

The Macroeconomic Analysis: the Main Results of Estimation of Monetary Indicators on the Materials of Russia, the Countries of the Commonwealth of Independent States (CIS) and North-East Asia

Elena Nikolaevna Vyborova

Professor, Doctor of economic sciences, Volgograd, Russia.
E-mail: el.nik.vyborova@mail.ru

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Abstract

Purpose – This study is to analyze the monetary indicators and the key macroeconomic indicators and to assess the effectiveness of state regulation on its basis. The analysis of monetary aggregates of Russian Federation, CIS, the countries of leading countries of North-East Asia at the present stage of development.

Research design and methodology – The volume of data on Russia was analyzed from the 1995 to the 2018. The data from the 1950 to the 2019 were estimated on China. The data from the 1980 to the 2018 were estimated on Japan. On South Korea - since the 1960 to the 2018. On Republic of Belarus - since the 2003 to the 2018. On Tajikistan – from the 2008 to 2017. On Kazakhstan – from the 1994 to the 2018. On Kyrgyzstan - from the 2002 to the 2018. On Armenia - from the 2003 to the 2018.

Results – Hypothesis 1: In Russian Federation, the monetary stock has a stable tendency to grow. The volume of money stock of Russia and the analyzed countries is much determined by external debt, GDP, the export, the import, and the international reserves. Hypothesis 2: The growth of money supply does not always give a positive effect in the development of the country, as well as a significant increase in the amount of money stock does not always lead to negative consequences. The monetary stock should be commensurate with the macroeconomic indicators of the state.

Conclusions – The growth of the monetary stock does not always give a positive effect in the development of the country, as well as a significant increase in the amount of monetary stock not always lead to negative consequences.

Keywords: Monetary weight, Monetary base, Regulation by monetary movement

JEL Classifications Code: E41, E6, E58.

1. Introduction

State regulation of the main macroeconomic parameters is based on the regulation of monetary indicators, the international reserves, the foreign trade turnover, its structure. The one of the main indicators of the country's development is GDP (Rao, 1968; Teil, 1970; Teil, 1974; Sarkisyan, 1977). Unjustified growth of money stock can lead neither to increase of liquidity of the state, but to the incommensurable losses as a result of inflation. Disproportionate placement of money stock in the economic operations, the sectors of the economy not only does not lead to GDP growth, but also is a ballast in the development of the state (Ezekeel, 1966; Enger, 1976; Dubrov, 1987). The intensive money stock can be regulated by frequent denominations, as the practice in Republic of Belarus, the history of state money management in Russia shows.

This mechanism does not allow the country to develop normally and maintain a sufficiently high level of well-being of the nation for a long time. In this regard, we set the objectives of the research: conducting multi-year monitoring of the main indicators of Russia, CIS countries, the leading countries of North-East Asia; identification of optimal basic economic proportions of macroeconomic indicators; identification of trends in the regulation of macroeconomic parameters and assessment of their consequences. In the framework of this article we will present interim results of monitoring of monetary and the main macroeconomic indicators.

The methods of research used the methods of multidimensional statistics such as the component analysis, the factor analysis, the discriminant analysis, the correlation and regression analysis (Adirim & Yanov, 1977). The accounting procedures were carried out using the application package Statgraphics (Ayvazyan, 1975; Bernstein, 2018). The importance of parameters of the presented equations was checked by the criterion of Student, Fisher (Demidenko, 1981). The estimation of the autocorrelation was determined by the help of Darbina-Watson statistics (Dovba, 1970; Draper & Smit, 1973; Draper, 1987)

2. The result of analyses

The monetary base of Russia in the 2018 mainly has a stable tendency to growth. On average, over the past five years, it has grown by the 9.16% during this period. At the 01.09.2018, it amounted to 16118,6 billion RUB. The dynamics of the monetary base during the 2018 has significant fluctuations. By studying the trend of the monetary base, it can be noted that it is described by polynomial of the second degree (Appendix A: Figure 1, 2):

$$Y = -111,896 - 0,243 * t + 0,178 * t^2$$

The monetary stock of Russia in the 2018 had a tendency to rise, on the average for the five years it increases by the 7,88% and on 01.09.2018, and is 44369, 1 billion RUB (Figure 1, Appendix A: Figure 3).

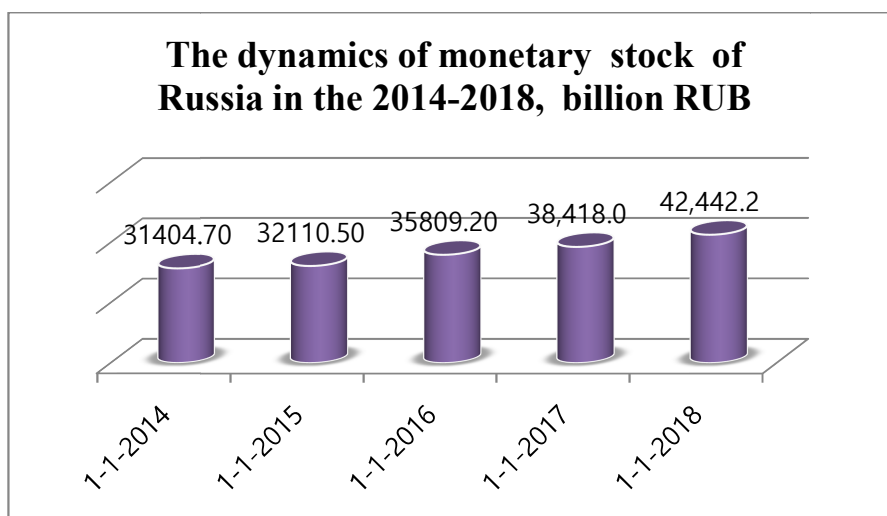
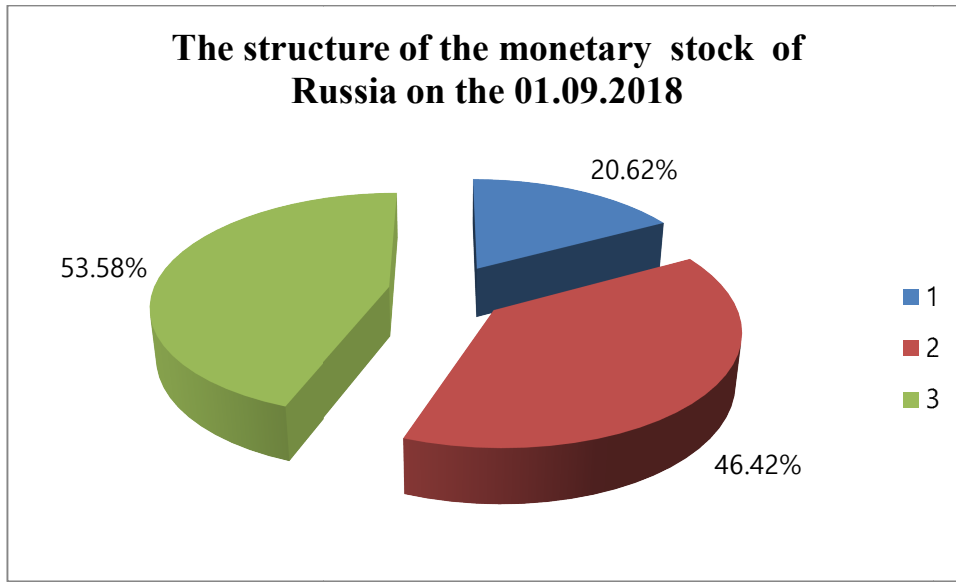


Figure 1: The dynamics of monetary stock of Russia in the 2014-2018.

The structure of the monetary stock of Russia on the 01.09.2018 can be reflected on the Figure 2.



Number 1 – the monetary aggregate M0,
 Number 2 – the monetary aggregate M1,
 Number 3 – the deposits, which are included into the monetary aggregate M2.

Figure 2: The structure of the monetary stock of Russia (monetary aggregate M2) on the 01.09.2018.

The tendency of development of monetary stock of Russia can be described as follows (Figure 3, Appendix A: Figure 4, 5):

$$Y = 1691,43 - 81,16 * t + 0,73 * t^2$$

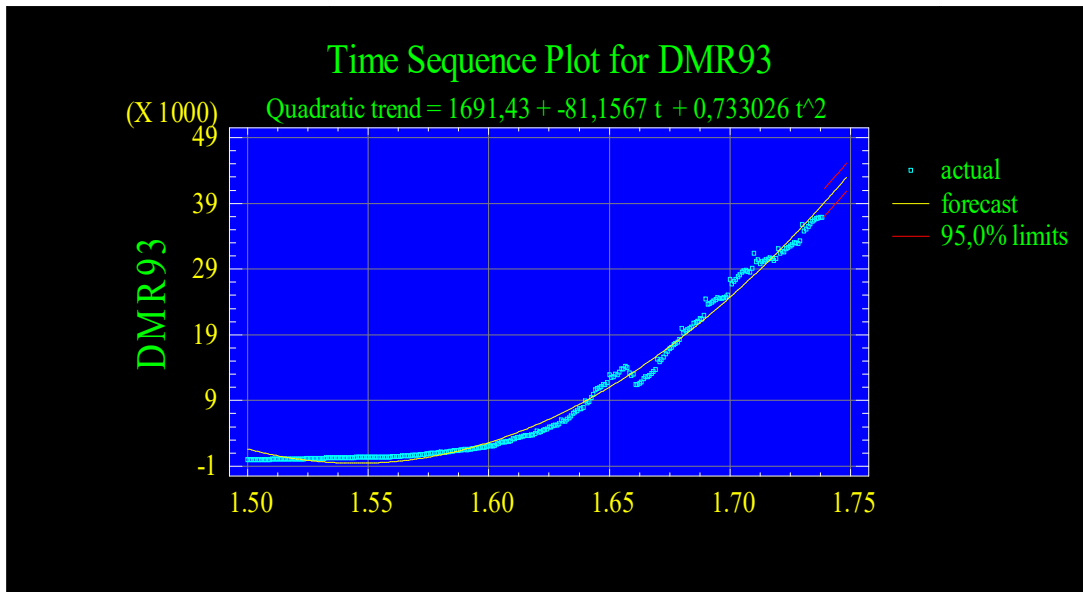


Figure 3: The dynamics of monetary stock of Russia¹.

¹ The data array was investigated with the 1993 r. to 01.09.2018.

The results of component analysis, the factor analysis, the discriminant analysis, the correlation-regression analysis of data since the 2011 showed a high degree of dependence of the monetary stock on the volume of exports and the imports. The monetary stock is determined by the export by the 64% and the imports by the 62,41%. The form of dependence between the factors is presented as follows:

$$Y = 41\,646,1 - 156,2 * X_1 - 154,7 * X_2$$

where X_1 – the export, X_2 – the import.

With the increase the exports by the one \$ USA, the monetary stock increases by the 156,2 RUB, with the growth of imports of one \$ USA monetary stock increases by the 154,7 RUB.

The international reserves of Russia on the 01.09.2018 amounted to the 459 163 mill. \$ USA. Their dynamics have changed slightly over the past five years (Appendix A: Figure 6, 7, 8). The structure of the international reserves of Russia during the 2018 does not change significantly and on the 01.09.2018 of the largest proportion of foreign currency assets – 80,94%, the monetary gold – 16,9%. The dynamics of international reserves is described by a linear trend of the following type:

$$Y = 330,336 + 999,707 * t$$

Estimating the macroeconomic indicators of Russia, it should be noted, that the GDP of the country in the 2017-2018 grew by on the average of 2,56% and in the second quarter of 2018 is 24846,6 billion RUB (Appendix A: Figure 9). The trend of GDP development can be represented by polynomial of the second degree of species (Figure 4):

$$Y = -274,082 + 34,38 * t + 2,62 * t^2$$

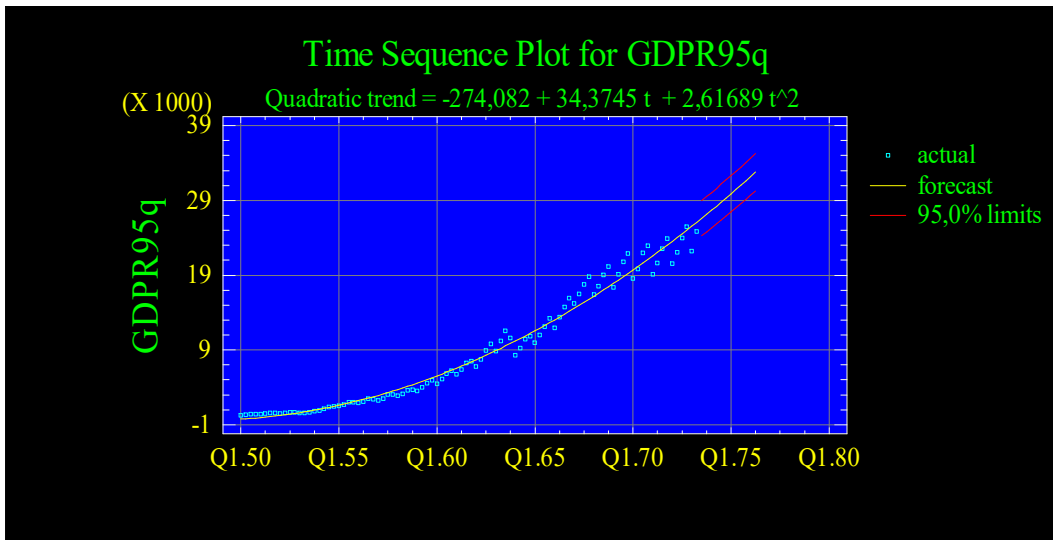


Figure 4: The dynamics of GDP of Russia².

GDP is determined by 68,89% of the country's external debt. The form of dependence between the factors is presented as follows:³:

$$Y = -2115 + 0,034 * X$$

The amount of domestic debt at the beginning of October 2018 amounted to the 9 043 billion RUB. The external debt of Russia in the 2017-2018 has a tendency to decrease and on the 01.09.2018 of the city makes 490 697 mill. \$ USA (Appendix A: Figure 10). The dynamics of the indicator can be represented by the type model⁴:

$$Y = 40\,113,3 + 23\,822 * t - 258,32 * t^2$$

² The data array was investigated with the 1995 to 01.09.2018

³ The data array was investigated in regression analysis with the 2003 to 01.09.2018.

⁴ The data array was investigated with the 2003 to 3'Q 2018.

