	46566976	33410304
5005	8885	25050025	78943225	44469425
6252	9601	39087504	92179201	60025452
22206	34317	111021230	258378931	165927163

Source: compiled by the authors

The system of normal equations.

$$\begin{cases} a \cdot n + b \cdot \sum x = \sum y \\ a \cdot \sum x + b \cdot \sum x^2 = \sum y \cdot x \end{cases}$$

For our data, the system of equations has the form

$$\begin{cases} 5 \cdot a + 22206 \cdot b = 34317 \\ 22206 \cdot a + 111021230 \cdot b = 165927163 \end{cases}$$

Solving the system by the method of algebraic addition, we obtain the empirical regression coefficients:

$$a = 2021,5733, \quad b = 1,0902$$

Regression equation (empirical regression equation):

$$y = 1,0902x + 2021,5733$$

The empirical regression coefficients a and b are only estimates of the theoretical coefficients β_i , and the equation itself reflects only the general tendency in the behavior of the variables in question.

Regression equation parameters:

Standard deviation:

$$S(x) = \sqrt{S^2(x)} = \sqrt{2479988,56} = 1574,798$$

$$S(y) = \sqrt{S^2(y)} = \sqrt{4569526,64} = 2137,645$$

Coefficient of determination:

The square of the (multiple) correlation coefficient is called the coefficient of determination, which shows the proportion of variation of the productive attribute, explained by the variation of the factor attribute.

Most often, giving an interpretation of the coefficient of determination, it is expressed as a percentage.

$$R^2 = 0,803^2 = 0,6451$$

That is, in 64.51% of cases, changes in x lead to a change in y . In other words, the accuracy of the selection of the regression equation is average. The remaining 35.49% of the change in Y is explained by factors not taken into account in the model (as well as specification errors).

To assess the quality of the regression parameters, we construct a calculation table (table 4).

Table4. Calculation table for assessing the quality of regression parameters

x	y	y(x)	(y _i - y _{ep}) ²	(y - y(x)) ²	(x _i - x _{ep}) ²
1511	4252	3668,876	6819409,96	340033,73	8586072,04
4542	4755	6973,293	4445350,56	4920823,17	10160,64
4896	6824	7359,226	1552,36	286466,952	206843,04
5005	8885	7478,059	4086866,56	1979484,041	317870,44
6252	9601	8837,547	7494453,76	582861,149	3278996,64
22206	34317	34317	22847633,2	8109669,042	12399942,8

Source: compiled by the authors

Hypothesis testing regarding the coefficients of the linear regression equation:

1. *t*-statistics. Student's criterion.

Using the least squares method, we obtained only estimates of the parameters of the regression equation that are characteristic of a particular statistical observation (a specific set of *x* and *y* values).

To assess the statistical significance of the regression and correlation coefficients, Student *t*-test and confidence intervals of each of the indicators are calculated. The hypothesis H₀ about the random nature of indicators is put forward, i.e. their insignificant difference from zero.

If the actual value of the *t*-test is less than the tabular (modulo), then there is no reason to reject the main hypothesis, i.e. a parameter or statistical characteristic in the general population is not significantly different from zero at a significance level of α .

$$T_{crit} (n-m-1; \alpha/2) = (3; 0,025) = 3,182$$

$$t_b = \frac{b}{S_b}$$

$$t_b = \frac{1,09}{0,467} = 2,33$$

Since $2.33 < 3.182$, the statistical significance of the regression coefficient *b* is not confirmed (we accept the hypothesis that this coefficient is equal to zero). This means that in this case, the coefficient *b* can be neglected.

$$t_a = \frac{a}{S_a}$$

$$t_a = \frac{2021,573}{2200,134} = 0,92$$

Since $0.92 < 3.182$, the statistical significance of the regression coefficient *a* is not confirmed (we accept the hypothesis that this coefficient is zero). This means that in this case, the coefficient *a* can be neglected.

Confidence interval for the coefficients of the regression equation:

We determine the confidence intervals of the regression coefficients, which with a reliability of 95% will be as follows:

$$(b - t_{crit} S_b; b + t_{crit} S_b)$$

$$(1,09 - 3,182 \cdot 0,467; 1,09 + 3,182 \cdot 0,467)$$

$$(-0,395; 2,576)$$

With a probability of 95%, it can be argued that the value of this parameter will lie in the found interval.

Since the point 0 (zero) lies inside the confidence interval, the interval estimate of the coefficient b is statistically insignificant.

$$(a - t_{crit} S_a; a + t_{crit} S_a)$$

$$(2021,573 - 3,182 \cdot 2200,134; 2021,573 + 3,182 \cdot 2200,134)$$

$$(-4979,253; 9022,399)$$

With a probability of 95%, it can be argued that the value of this parameter will lie in the found interval.

Since the point 0 (zero) lies inside the confidence interval, the interval estimate of the coefficient a is statistically insignificant.

2. F -statistics. Fisher criterion.

The determination coefficient R^2 is used to verify the significance of the linear regression equation as a whole.

The significance of the regression model is checked using the Fisher F -test, the calculated value of which is found as the ratio of the variance of the initial series of observations of the studied indicator and the unbiased estimate of the variance of the residual sequence for this model.

If the calculated value with $k_1 = (m)$ and $k_2 = (n-m-1)$ degrees of freedom is greater than the table value for a given level of significance, then the model is considered significant, where m is the number of factors in the model.

The statistical significance of paired linear regression is estimated according to the following algorithm:

- 1) The null hypothesis is put forward that the equation as a whole is statistically insignificant: $H_0: R^2 = 0$ at the significance level α .
- 2) Next, determine the actual value of the F -criterion:

$$F = \frac{R^2}{1 - R^2} \cdot \frac{n - m - 1}{m} = \frac{0,6451}{1 - 0,6451} \cdot \frac{5 - 1 - 1}{1} = 5,45$$

The table value is determined from the Fisher distribution tables for a given significance level, taking into account that the number of degrees of freedom for the total sum of squares (greater variance) is 1 and the number of degrees of freedom of the residual sum of squares (lesser variance) for linear regression is $n - 2$.

F_{tabl} is the maximum possible value of the criterion under the influence of random factors at given degrees of freedom and significance level α . The significance level α is the probability of rejecting the correct hypothesis, provided that it is true. Typically, α is assumed to be 0.05 or 0.01.

If the actual value of the F -criterion is less than the tabular one, then they say that there is no reason to reject the null hypothesis.

Otherwise, the null hypothesis is rejected and with probability $(1 - \alpha)$ an alternative hypothesis is accepted about the statistical significance of the equation as a whole.

The table value of the criterion with degrees of freedom $k_1 = 1$ and $k_2 = 3$, $F_{table} = 10.1$.

Since the actual value is $F < F_{table}$, the determination coefficient is not statistically significant (the found estimate of the regression equation is not statistically reliable).

As a result of the simulation, the dependence of Y on X was studied. At the specification stage, a pair linear regression was chosen. Its parameters are estimated by the least squares method. The statistical significance of the equation was verified using the coefficient of determination and the Fisher test.

It was found that in the studied situation 64.51% of the total variability of Y is explained by a change in X . It was also established that the model parameters are statistically weakly expressed. An economic interpretation of the model parameters is possible - an increase of X by 1 unit leads to an increase in Y by an average of 1.09 units. The obtained estimates of the regression equation make it possible to use it to predict selected economic parameters.

The cost of servicing and paying off government debt in 2018 increased to 1.07 trillion tenge, or by more than 25% compared to 2017. The Accounts Committee has repeatedly noted that the reason for the increase in the external debt of the government is the inefficient planning and development of borrowed funds, insufficient elaboration of risks and the impact on the country's economy of external and internal borrowing instruments.

The level of the debt burden on the budget (the ratio of the costs of servicing and paying off government debt to the republican budget revenues - autors) is within the 15 percent limit. However, this indicator increased from 8.8% in 2017 to 12.2% in 2018, that is, every eighth tenge of income goes to pay debt. So, excluding transfers from the National Fund, the debt level is 17.3% - an excess of 2.3 percentage points (every sixth tenge).

In general, according to the results of 2018, the gross external debt of Kazakhstan amounted to 158.8 billion dollars, having decreased by 5% over the year, as evidenced by the data provided by the Ministry of National Economy of the Republic of Kazakhstan (Table 5) (Data of the Ministry of National Economy of the Republic of Kazakhstan for 2014-2018).