The dynamics of exports and the imports of Russia in the 2017-2018 is not much changed (Appendix A: Figure 11,12). On the 01.09.2018, the export amounted to 34,4 billion. \$ USA, the import – 21,4 billion \$ USA. However, over the past five years there has been a decline in these indicators. The trend of export development can be defined by polynomial of the second degree of type⁵:

$$Y = - 8,63 + 0,42*t - 0,0008*t^2$$

The tendency of development of import can be defined as polynomial of the second degree of a kind:

$$Y = - 3,69 + 0,22*t - 0,0004*t^2$$

There is a high degree of dependence between indicators. The export is determined by import by the 96,04%. With an increase the imports per one \$ USA, the exports grow by the 1,73 \$ USA. The form of the constraint is:

$$Y = 0,16 + 1,73*X$$

In the 2017, in the foreign trade turnover of Russia the 76,43% accounted for the trade with Republic of Belarus, the 14,89% - on the turnover with China, the 8,56% - on trade with Germany, the 6,76% - on the turnover with the Netherlands.

2.1. The assessment of macroeconomic indicators of CIS

The monetary stock of Republic of Belarus in the 2018 on the average grows by the 0,5% and on the 01.09.2018, it is 40317,79 mill. BYR (Appendix B: Figure 1). During the 2015-2018 years, after the denomination, the increase in the money stock amounted to the 19,25%. The international reserves for the last five years have been growing by the 6,27% on average and on the 01.09.2018 is the 7 315,26 million \$ USA (Appendix B: Figure 2). The trend of development of international reserves can be presented in the form of:

$$Y = 693,63 + 36,51*t$$

The dynamics of the monetary stock of Kazakhstan has no sharp fluctuations and on the 01.08.2018 is the 19 780 billion CZT (Figure 5, Appendix B: Figure 3).

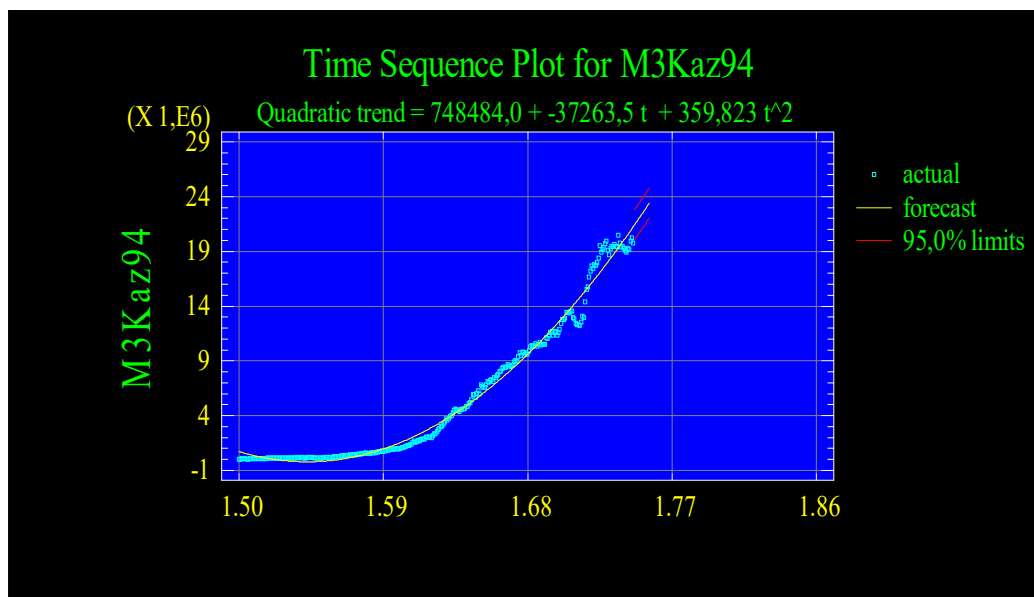


Figure 5: The dynamics of monetary stock of Kazakhstan⁶.

⁵ The data array was investigated in regression analysis with the 1996 to 01.09.2018.

⁶ The data array was investigated with the 1994 to 01.08.2018.

Over the past five years, it has increased by an average of 13,96% (Appendix B: Figure 4). The dynamics of monetary aggregates is described as the exponential form of dependence, so polynomial of the second degree. The tendency of development of money mass is described by polynomial of the second degree of type:

$$Y = 74\,848 - 37\,263,5 \cdot t + 359,82 \cdot t^2$$

The international reserves for the last five years grow by the 6,76%. In the beginning of 2018 have a tendency to decrease and on the 01.09.2018 is the 30 028 mill. \$ USA. The dynamics of development is described by linear trend of the kind:

$$Y = -5\,189,66 + 134,28 \cdot t$$

Estimating the macroeconomic indices of Kazakhstan, we note that external debt in the third quarter of 2018 amounted to the 164 422 million \$ USA. A significant share takes a long-term external debt, which tends to decrease. According to the results of the research of data array from the 2001 on the basis of correlation-regression analysis it is possible to conclude that external debt is determined by export dynamics by the 56,34%, the import dynamics – by the 66,7%. The dependency has the form:

$$Y = 6\,183,06 - 1,002 \cdot X_1 + 14,59 \cdot X_2,$$

where X_1 – the export, X_2 – the import.

Thus, with an increase the exports per one \$ USA the external debt is reduced by the 1,002 \$ USA, with an increase the imports per one \$ USA the external debt increases by the 14,59 \$ USA. The dynamics of external debt development is described by polynomial of the second degree of species (Figure 6):

$$Y = -13\,875,6 + 3\,969,59 \cdot t - 18,8 \cdot t^2$$

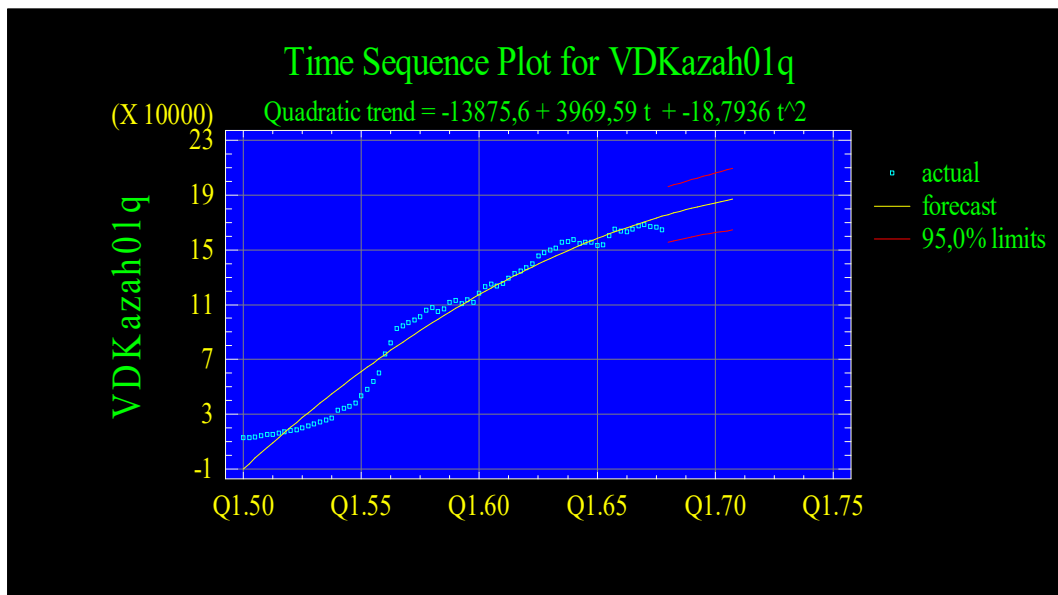


Figure 6: The dynamics of external debt of Kazakhstan⁷

The dynamics of export and the import development is also described by polynomial of the second degree⁸.

⁷ The data array was investigated with the 2001 to 01.08.2018.

⁸ The data array was investigated with the 2012 to 01.09.2018.

The broad monetary stock of Kyrgyzstan in the last five years on average increases by the 12,61% and on the 01.09.2018 is 198 692,06 million KGS (Appendix B: Figure 7, 8). The tendency of development of the broad monetary stock can be described by polynomial of the second degree of the kind (Figure 7):

$$Y = 84\,637 + 789 \cdot t - 7,88 \cdot t^2$$

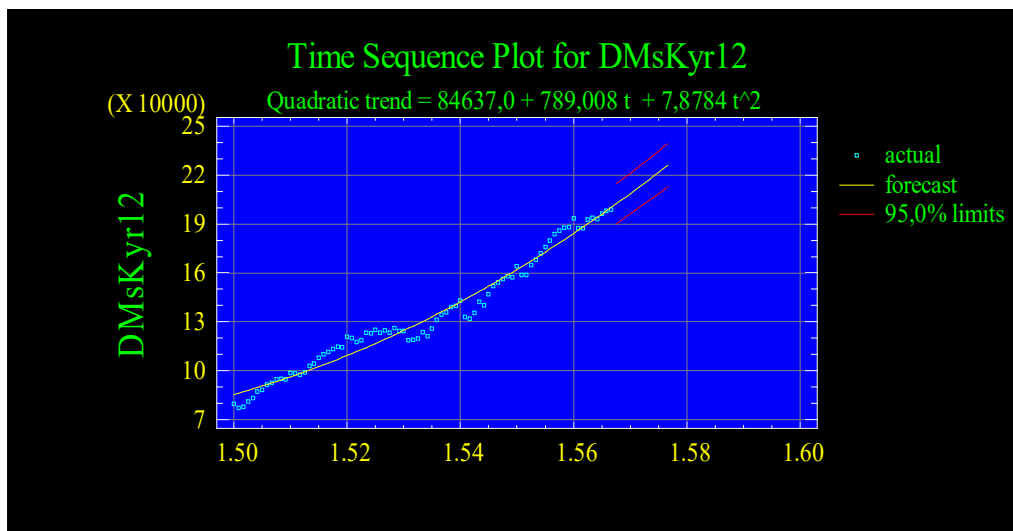


Figure 7: The dynamics of monetary stock of Kyrgyzstan⁹.

Estimating the macroeconomic indices of Kyrgyzstan, it can be noted that during the last five years there has been no sharp fluctuations in international reserves. A significant reduction in the indicator can be seen in the 2018 on the 01.08.2018, they amounted to the 2127,84 million \$ USA. The tendency of development of the international reserves can be described by polynomial of the second degree of type:

$$Y = -84,14 + 21,15 \cdot t - 0,05 \cdot t^2$$

There have been no drastic changes in the dynamics of exports and the imports over the past five years. The trend of export development is presented by the view model:

$$Y = 214,33 + 4,72 \cdot t + 0,069 \cdot t^2$$

The trend of the import development is presented by the view model:

$$Y = 491,77 - 9,69 \cdot t + 0,16 \cdot t^2$$

The export dynamics is determined by the dynamics of imports by the 39,3%. The form of the indicator dependency is:

$$Y = 24,57 + 0,33 \cdot X1$$

That is, when the import increases by the one \$ USA, the export increases by the 0,33 \$ USA.

The dynamics of international reserves is also determined by the dynamics of imports by the 23,88%. With an increase in the imports per USD, the international reserves are increasing by the 0,86 \$ USA. The form of the indicator's dependence is as follows:

$$Y = 1\,684,33 + 0,86 \cdot X1$$

Tajikistan's monetary stock has tended to grow over the past five years. On average, it increases by the 20,49 %. At the 01.08.2018 it is 18 798 million TJS. The dynamics of monetary stock of Tajikistan is also described by

⁹ The data array was investigated with the 2011 to 01.09.2018.

polynomial of the second degree. The tendency of development of monetary stock is presented by model of kind (Figure 8):

$$Y = 2\,437,8 + 11,42 \cdot t + 0,9 \cdot t^2$$

The monetary stock of Armenia has tended to grow over the past five years. On average, it grows by the 14,26% and on the 01.08.2018 is the 2627 292 million AMD. The dynamics of monetary aggregates of Armenia is also described as the exponential form of dependence, so the polynomial of the second degree.

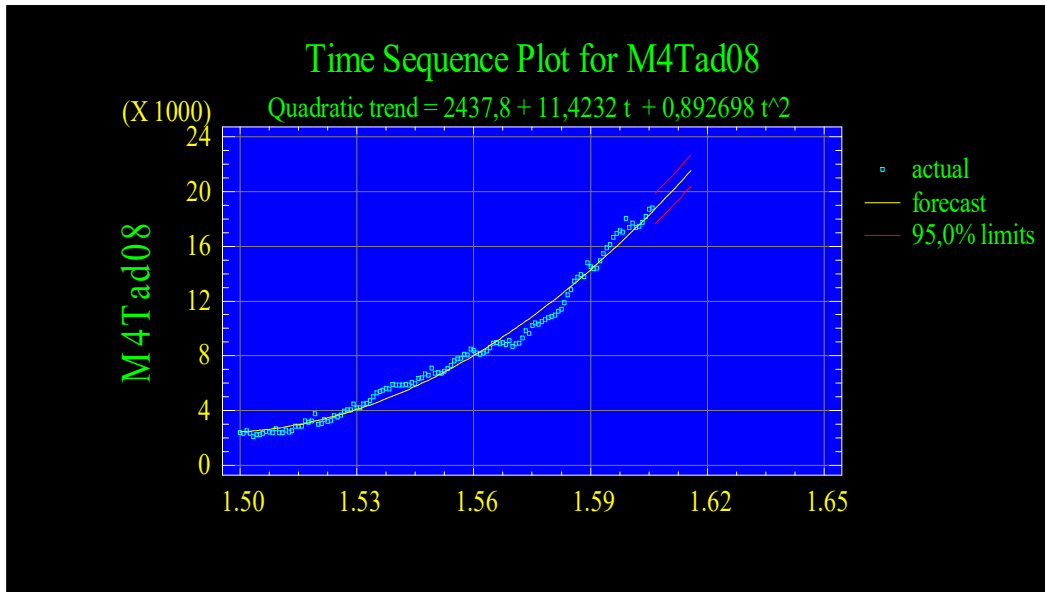


Figure 8: The dynamics of the wide monetary stock of Tajikistan¹⁰

The tendency of development of the monetary stock is presented by polynomial of the second degree of a kind (Figure 9):

$$Y = 198010 + 2465,12 \cdot t + 54,04 \cdot t^2$$

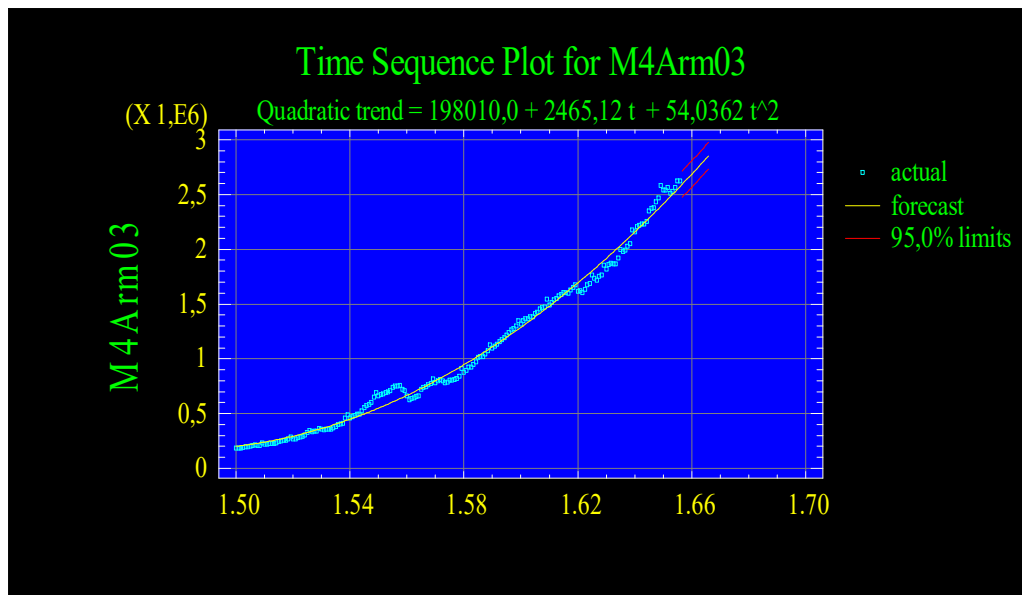


Figure 9: The dynamics of the wide monetary stock of Armenia¹¹.