Table 5. Change in the structure of gross external debt for 2014-2018,%

Indicator	2014	2015	2016	2017	2018
Governmentbodies	7,3	11,3	12,1	12,1	11,6
Banksandothersectors	69,7	44,5	46,0	50,1	45,4
Intercompanydebt	79,6	96,7	104,5	104,1	101,1
Centralbank	1,0	0,9	0,8	0,9	0,8
Ratio of gross external debt to GDP (% , including intercompany debt)	71,2	83,2	119,0	102,7	93,1

Source: compiled by authors according to the data the Ministry of National Economy of the Republic of Kazakhstan

The ratio of external debt to GDP for the first time since 2016 was 93.1% (which should not exceed 100%). The main share of external debt (63.6% or a little more than \$ 100 billion) falls on intercompany debt - it arises when

the head a company (non-resident) supplies its subsidiary (resident), for example, equipment that will be paid in a year.

Among the main reasons for the reduction of the country's external debt by 4.2% are:

- repayment of short-term notes of the National Bank;
- decrease in demand from foreign investors;
- repayment by oil and gas companies of loans from foreign companies and external loans attracted from state and financial Chinese organizations.

Thus, over the past 5 years, following the results of two quarters, the costs of servicing the state debt increased following the debt by 3 times (162.3 billion tenge), from 86.4 to 248.7 billion tenge (Figure 1) (<https://kursiv.kz/news/finansy/2018-08/gosdolg-kazakhstan-avelichilsya-na-219-za-god>).

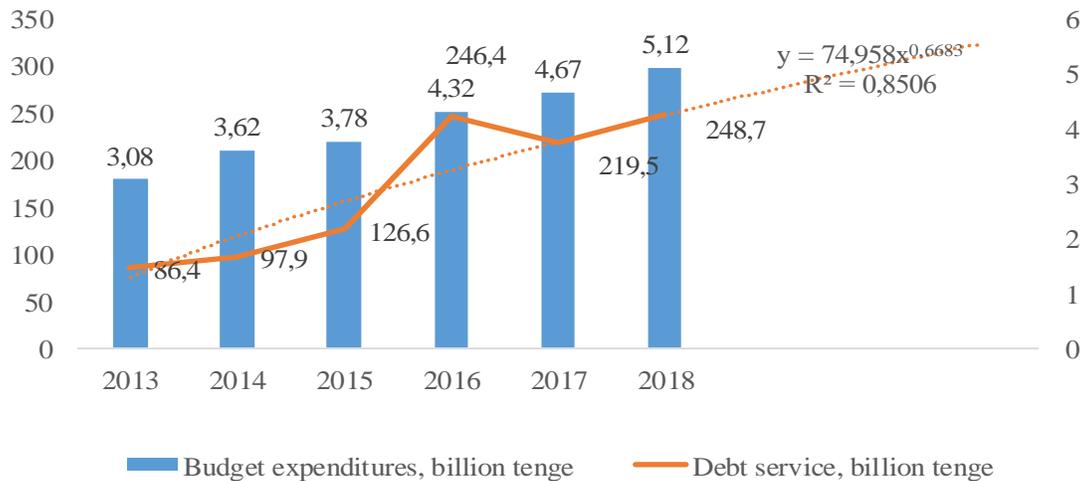


Figure 1. The dynamics of state budget expenditures and debt servicing in the Republic of Kazakhstan for the period from 2013-2018.

Source: compiled by authors based on the data of the electronic source:

Kursiv <https://kursiv.kz/news/finansy/2018-08/gosdolg-kazakhstan-avelichilsya-na-219-za-god>

The external debt of government bodies decreased by \$ 0.5 billion and amounted to \$ 11.6 billion, or 7.3% of the gross external debt. The external debt of banks and other sectors decreased by 4.7 billion and amounted to \$ 45.4 billion with a 28.6% share in the structure of the Ministry of Internal Affairs.

According to the data of the National Bank of the Republic of Kazakhstan, the structure of external borrowing by type of economic activity for 2018 indicates that loans are mainly attracted to the raw materials industries (Figure 2) (Data of the National Bank of the Republic of Kazakhstan for 2018).