¹⁰ The data array was investigated with the 2008 to 01.09.2018.

2.2. The assessment of macroeconomic indicators of leading countries North-East Asia

The dynamics of the monetary base of Japan for the last five years increases on the average by the 26,64% and on the 01.08.2018 of the year is the 498 386,8 billion JPY (Figure 10, Appendix C: Figure 1, 2).

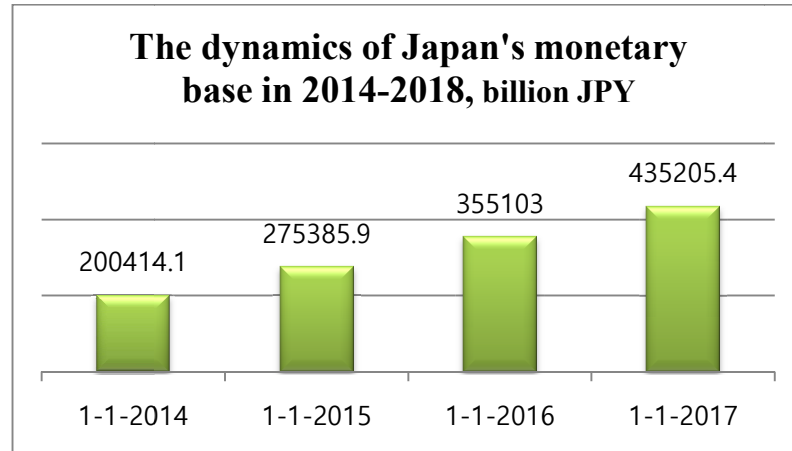


Figure 10: The dynamics of Japan's monetary base in 2014-2018.

The dynamics of the monetary base of Japan can be described by polynomial of the second degree of type:

$$Y = 69807,2 - 875,9*t + 3,2*t^2$$

China's monetary stock has increased by the 11,26% in the last five years, on the 01.08.2018 is 178 867 billion CNY (Appendix C: Figure 3,4). The dynamics of the monetary stock can be described by the linear trend of the species (Figure 11):

$$Y = 829072 + 11938*t$$

The dynamics of the monetary aggregate M0 of China is described by polynomial of the second degree of type:

$$Y = 51009 + 279,8*t - 0,12*t^2$$

The dynamics of monetary aggregate M1 of China is described by the linear trend of the species:

$$Y = 237067 + 3731,9*t$$

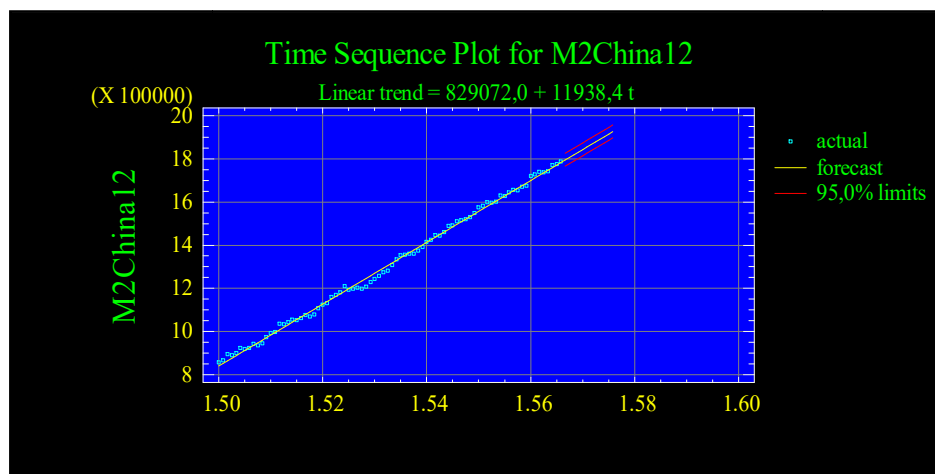


Figure 11: The dynamics of the wide monetary stock of China¹²

¹¹ The data array was investigated with the 2003 to 01.09.2018.

¹² The data array was investigated with the 2012 to 01.08.2018.

The dynamics of China's international reserves have been studied since the 1950 (Appendix C: Figure 5,6). Their tendency is described by polynomial of the second degree of a kind:

$$Y = 698781 - 90072,5 * t + 1871,53 * t^2$$

China's external debt is slightly increasing and on the 2017 is the 1 710,62 billion \$ USA. At the same time its structure in favor of reduction of short-term part and growth of long-term (Appendix C: Figure 7) changes somewhat. China's GDP data have been studied since the 1978, which tends to grow and in the 2016 is the 74 412,7 billion CNY (Appendix B: Figure 8,9).

South Korea's monetary base has increased by the 11,52% over the past five years. The monetary stock grows by the 7,04% and on the 01.08.2018 is the 2 634 789,9 billion KRW (Appendix C: Figure 10,11). The study of monetary indicators was carried out on the basis of data from the 1960 to the 2018. The trend of development of monetary indicators can be described by polynomial of the second degree of a kind (Figure 12,13, Appendix C: Figure 12, 13, 14):

The monetary base - $Y = 13604,6 - 215,82 * t + 0,73 * t^2$

The monetary stock (The monetary aggregate M2) –

$$Y = 110752 - 2721,93 * t + 11,86 * t^2$$

The monetary aggregate M1 - $Y = 51050 - 1001,3 * t + 3,74 * t^2$

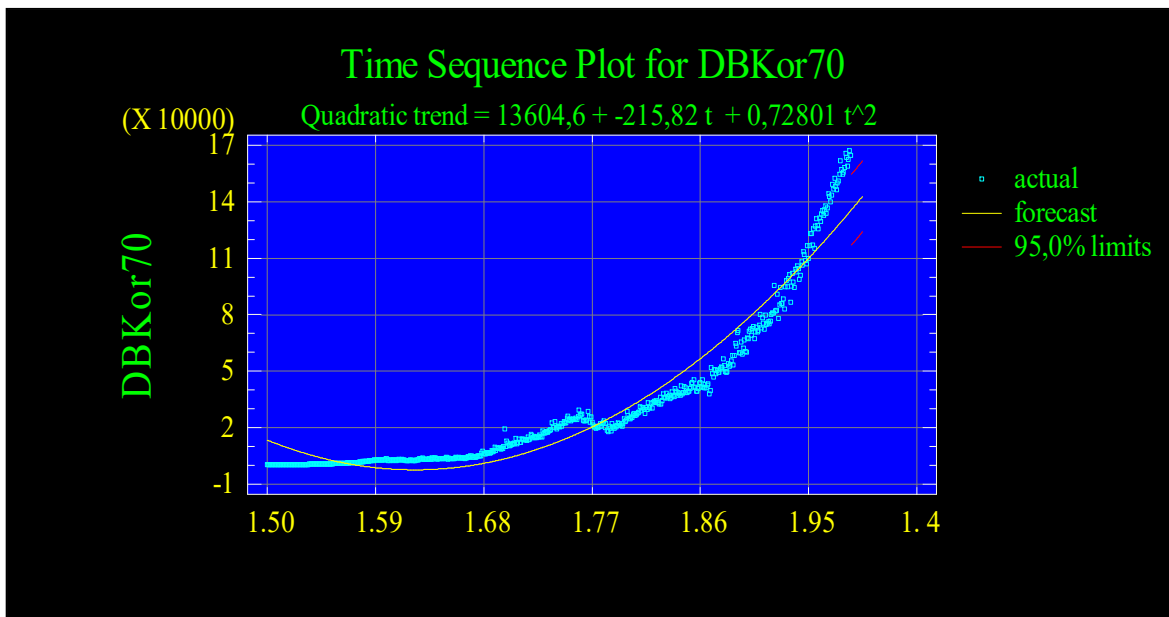


Figure 12: The dynamics of monetary base of South Korea¹³.

¹³ The data array was investigated with the 1970 to 01.06.2018.

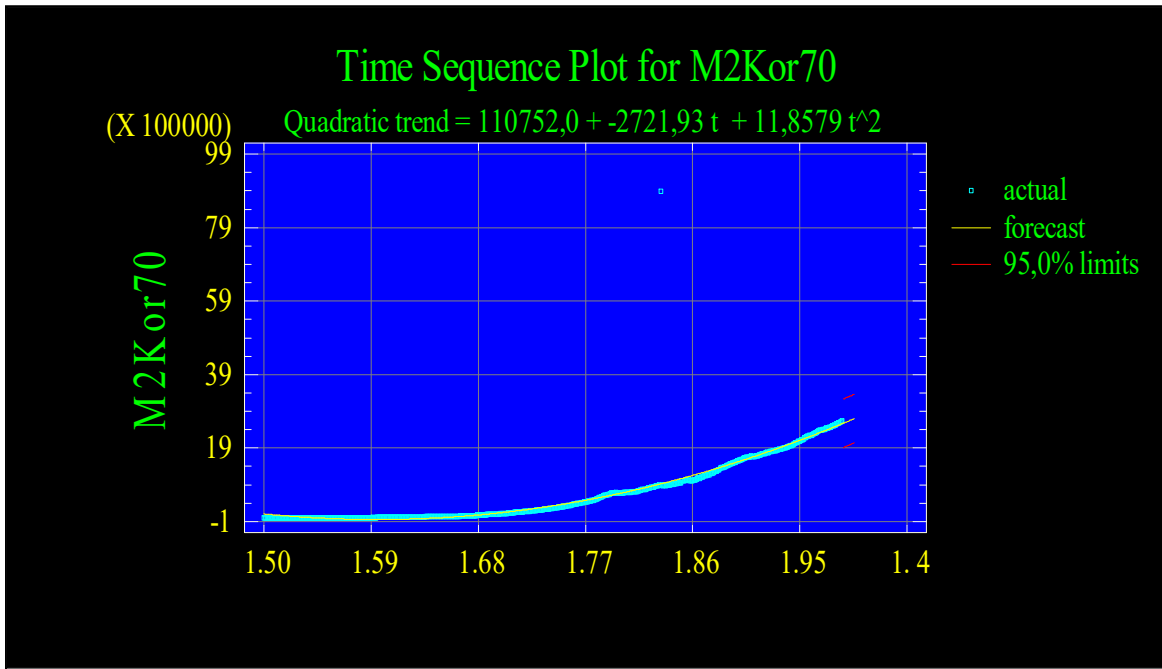


Figure 13: The dynamics of monetary aggregate M2 of South Korea¹⁴

The international reserves of South Korea have growth trend for five years as well as in the 2018 (Appendix C: Figure 15,16). The trend of development of international reserves can be described by polynomial of the second degree of species (Figure 14):

$$Y = 50536,5 - 8677,9 * t + 254,1 * t^2$$

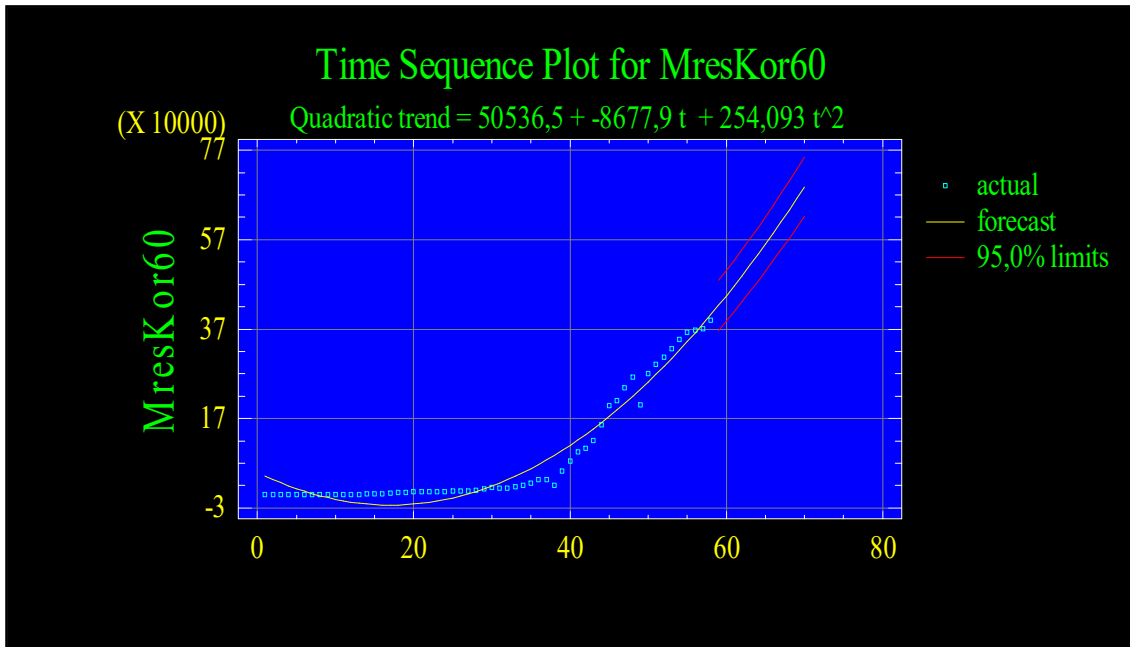


Figure 14: The dynamics of the international reserves of South Korea¹⁵

¹⁴ The data array was investigated with the 1970 to 01.06.2018.