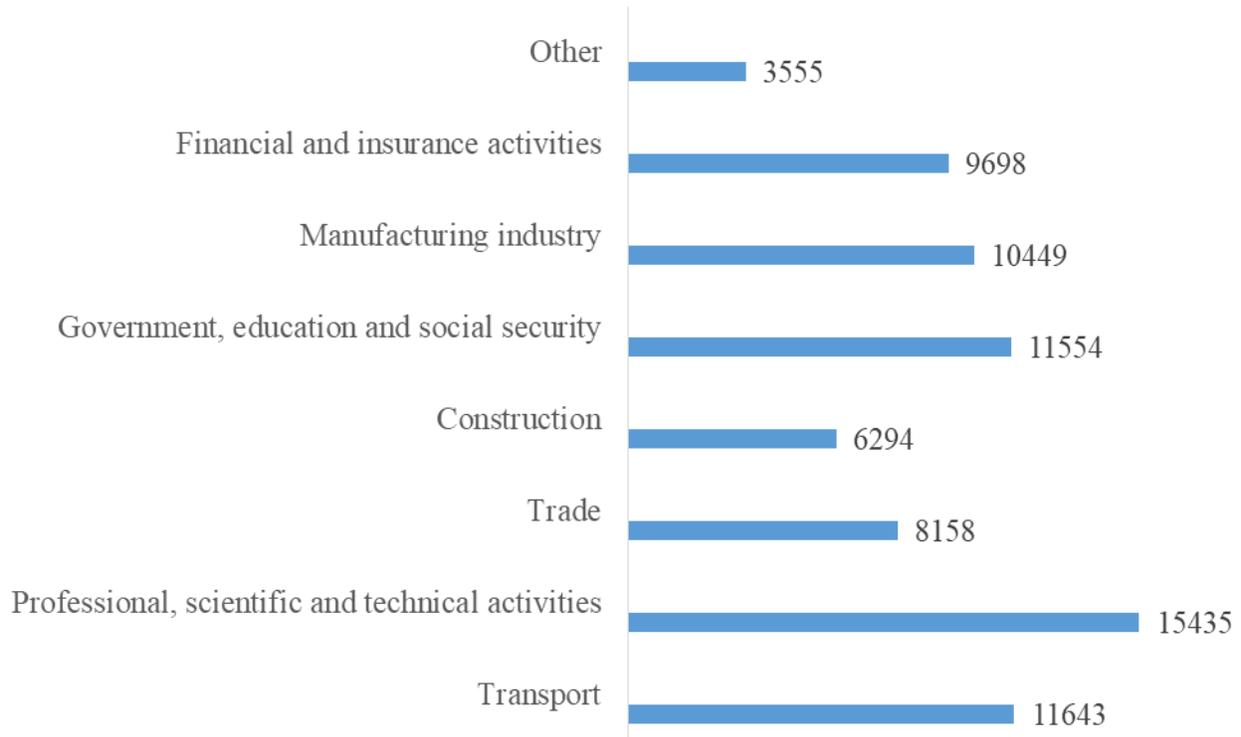


Figure 2. Structure of external borrowing by types of economic activity for 2018, million US dollars.
Source: compiled by authors according to the data of the National Bank of the Republic of Kazakhstan

For example, the mining industry accounts for 51.6% of the total external debt, or 82 billion dollars of which the bulk (75.7 billion) is the oil and gas sector of the economy. The reason for such a high borrowing rate is that at the stage of launching oil and gas projects, the country's infrastructure was not developed; there was no possibility of financing projects using our own funds. Due to the inability of Kazakhstan companies to borrow on foreign markets, the only possible way of financing was direct foreign investment (Table 6) (Kuratova 2019).

Table 6. Dynamics of income to payment in Kazakhstan by components (in% of GDP)

Year	Direct investment	Portfolio investment
2005	8	1
2006	10	2
2007	11	3
2008	13	3
2009	10	3
2010	12	1
2011	13	1
2012	12	1
2013	10	1
2014	9	1
2015	5	1
2016	9	1
2017	10	1
2018	12	1

Source: compiled by authors according to the source Kuratova

The external debt of the Transport sector amounted to \$ 11.6 billion (7.3%), of which 7.5 billion, or 4.7% of the total structure of the Ministry of Internal Affairs, was accounted for by pipeline transport or the oil and gas sector.