¹⁵ The data array was investigated with the 1960 to 01.06.2018.

The GDP dynamics of South Korea for the five years tends to grow (Appendix C: Figure 17), the tendency of which can be described by polynomial of the second degree of view (Figure 15):

$$Y = 149990 - 25764,6 * t + 760,9 * t^2$$

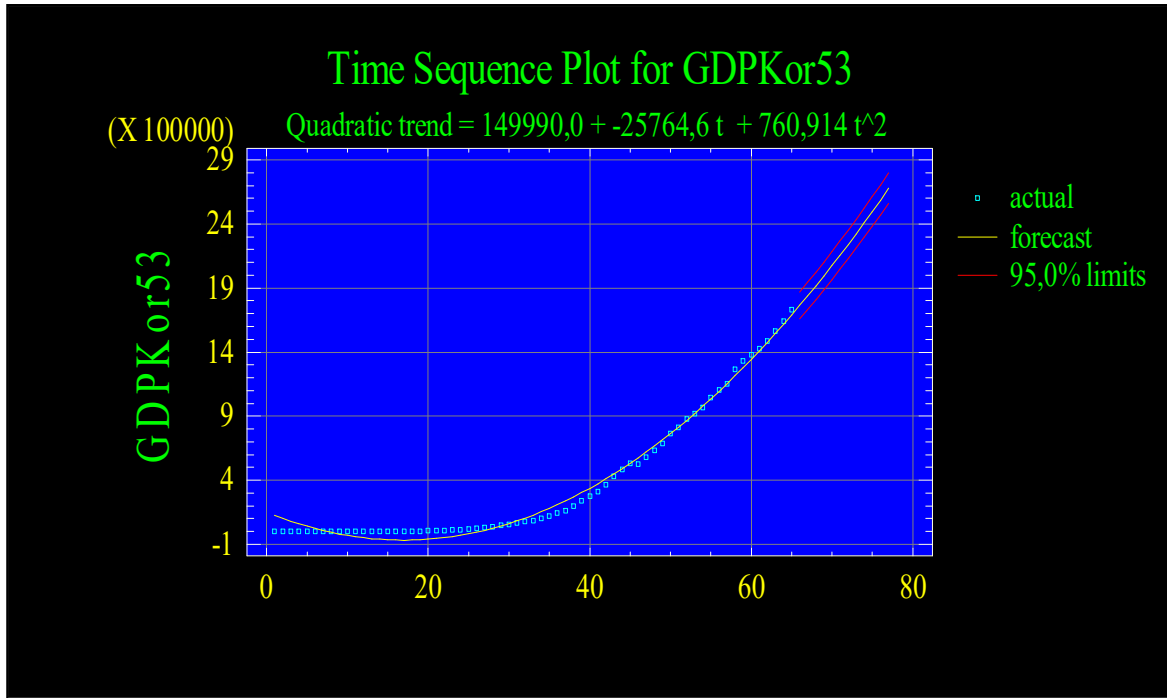


Figure 15: The dynamics of GDP of South Korea¹⁶

The trend of export and the import development is relatively stable (Appendix C: Figure 18,19). Since the 2014, the foreign trade has seen a decline in turnover, in the 2017, you can see a significant increase. The export in the 2017 compared to the 2016 increases by the 15,81%, the import - by the 17,8%. Significant growth is tracked by the external debt of South Korea (Appendix C: Figure 20), the trend of which can be described as a polynomial of the second degree and the trend of the species:

$$Y = 81,43 - 2,6 * t + 0,017 * t^2$$

3. Conclusion

There is a positive trend in Russia to reduce the volume of external debt, the imports and GDP growth. The reduction of Russia's international reserves can be considered as a structural tool for managing international indicators. A similar measure of government regulation is observed in China. In the analyzed period in all studied countries it is possible to see a sprout of monetary stock (table 1.2).

Table 1: The monetary and the macroeconomic indicators of Russia, the countries of CIS and North-east Asia

No	Indicator	Value ¹⁷	Intensity	The forecast of model
<i>Russia</i>				
1.	The monetary base	01.09.2018. - 16 118,6 billion RUB	The surplus in the 2014-2018 on the 9,16 %	$Y = -111,896 - 0,243 * t + 0,178 * t^2$

¹⁶ The data array was investigated with the 1953 to 01.06.2018.

¹⁷ Presents official data on the last date.

2.	The monetary stock	01.09.2018. - 44 369,1 billion RUB	The surplus in the 2014-2018 on the 7,88 %	$Y = 1691,43 - 81,16*t + 0,73*t^2$, $Y = 18926,2 + 307,9 - 81,16*t + 0,85*t^2$, $Y = 19672,1 + 246,63*t$, $Y = 41646,1 - 156,2*X1 - 154,7*X2$, где X1 – the export, X2 – the import.
3.	The international reserves	01.09.2018 - 459 163 mill. \$ USA	Reduced in the 2014-2018 on the 2,92 %	$Y = 330,336 + 999,707*t$
4.	GDP	2'Q 2018- 24 846,6 billion RUB	The surplus in the 1'Q 2017-2'Q 2018 on the 2,56 %	$Y = -274,082 + 34,38*t + 2,62*t^2$, $Y = -2115 + 0,034*X$, где X – the external debt.
5.	The external debt	01.09.2018 - 490 697 млн. \$ США	Reduced in the 2017-3'Q 2018 on the 0,75 %	$Y = 40113,3 + 23822*t - 258,32*t^2$
6.	The export	01.09.2018. - 34,4 billion \$ USA	The surplus in the 2014-2018 on the 0,33 %	$Y = -8,63 + 0,42*t - 0,0008*t^2$, $Y = 0,16 + 1,73*X$, где X – the import
7.	The import	01.09.2018. – 21,4 billion \$ USA	Reduced in the 2014-2018 on the 3,39 %	$Y = -3,69 + 0,22*t - 0,0004*t^2$
CIS				
8.	<i>Republic of Belarus</i> The monetary stock	01.09.2018 - 40 317,79 mill. BYR	The surplus in the 2015-2018 on the 19,25 %	
	The international reserves	01.09.2018 - 7 315,26 mill. \$ USA	The surplus in the 2014-2018 on the 6,27 %	$Y = 693,63 + 36,51*t$
<i>Kazakhstan</i>				
9.	The monetary stock	01.08.2018 - 19 780 billion CZT	The surplus in the 2014-2018 on the 3,96 %	$Y = 74848 - 37263,5*t + 359,82*t^2$, the monetary aggregate M0 - $Y = \exp(10,2 + 0,17*t)$
10.	The international reserves	01.09.2018 – 30 028 mill. \$ USA	The surplus in the 2014-2018 on the 6,76 %	$Y = -5189,66 + 134,28*t$
11.	The external debt	3'Q 2018 - 164 422 mill. \$ USA	The surplus in the 2017-3'Q 2018 on the 0,6 %	$Y = -13875,6 + 3969,59*t - 18,8*t^2$, $Y = 6183,06 - 1,002*X1 + 14,59*X2$, где X1 - the export, X2 – the import
12.	The export	2'Q 2018 – 15 228,9 mill. \$ USA	The surplus in the 2017-2'Q 2018 on the 6,94 %	$Y = -4221,45 + 816,96*t - 7,98*t^2$
13.	The import	2'Q 2018 г. – 8 595,3 mill. \$ USA	The surplus in the 2017-2'Q 2018 on the 3,2 %	$Y = -1338,69 + 406,85*t - 3,73*t^2$

<i>Kyrgyzstan</i>				
14.	The board monetary stock	01.09.2018 г. – 198 692,06 mill.KGS	The surplus in the 2014-2018 on the 12,61 %	$Y = 84637 + 789*t - 7,88*t^2$
15.	The international reserves	01.08.2018 г. - 2 127,84 mill. \$ USA	The surplus in the 2014-2018 on the 1,06 %	$Y = -84,14 + 21,15*t - 0,05*t^2$ $Y = 1684,33 + 0,86*X1$ где X – the import
16.	The export	01.07.2018 г. – 128,4 mill. \$ USA	Reduced in the 2014-2018 on the 9,23 %	$Y = 214,33 + 4,72*t + 0,069*t^2$ $Y = 24,57 + 0,33*X1$ где X – the import
17.	Импорт	01.07.2018 г. – 399,4 mill. \$ USA	The surplus in the 2014-2018 on the 3,26 %	$Y = 491,77 - 9,69*t + 0,16*t^2$
18.	<i>Tajikistan</i> ¹⁸ The monetary stock	01.08.2018 г. - 18 798 mill.TJS	The surplus in the 2014-2018 on the 20,49 %	$Y = 2437,8 + 11,42*t + 0,9*t^2$ the monetary aggregate M0 - $Y = 1804,86 - 37,36*t + 0,8429*t^2$ the monetary aggregate M1 - $Y = 2017,25 - 34,93*t + 0,8919*t^2$ the monetary aggregate M2 - $Y = 2148,65 - 29,1*t + 0,94*t^2$
19.	<i>Armenia</i> ¹⁹ The monetary stock	01.08.2018 г. - 2 627 292 mil. AMD	The surplus in the 2014-2018 on the 14,26 %	$Y = 198010 + 2465,12*t + 54,04*t^2$ the monetary aggregate M0 - $Y = 99165,7 + 1785,77*t$ the monetary aggregate M12 - $Y = \exp(11,83 + 0,01*t)$ the monetary aggregate M23 - $Y = \exp(11,84 + 0,013*t)$
<i>The countries of North-East Asia</i>				
<i>Japan</i> ²⁰				
20.	The monetary base	01.08.2018 г. - 498 386,8 billion JPY	The surplus in the 2014-2018 on the 26,64 %	$Y = 69807,2 - 875,9*t + 3,2*t^2$
<i>China</i>				
21.	The monetary stock	01.08.2018 г. - 178 867 billion CNY	The surplus in the 2014-2018 on the 11,26 %	$Y = 829072 + 11938*t$ the monetary aggregate M0 - $Y = 51009 + 279,8*t - 0,12*t^2$ the monetary aggregate M1 - $Y = 237067 + 3731,9*t$
22.	The international reserves	2017 г. – 3 139 949 mill. \$ USA	Reduced in the 2014-2017 on the 5 %	$Y = 698781 - 90072,5*t + 1871,53*t^2$
	The external debt	2017 г. – 1 710,62 billion \$ USA	The surplus in the 2014-2017 on the 28,43 %	

¹⁸ The dollar rate on the 01.09.2018 –1\$ USD - 9,4213 TJS.¹⁹ The dollar rate on the 01.09.2018 –1\$ USD - 65,59 AMD.²⁰ The dollar rate on the 01.09.2018 - 1\$ USD - 112,32 JPY.

South Korea				
23.	The monetary base	01.08.2018 г. - 164 566,5 billion KRW	The surplus in the 2014-2017 on the 28,43 %	$Y = 13604,6 - 215,82*t + 0,73*t^2$
24.	The monetary stock	01.08.2018 г. - 2 634 789,9 billion KRW	The surplus in the 2014-2017 on the 7,04 %	$Y = 110752 - 2721,93*t + 11,86*t^2$ the monetary aggregate M1 - $Y = 51050 - 1001,3*t + 3,74*t^2$
25.	The international reserves	01.07.2018 г. - 402 447,5 mill. \$ USA	The surplus in the 2014-2018 in the 2,15 %	$Y = 50536,5 - 8677,9*t + 254,1*t^2$
26.	GDP	2017 г. - 1 730 399 billion KRW	Reduced in the 2014-2017 on the 22 %	$Y = 149990 - 25764,6*t + 760,9*t^2$
27.	The external debt	2'Q 2018 - 440,5 billion \$ USA	The surplus in the 2014-2017 on the 2,33 %	$Y = 81,43 - 2,6*t + 0,017*t^2$ $Y = 54,37 + 4,27*t$
	The export	2017 г. - 573,7 billion \$ USA	Reduced in the 2014-2017 in the 24,54 % The surplus in the 2017 on the 5,81 %	
	The import	2017 г. - 478,5 billion \$ USA	Reduced in the 2014-2017 on the 26,52 % The surplus in the 2017 г. On the 17,8 %	

The significant increase was in Republic of Belarus, against the background of the denomination held in the 2016, in Kazakhstan, in Tajikistan, in Japan.

The volume of monetary stock in Russia and its growth is rather significant. In the second quarter on the one ruble of GDP - 1,78 rubles of monetary stock. On the 01.09.2018 the one ruble of external debt accounts for 1,41 rubles of monetary stock and for the one \$ USA - 0,9353 \$ USA of international reserves. These ratios are not entirely critical. In Kazakhstan, in the second quarter of the 2018, the level of foreign debt coverage by the monetary stock and the international reserves is the 33,44% and the 18,51% respectively. The increase in the monetary stock in Russia, although significant, compared to the rate of GDP growth, but this figure is the smallest in the group of countries under consideration.

Table 2: The macroeconomic indicators of Russia, the countries of CIS and North-east Asia

№	Indicator	Period, data	Value	in %
<i>Russia</i> ²¹				
1.	The monetary stock / The international reserves	01.09.2018	96,64 RUB/\$ or 1,51 RUB	
2.	The monetary stock / The external debt	01.09.2018	90,42 RUB/\$ or 1,41 RUB	
3.	The monetary stock / The export	01.09.2018	1 289,8 RUB/\$ or 20,14 RUB	
4.	The monetary stock / The import	01.09.2018	2 073,32 RUB/\$ or 32,37 RUB	
5.	The monetary stock / GDP	2'Q 2018	1,78 RUB	

²¹ The dollar rate on the 01.09.2018 - 1\$USD - 64,0447 RUB.

6.	The international reserves / The external debt	01.09.2018	0,9353 \$ USA	93,53 %
7.	The international reserves / The export	01.09.2018	13,35 \$ USA	
8.	The international reserves / The import	01.09.2018	21,46 \$ USA	
9.	The international reserves / GDP	2'Q 2018	0,18385 \$ / RUB or 11,78 RUB	18,39 %
10.	The export / The import	01.09.2018	1,61 \$ USA	
11.	The export / GDP	2'Q 2018	0,00847\$ / RUB or 5,42 RUB	0,85 %
12.	The import / GDP	2'Q 2018	0,00486 / RUB or 0,31 RUB	0,49 % или 31 %
CIS				
13.	<i>Republic of Belarus</i> ²² The monetary stock / The international reserves	01.09.2018	5,51 RUB/\$ or 0,1786 RUB	17,86 %
<i>Kazakhstan</i> ²³				
14.	The monetary stock / The international reserves	01.08.2018	0,6483 CZT / \$ or 0,0018 CZT	64,83 % или 0,18 %
15.	The monetary stock / The external debt	2'Q 2018	121,52 CZT / \$ or 0,3344 CZT	33,44 %
16.	The monetary stock / The export	2'Q 2018	1,3 mils. CZT / \$ or 3,67 thous. CZT	
17.	The monetary stock / The import	2'Q 2018	2,4 mill. CZT / \$ or 6,45 thous. CZT	
18.	The international reserves / The external debt	2'Q 2018	0,1851 \$ USA	18,51 %
19.	The international reserves / The export	2'Q 2018	2,03 \$ USA	
20.	The international reserves / The import	2'Q 2018	3,59 \$ USA	
21.	The export / The import	2'Q 2018	1,77 \$ USA	
<i>Kyrgyzstan</i> ²⁴				
22.	The monetary stock / The international reserves	01.07.2018	90,86 KGS / \$ USA	
23.	The monetary stock / The export	01.07.2018	1,5 thous. KGS / \$ USA	
24.	The monetary stock / The import	01.07.2018	491,52 сом / \$USA	
25.	The international reserves / The export	01.07.2018	16,83 \$USA	
26.	The international reserves / The import	01.07.2018	5,41 \$ USA	
27.	The export / The import	01.07.2018	0,3215 \$ USA	32,15 %
The countries of North-East Asia				
<i>China</i> ²⁵				
28.	The monetary stock / The international reserves	01.01.2018	5,48 CNY / \$ USA or 8,72 CNY	
29.	The monetary stock / The external debt	01.01.2018	10,1 thous. CNY / \$ USA or	

²² The dollar rate on the 01.09.2018 - 1\$ USD - 32,6745 BYR.

²³ The dollar rate on the 01.09.2018 – 1\$ USD - 363,43 CZT.

²⁴ The dollar rate on the 01.09.2018 – 1\$ USD - 68,0447 KGS.

²⁵ The dollar rate on the 01.01.2018 г. - 1\$ USD - 6,53 CNY.

			1 540,52 CNY	
30.	The international reserves / The external debt	2017	1,84 \$ USA	
31.	South Korea ²⁶			
32.	The monetary stock / The international reserves	01.01.2018	6,5 thous.KRW / \$ USA or 6,05 KRW	
33.	The monetary stock / The external debt	01.01.2018	6,1 thous. KRW / \$ USA or 5,72 KRW	
34.	The monetary stock / The export	01.01.2018	4,5 thous. KRW / \$ USA or 4,18 Won	
35.	The monetary stock / The import	01.01.2018	5,3 thous. KRW / \$ USA or 5,01 KRW	
36.	The monetary stock / GDP	01.01.2018	1,48 KRW	
37.	The international reserves / The external debt	01.01.2018	0,945\$ USA	94,5 %
38.	The international reserves / The export	01.01.2018	0,6998 \$ USA	69,98 %
39.	The international reserves / The import	01.01.2018	0,8271 \$USA	82,71 %
40.	The international reserves / GDP	01.01.2018	2,29 \$ USA / KRW or 2,44 thous. KRW	
41.	The export / The import	01.01.2018	1,199 \$ USA	
42.	The export / GDP	01.01.2018	3,315 \$ USA / KRW or 3,5 thous. KRW	
43.	The import / GDP	01.01.2018	2,765 \$ USA / KRW or 2,95 thous. KRW	

The greatest increase can be seen in South Korea and Japan. This fact cannot be considered as negative dynamics as there is a significant growth of GDP in South Korea. At the same time, on the one Won of external debt on the 01.01.2018 is the 5,72 Won monetary stock, or the 94,5% it is covered by international reserves. The one Won of GDP accounts for the 1,48 Won of monetary stock or the 2,44 thousand Won of international reserves. The ratio of export and the import in the country within the permissible proportions is the 1,2.

The growth of the monetary stock does not always give a positive effect in the development of the country, as well as a significant increase in the amount of monetary stock not always lead to negative consequences (Iberla, 1980; Kruk, 1985; Kondratiev, 1989). The monetary mass should be commensurate with the macroeconomic indicators of the country (Vyborova, 2018). If the growth of monetary stock is observed an increase in the parameters of development of the State, this measure cannot be evaluated as a negative trend of development (Vyborova, 2017a, Vyborova, 2017b, Vyborova, 2017c). It is important to monitor the country's external and domestic debt and the foreign trade turnover (Triseyev, 1987; Tikhomirov, 1993)

²⁶ The dollar rate on the 01.01.2018 – 1\$ USD - 1066,38 KRW.

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Appendix A

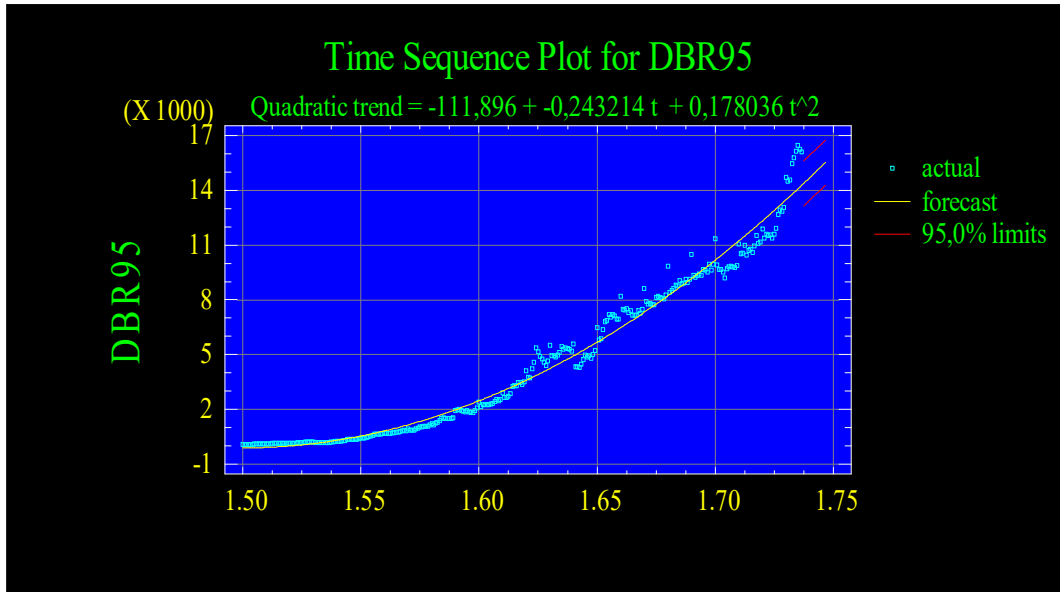


Figure 1: The dynamics of monetary base of Russia²⁷.

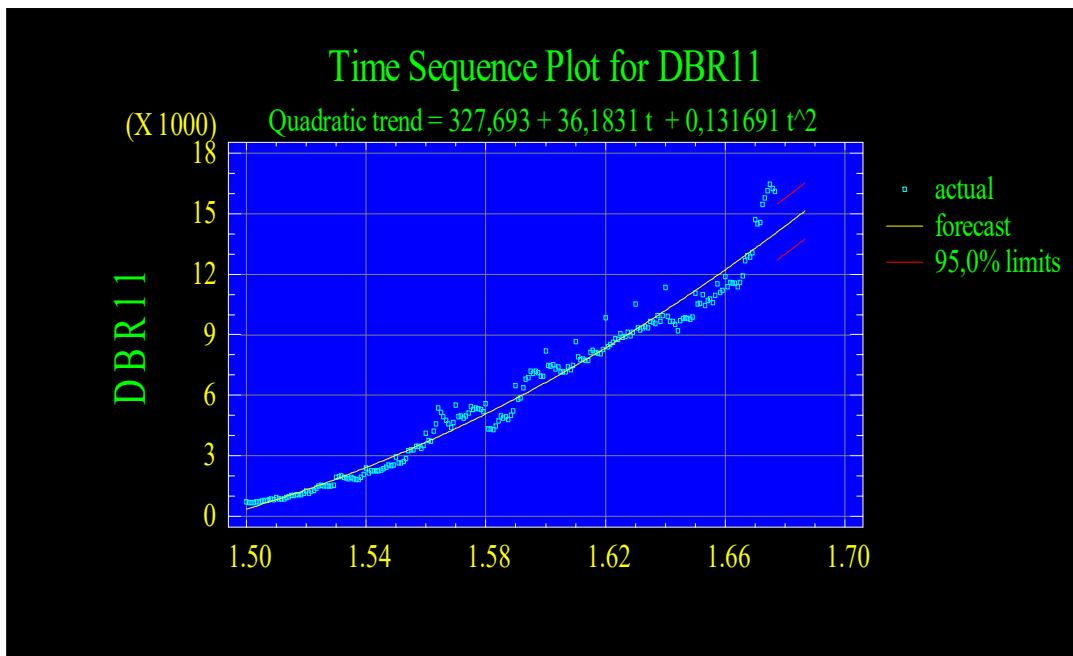


Figure 2: The dynamics of monetary base of Russia²⁸.

²⁷ The data array was investigated with the 1995 to 01.09.2018.

²⁸ The data array was investigated with the 2011 to 01.09.2018.

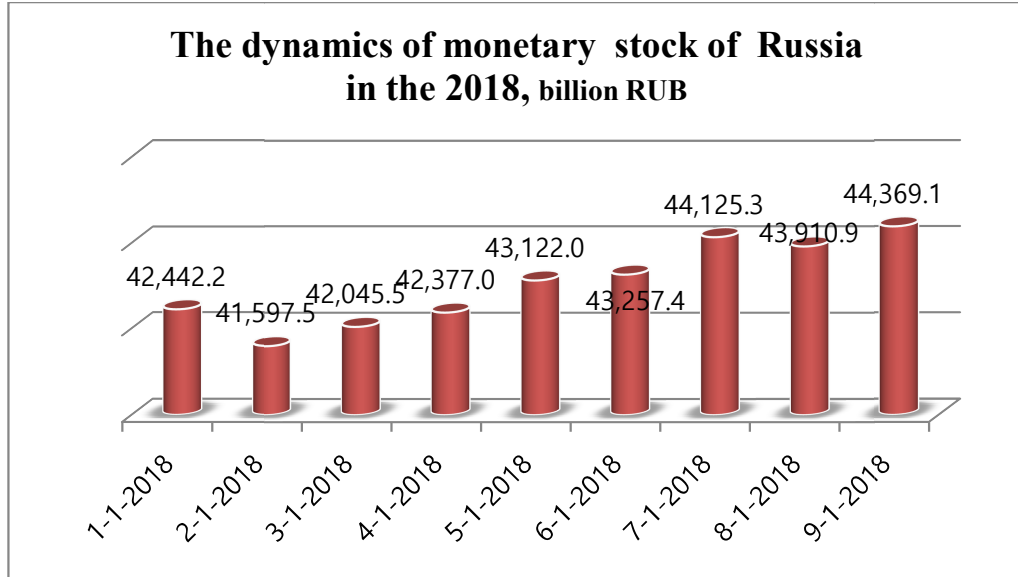


Figure 3: The dynamics of monetary stock of Russia in the 2018.

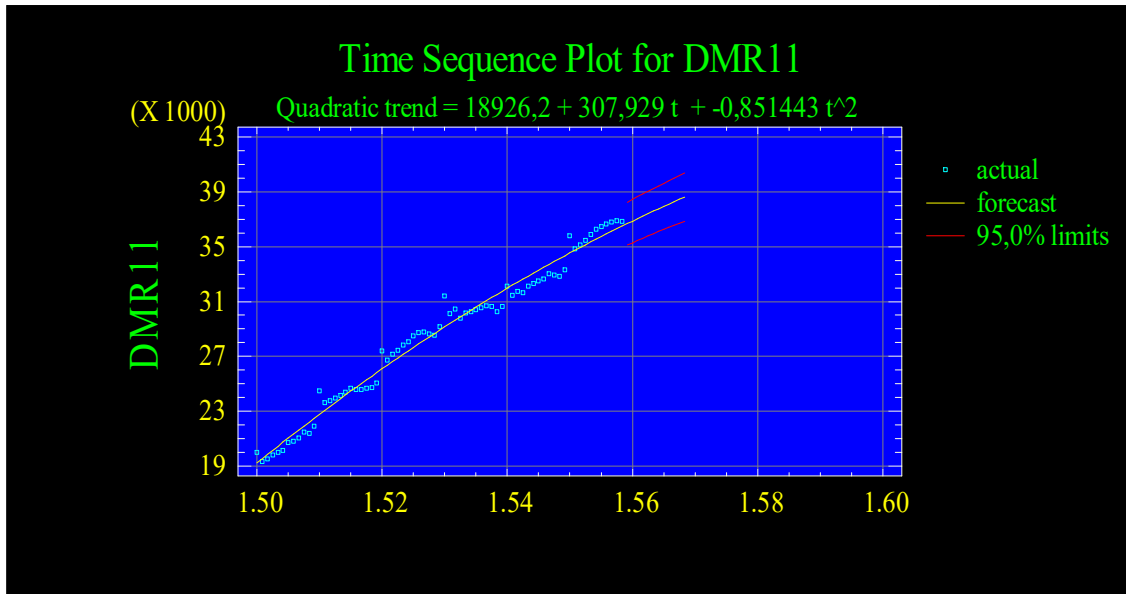


Figure 4: The dynamics of monetary stock of Russia²⁹.

²⁹ The data array was investigated with the 2011 to 01.09.2018.

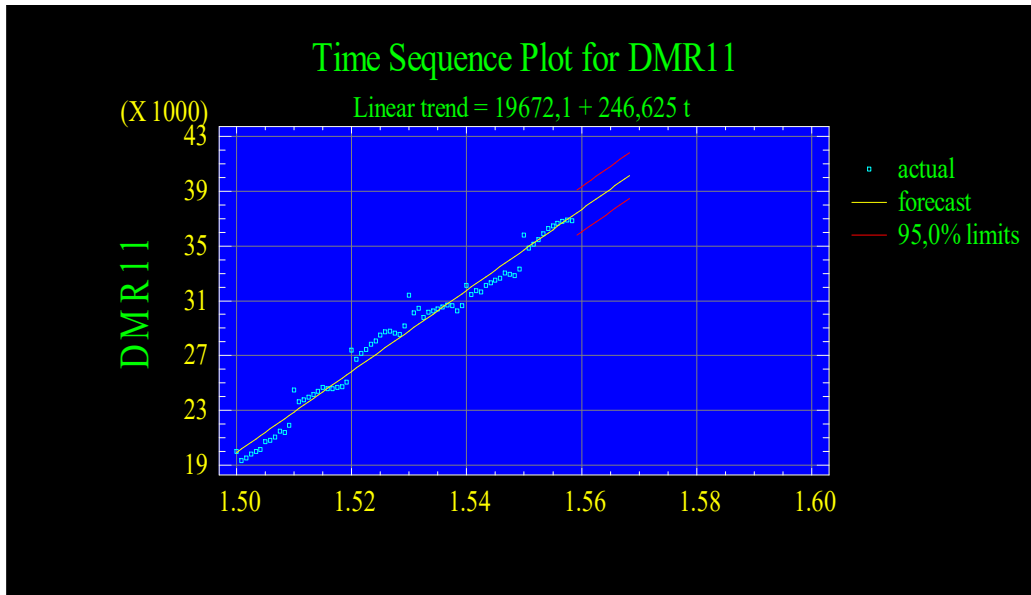


Figure 5: The dynamics of monetary stock of Russia³⁰.