A significant amount also falls on the service sector. For example, professional, scientific, and technical activities account for 9.7% of the Internal Affairs Directorate (\$ 15.4 billion), of which 10.5 billion were attracted by the activities of parent companies and management consultations. In the field of public administration, education and social security, external debt amounted to \$ 11.6 billion, or 7.3%.

If we consider the country's gross external debt, Kazakhstan has the largest debt to the Netherlands - \$ 48.9 billion, or 30.8% of the total debt, the UK - \$ 21.9 billion (13.8%), the United States - 12, 2 billion (7.7%) and China - 11.6 billion (7.3%) (Figure 3) (Data of the National Bank of the Republic of Kazakhstan for 2018).

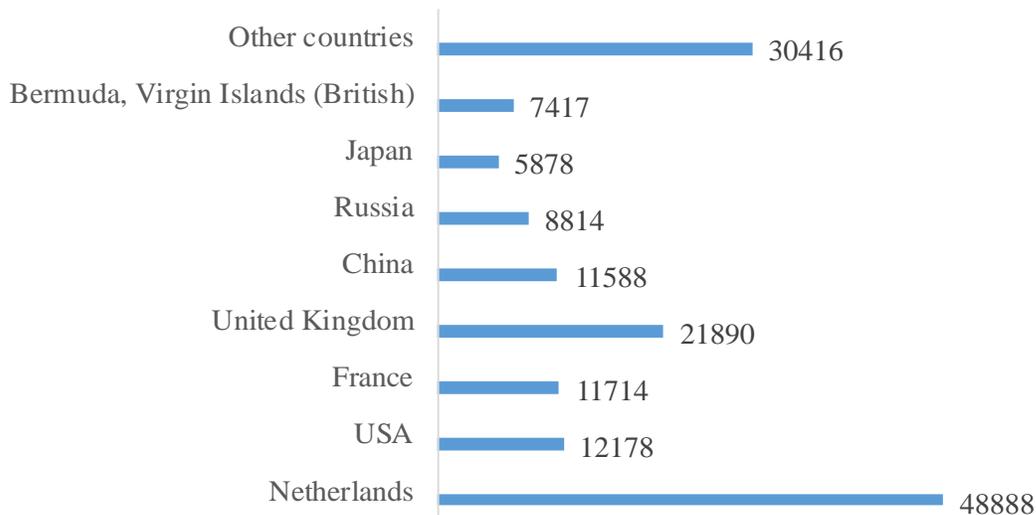


Figure 3. Structure of gross external debt by countries for 2018, million US dollars

Source: compiled by authors according to the data of the National Bank of the Republic of Kazakhstan

Also, the quasi-public sector has a great influence on the financial stability of Kazakhstan, the data of which indicate that the debt growth of the quasi-public sector has slowed significantly, namely of three entities - NWF Samruk-Kazyna JSC, Baiterek NMH JSC and KazAgro. In 2018, it increased by 36.2 billion tenge or 0.3% (in 2017, the growth was 6%) and amounted to 14.15 trillion tenge (36.2 billion dollars) (Table 7) (<https://kursiv.kz/news/finansy/2018-08/gosdolg-kazakhstan-avelichilsya-na-219-za-god>).

Table 7. Debt indicators of quasi-public sector entities for 2016-2018 (billion tenge)

Indicator	2016	2017	2018
JSC"WF SamrukKazyna"	9276	9887	9207
JSC "NMH" Baiterek "	3057	3194	3243
JSC "NMH" KazAgro "	992	1031	1509
% to GDP	28,4	26,6	24,1

Source: compiled by authors according to the data the Ministry of National Economy of the Republic of Kazakhstan

The largest share of 64.9% in the sector belongs to NWF Samruk-Kazyna JSC with more than 9.2 trillion tenge or \$ 24 billion (in 2017 about 9.8 trillion tenge). The company was able to lower its loans for 679.7 billion tenge, primarily due to the payment of the debt raised to purchase a 50% stake in KMG Kashagan. However, there has been an increase in loans for four subsidiaries of the fund:

- United Chemical Company LLP - by 179.9 billion tenge;
- JSC "NK" KazakhstanTemirZholy "- by 114.9 billion tenge;
- NAC Kazatomprom JSC - by 76.2 billion tenge;
- JSC Kazakhtelecom - 64.5 billion tenge.