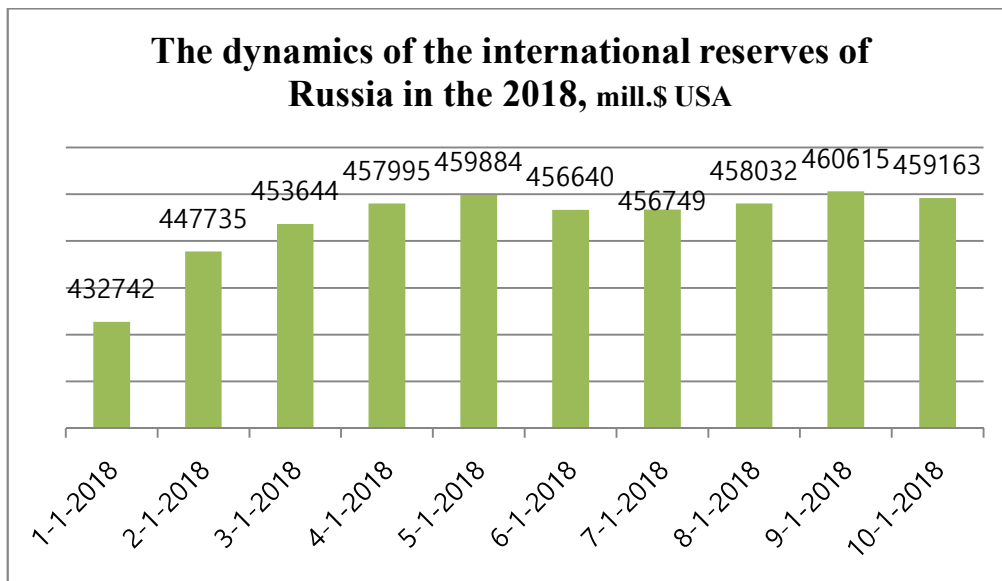


Figure 6: The dynamics of the international reserves of Russia in the 2018.

³⁰ The data array was investigated with the 1993 to 01.09.2018.

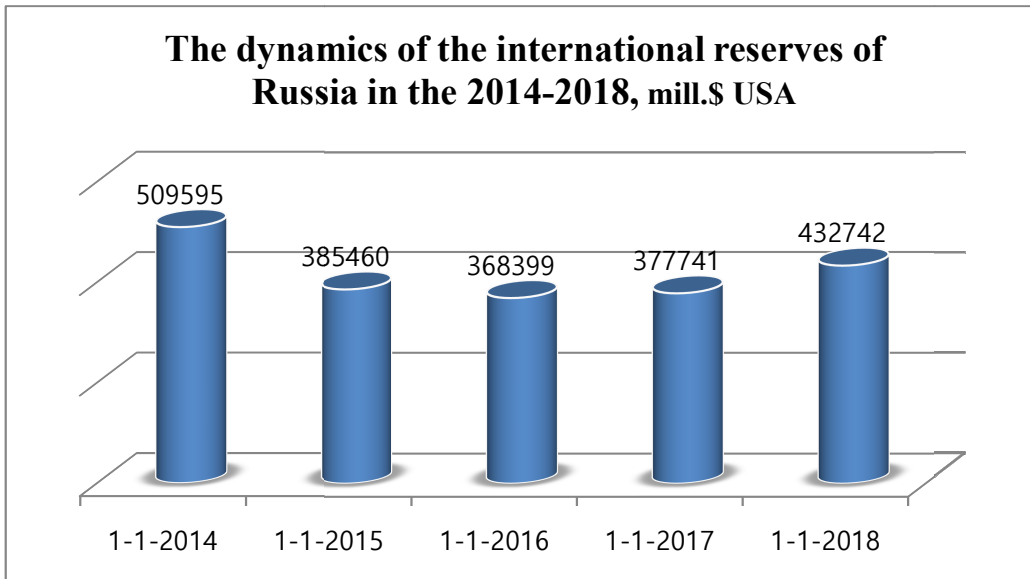
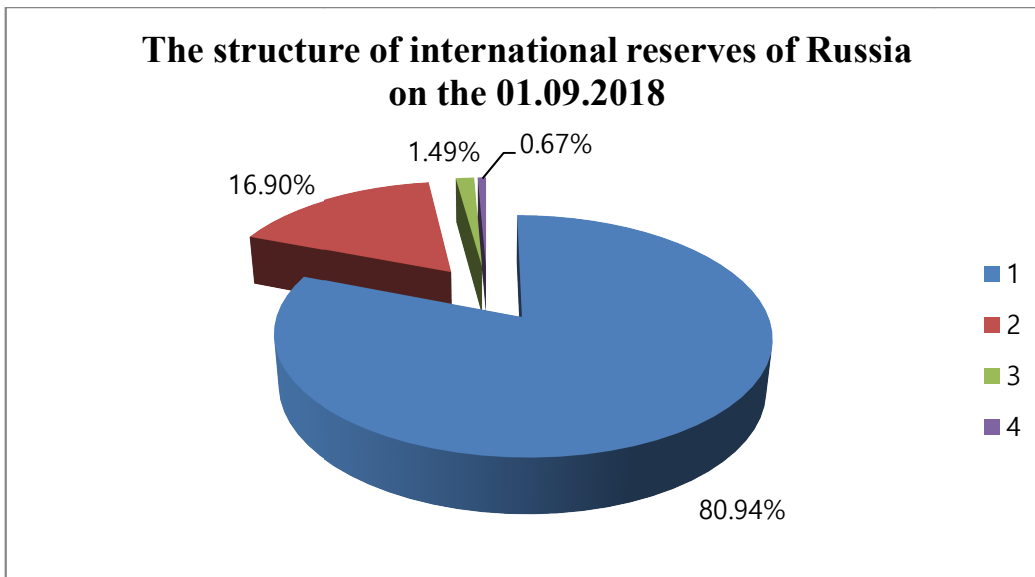


Figure 7: The dynamics of the international reserves of Russia in the 2014- 2018.



Number 1 – the currency assets, Number 2 – the monetary gold, Number 3 – SDR, Number 4 – the reserve position at the IMF.

Figure 8: The structure of international reserves of Russia in the 2018.

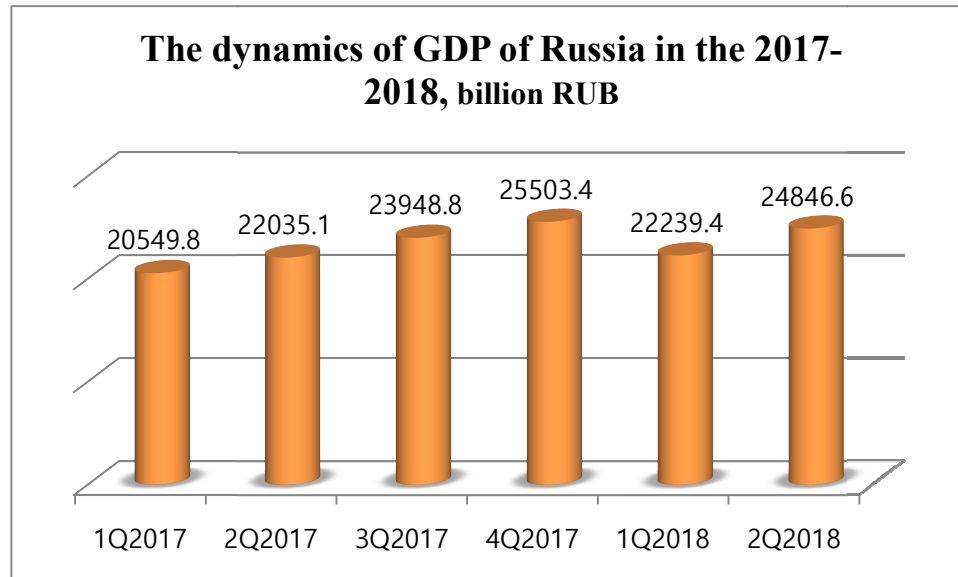


Figure 9: The dynamics of GDP of Russia in the 2017-2018.

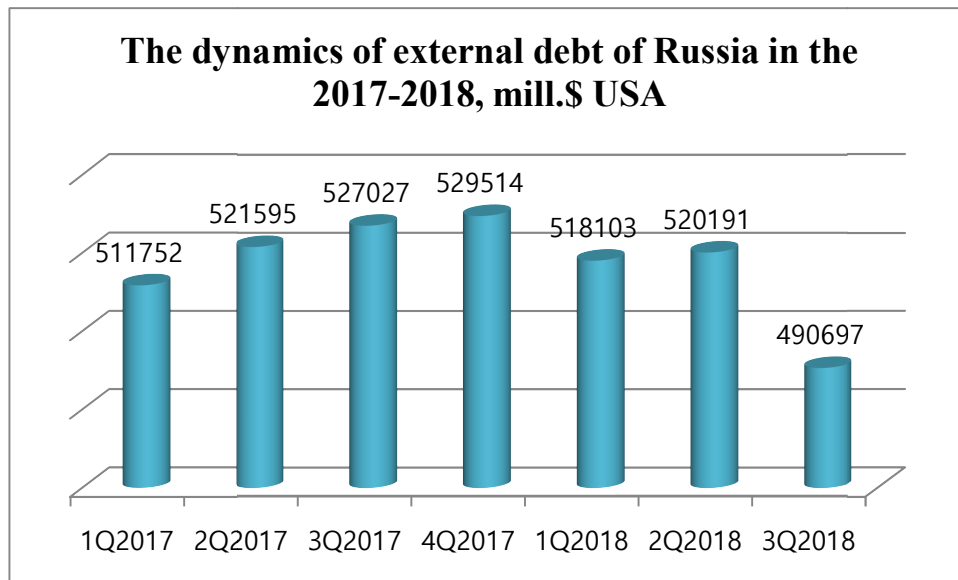
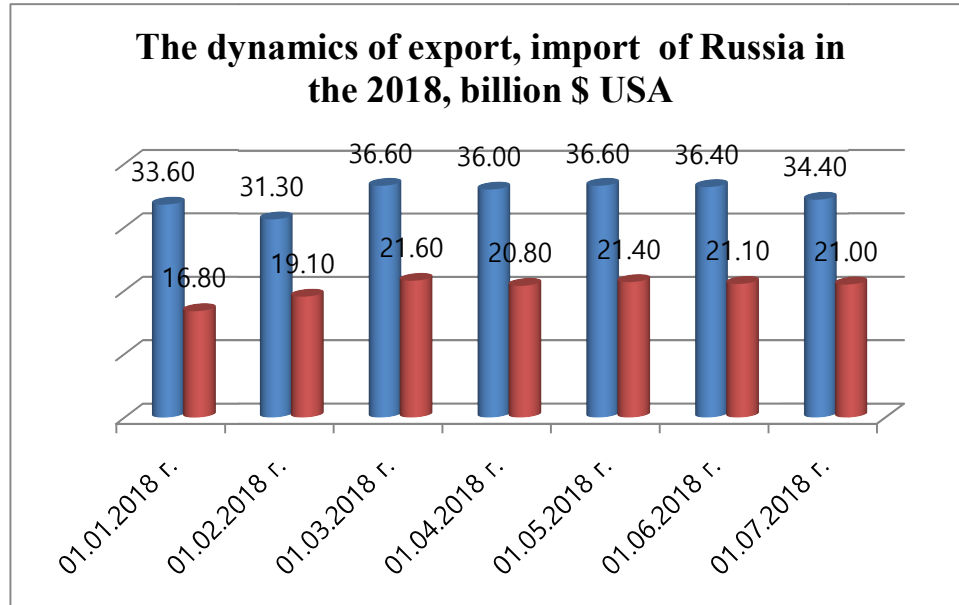


Figure 10: The dynamics of external debt of Russia in the 2017-2018.



Row 1– the export, Row 2 – the import.

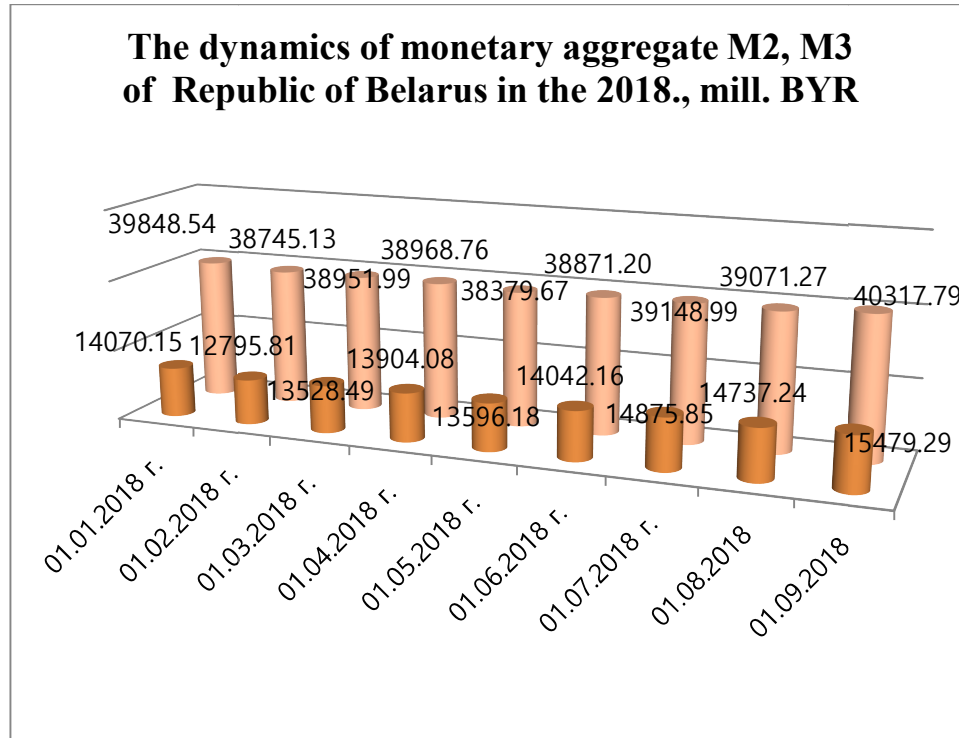
Figure 11: The dynamics of export, import of Russia in the 2018.



Row 1– the export, Row 2 – the import.

Figure 12: The dynamics of export, import of Russia in the 2014 - 2018.

Appendix B



Row 1 – the monetary aggregate M2,
 Row 2 – the monetary aggregate M3 (monetary stock).

Figure 1: The dynamics of monetary aggregate of Republic of Belarus in the 2018.

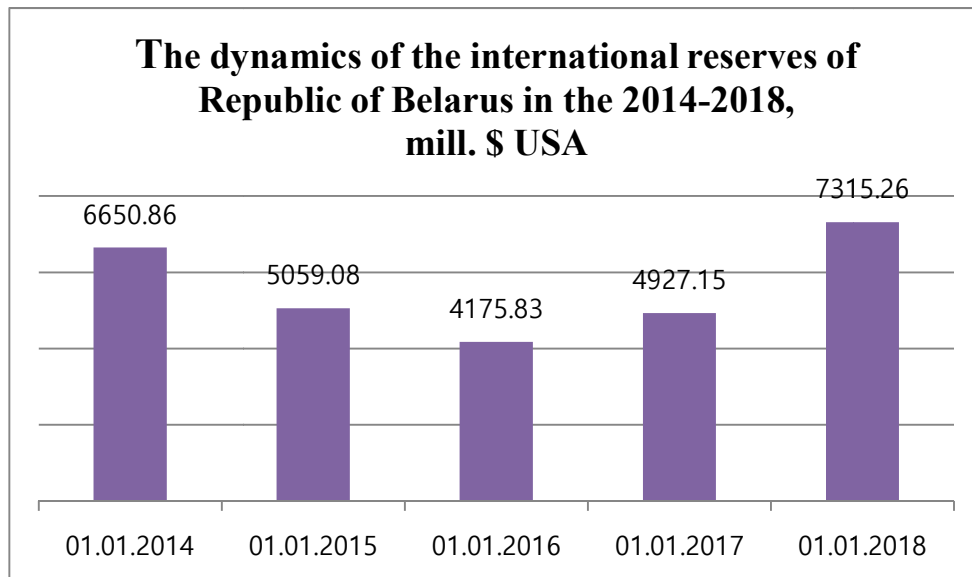
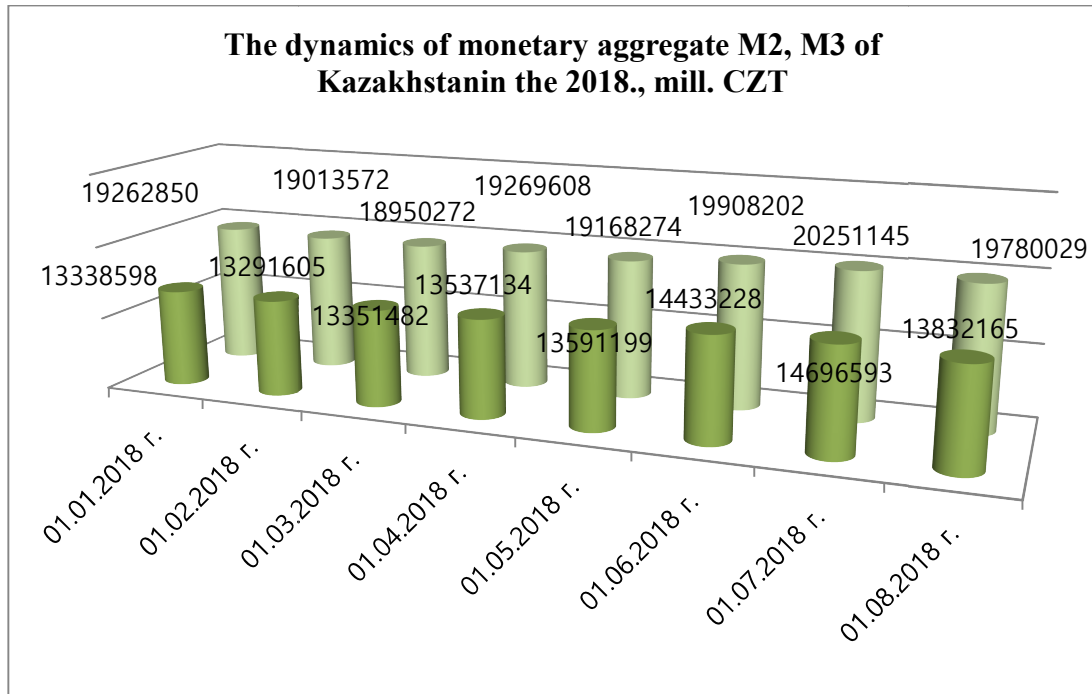


Figure 2: The dynamics of the international reserves of Republic of Belarus in the 2014-2018.



Row 1 – the monetary aggregate M2,
Row 2 – the monetary aggregate M3 (monetary stock).

Figure 3: The dynamics of monetary aggregate of Kazakhstan in the 2018.

Appendix C

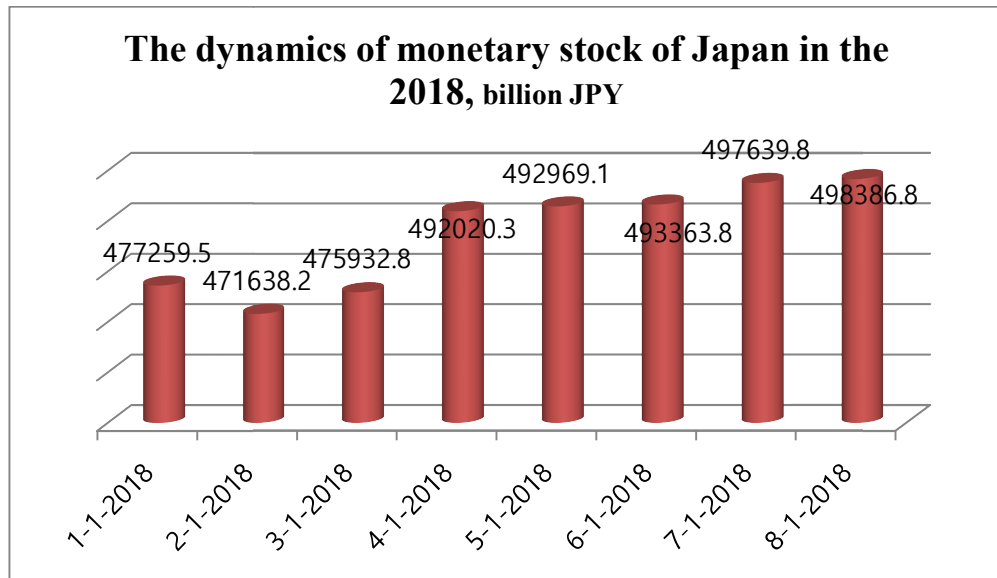


Figure 1: The dynamics of monetary stock of Japan in the 2018.

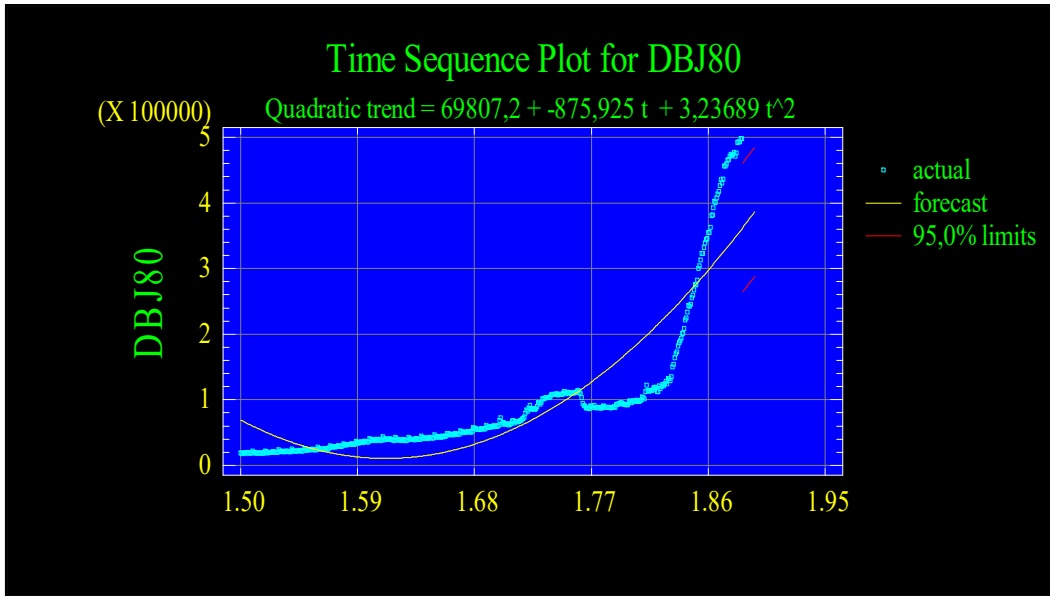


Figure 2: The dynamics of monetary stock of Japan³¹.

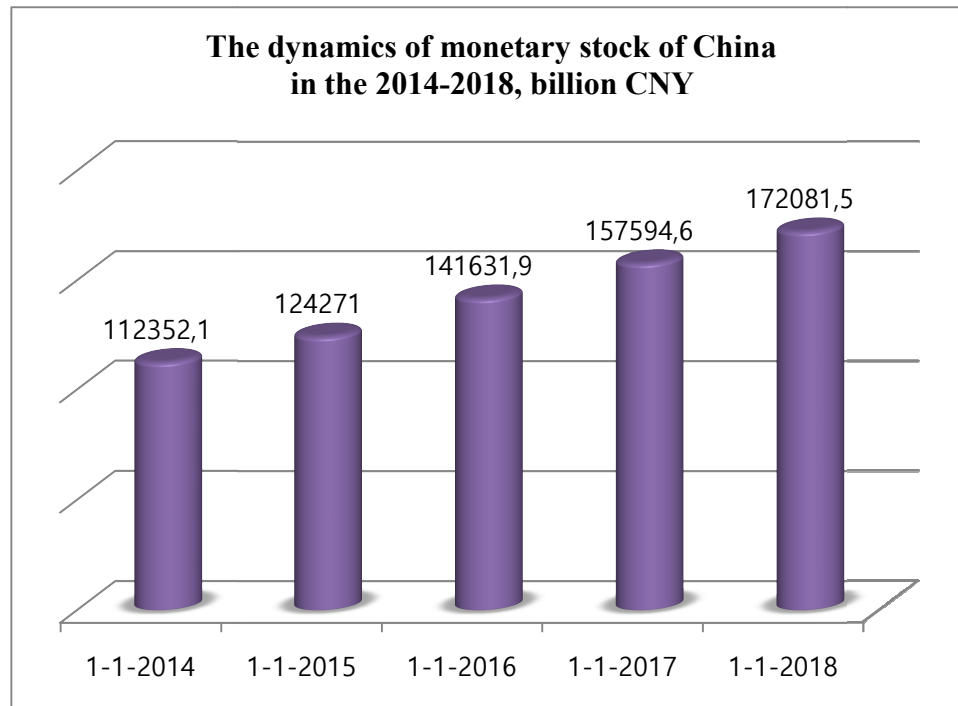


Figure 3: The dynamics of monetary stock of China in the 2014-2018.

³¹ The data array was investigated with the 1980 to 01.08.2018.

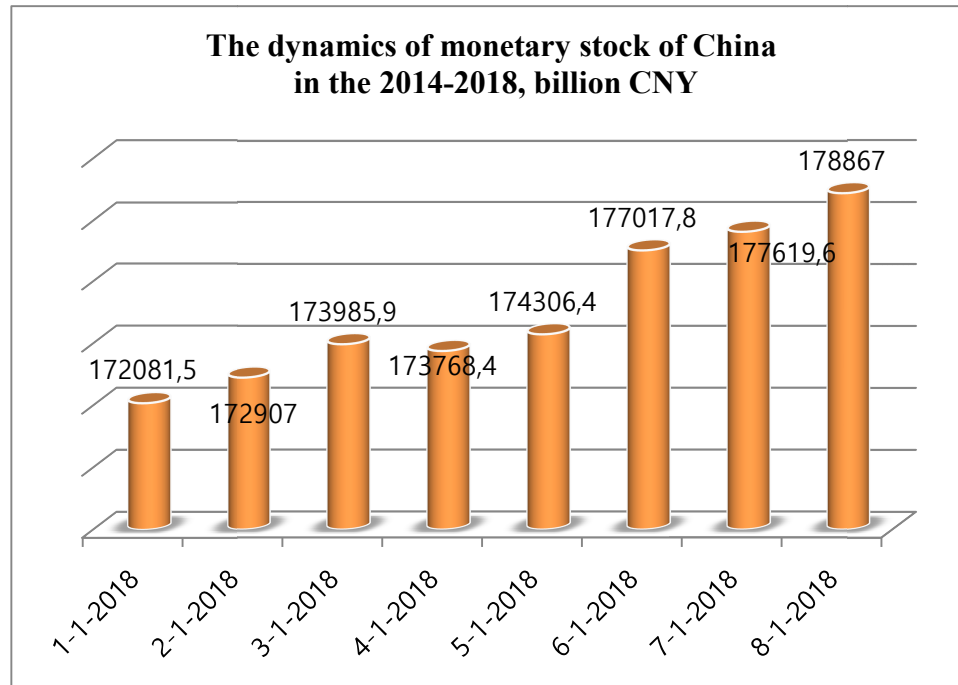


Figure 4: The dynamics of monetary stock of China in the 2018.