The debt of Baiterek NMH together with its daughters reached 24.2% of the quasi-sector debt structure - it grew to 3.43 trillion tenge or 8.9 billion dollars (in 2017, the debt amounted to 3.1 trillion tenge). For the company itself, domestic debt grew by 193.8 billion tenge and for three joint - stock companies by 59.6 billion:

- JSC "BaiterekVentureFund" - by 39.8 billion tenge;
- JSC "Housing Construction Savings Bank of Kazakhstan" - 16.8 billion tenge;
- Kazakhstan Mortgage Company JSC - by three billion tenge.

The debt of KazAgro NMH JSC increased by 46.4% and amounted to 1.51 trillion tenge or \$ 3.9 billion (in 2017, it amounted to almost a trillion tenge). There is an increase in JSC "Agrarian Credit Corporation" - by 221, 4 billion tenge and for KazAgroFinance JSC - by 132.5 billion tenge.

In general, the total external debt of the government and the external debt of quasi-public sector entities reached \$ 35.9 billion, which is 62.2% of the National Fund's currency assets (\$ 57.7 billion).

Having such indicators of public debt, which were considered by the author, the question arises of the effectiveness of public finance management and, accordingly, a competent approach to managing the country's public debt.

As Yu.Ya.Vavilov and E.G.Kovalishin note, public debt management is a set of financial measures of the state related to the repayment of loans, organization of payment of income on them, the conversion and consolidation of state loans (Vavilov & Kovalishin 2007).

Properly managing the possibility of attracting borrowed funds (and, as a result, increasing public debt), it is possible not only to improve the economic situation in the country and solve acute social problems as consequences of public debt, but simply use it as a source of financing in accordance with the principles of competent financial management with great benefit to their country (Burns and DeVillé, 2017; Blanco-Encomienda and Ruiz-García, 2017).

Conclusions

Currently, the country has formed a legislative framework regulating the management of public and state-guaranteed debt. The measures carried out by the Government of the Republic of Kazakhstan make it possible to maintain state and state-guaranteed debt at a level acceptable to the country.

But the analysis showed that there was no systematic approach to managing external debt in Kazakhstan. The lack of an effective system for monitoring external borrowing and proper control over their placement within the country has created a threat to the national economic security of the Republic of Kazakhstan. After the global financial crisis, Kazakhstan revised its strategy to attract external borrowing. As a result, thanks to the anti-crisis measures adopted in Kazakhstan and the high world prices for mineral resources that were established during this period, we managed to slightly reduce the growth rate of external debt. However, the structure of the external debt of the republic is still not optimal for the purposes of its effective management. In addition, enormous resources are diverted to servicing external debt, exceeding the costs of most large items of the republican budget, which significantly reduces the investment potential and economic development opportunities of our country.

In our opinion, the main problem of external debt is obvious and lies in a strong vulnerability to the exchange rate factor - devaluation greatly increases its size and dramatically complicates the servicing process. Therefore, a natural solution in the current situation is to reduce the external debt as quickly as possible, that is, stop receiving new loans abroad, or receive them in tenge.

Of course, the key problem of the state is the low efficiency of the economy, which does not allow the budget to be formed and executed without borrowing funds in ever-growing volumes.

The lack of an effective system for monitoring external borrowing and proper control over their placement within the country has created a threat to the national economic security of the Republic of Kazakhstan. After the global financial crisis, Kazakhstan revised its strategy to attract external borrowing. As a result, thanks to anti-crisis measures adopted in Kazakhstan and high world prices for mineral resources established during this period, it was possible to slightly reduce the growth rate of external debt. However, the structure of the external debt of the republic is still not optimal for the purposes of its effective management. In addition, enormous resources are diverted to servicing external debt, exceeding the costs of most large items of the republican budget, which significantly reduces the investment potential and economic development opportunities of our country.

Given world practice, it is customary to use its ratio with GDP to assess the situation with public debt. In large developed economies, this ratio is very large, it varies in different countries around 100%, and against this background, Kazakhstan's figure of 27% may seem successful. However, it is not. Two main parameters testify to the situation in Kazakhstan:

- debt growth dynamics, both in absolute and in relative terms;
- the growth of budget costs for its maintenance.

The more money you have to spend on debt service, the less it remains for other budgetary needs. The larger the size of these expenses, the greater the debt itself becomes, because old loans are repaid at the expense of new ones. This means that there is an acceleration of debt buildup (Table 8) (Data of the Ministry of Finance of the Republic of Kazakhstan for 2014-2018).

Table 8. Long-Term Forecast of Loan and Government Debt Receipts

Indicator	2019	2020	2021	2022	2023
The receipt of loans, billion tenge:	1612,1	1633,4	1649,5	1701,2	2225,7
- domestic government loans	1491,2	1496,6	1534,8	1603,7	2082,2
- external government loans	120,9	136,8	114,7	97,5	143,5
Government debt, billion tenge:	11897	12895	13831	1463	15504
- domestic, billion tenge	7135	8332	9326	10161	11354
- external, billion tenge	4762	4562	4506	4473	4150

Source: compiled by authors according to the data the Ministry of National Economy of the Republic of Kazakhstan for 2014-2018 & forecast of socio-economic development of the Republic of Kazakhstan for 2019-2023

According to the forecast, which is shown in Table 8, the main problem of the external debt is obvious and lies in the strong vulnerability to the exchange rate factor - devaluation greatly increases its size and dramatically complicates the servicing process. Therefore, the natural solution in the current situation is to reduce the external debt as quickly as possible - stop receiving new loans abroad, or receive them in tenge. But the key problem with public debt is more general in nature and is associated with the low efficiency of the economy, which does not allow the formation and execution of the budget without borrowing in constantly growing volumes. Therefore, in the near future, the debt problem may become one of the main in Kazakhstan, despite the fact that the ratio of debt to GDP is still small by world standards. Therefore, in order to reduce the country's dependence on external borrowing, it is necessary to further improve the external debt management strategy, which will attract the necessary amount of financing and ensure the fulfillment of payment obligations at the lowest cost in the medium and long term with a reasonable degree of risk. This strategy should be aimed at reducing the debt burden of the economy by improving the debt structure and improving the profile of debt payments, increasing the efficiency of borrowed funds and developing a sound policy for attracting new credit resources.

In addition, it is necessary to develop proposals for optimizing the structure of debt and its servicing, including for early repayment, restructuring and refinancing of debt, as well as for managing borrowing risks. To keep the debt burden on the budget within the established limits, the Government needs to take measures to maintain the deficit of the republican budget, which will keep the country's external debt at a safe level.

Among the proposals to reduce public debt, Kazakhstan can include the following:

1. Optimization of government borrowing - is a program to optimize borrowing, in the framework of which maneuvering internal and external loans, including measures such as:
 - ensuring the equivalence of current debts and future taxes;
 - maintaining a balance in issuing activities and collecting taxes with the process of increasing debt and the size of its servicing;
 - realization of debt stabilization policy in conjunction with the investment process;
 - conducting measures to transform debt growth policies into restrictive policies that stabilize debt growth;
 - the implementation of operations to redeem expensive issues of T-bills at the expense of funds raised during the placement of Eurobonds.
2. The extension of state domestic debt - is associated with the process of replacing "short" and "expensive" debts with "long" and "cheap" ones. The implementation of this method involves a reduction in borrowed funds through the placement of state short-term liabilities and a decrease in the yield on government securities.
3. Restructuring of debts to the budget of economic entities (enterprises and organizations).
4. Monitoring the borrowing of the subjects of the Republic of Kazakhstan.
5. An increase in the state's share in the capital structure of joint-stock (former state) enterprises.
6. Temporary transfer of property of debtor enterprises to state authorities.

7. State purchase of “bad” debts - the state exchanges debts at a reduced price for its long-term bonds. In this case, the priorities of the structural investment policy should be taken into account.
8. Offsetting debt claims and obligations.

The use of such tools to cover budget expenditures requires effective management of state authorities, providing for the impact of the subject on the object, which is expressed in the aggregate of tools, methods and mechanisms fixed by law taking into account the historical background of use.

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