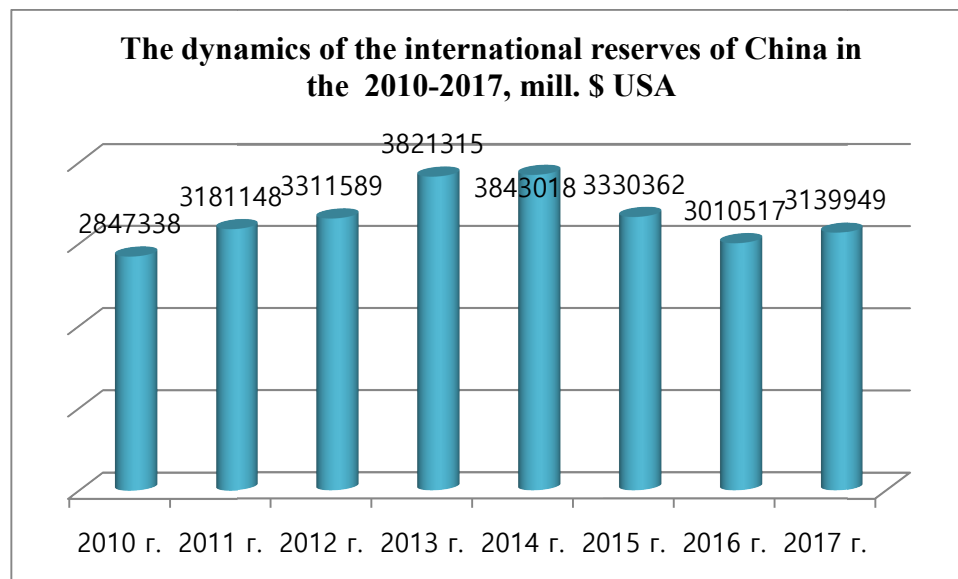


Figure 5: The dynamics of the international reserves of China in the 2010-2017.

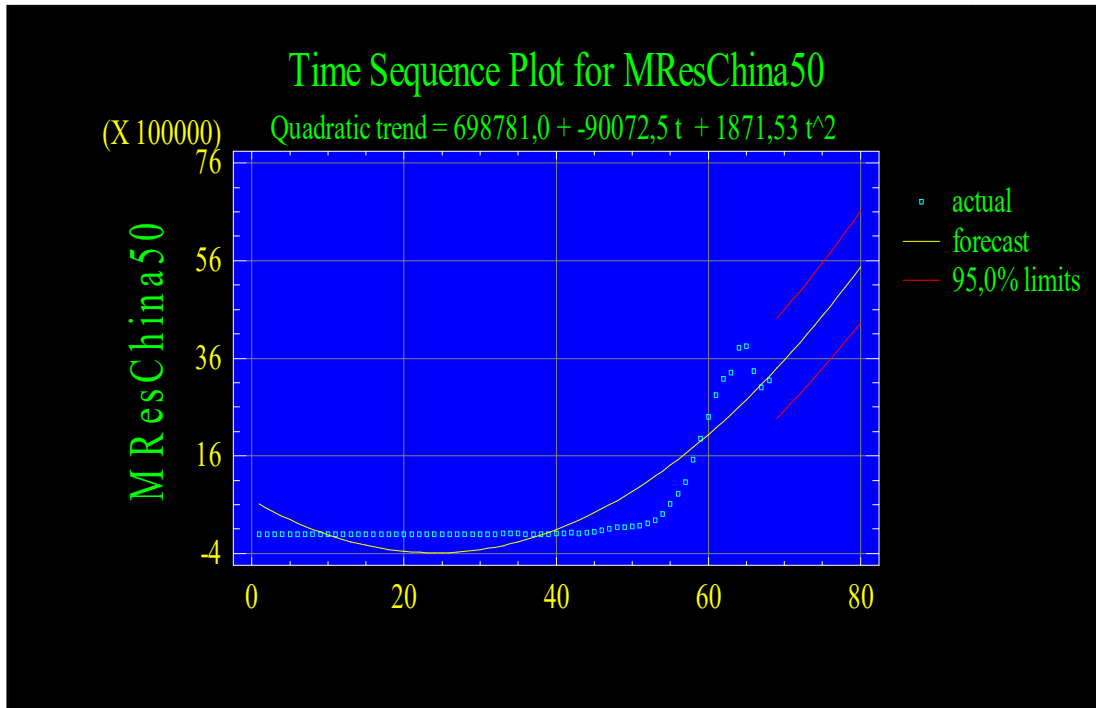


Figure 6: The dynamics of the international reserves of China ³².

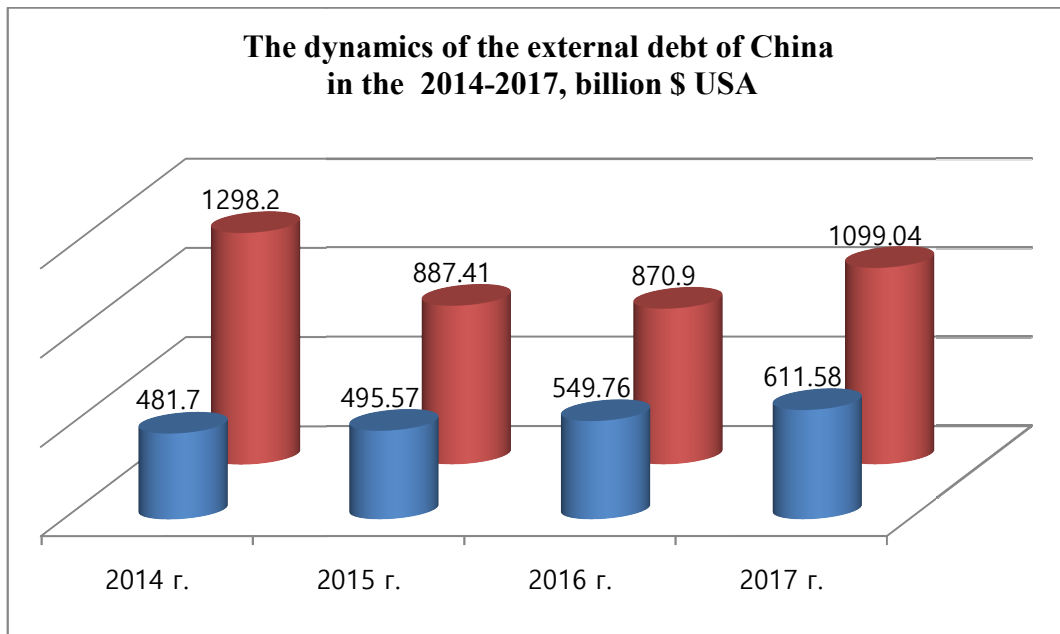


Figure7: The dynamics of the external debt of China in the 2014-2017.

³² The data array was investigated with the 1950 to 01.08.2017.

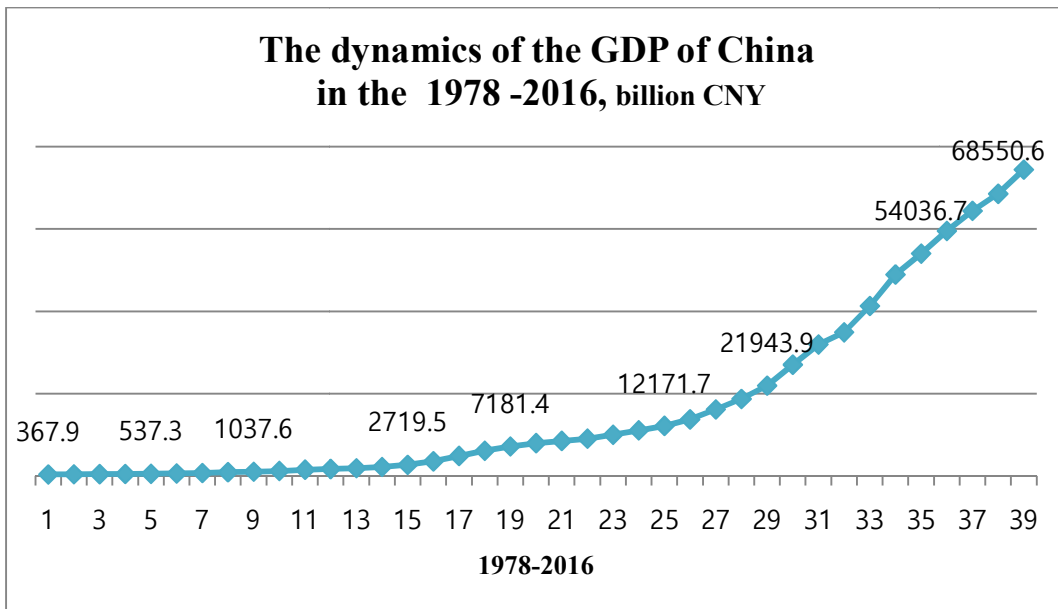


Figure 8: The dynamics of the GDP of China in the 1978 -2016.

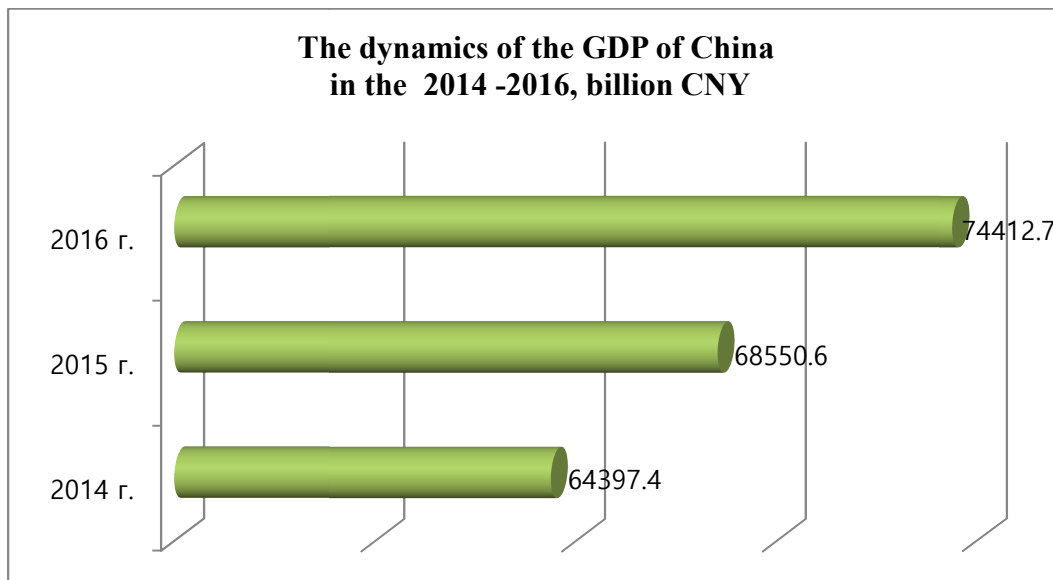


Figure 9: The dynamics of the GDP of China in the 2014 -2016.

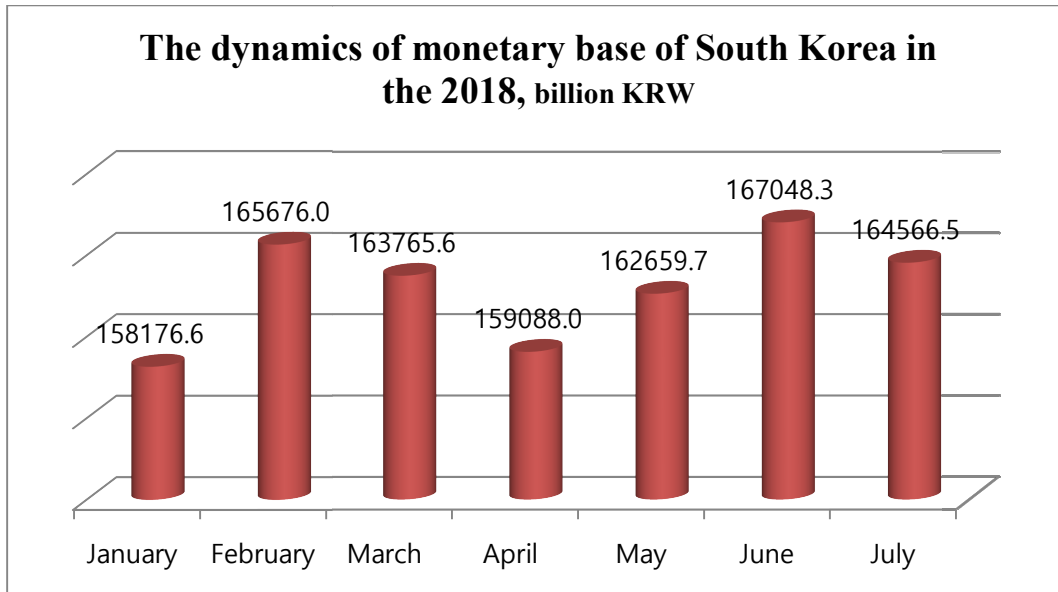


Figure 10: The dynamics of monetary base of South Korea in the 2018.

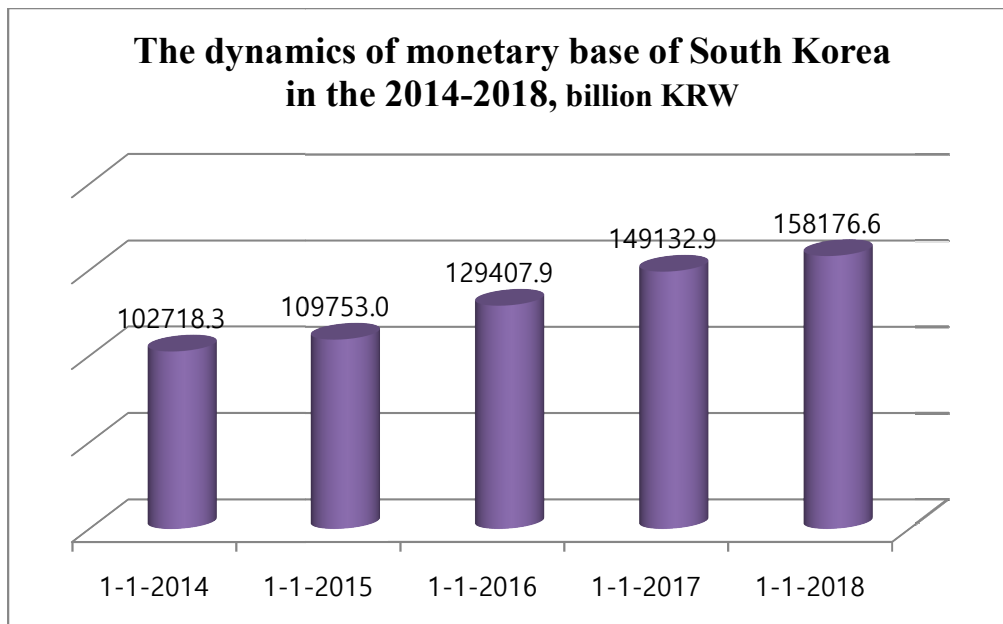


Figure 11: The dynamics of monetary base of South Korea in the 2014-2018.

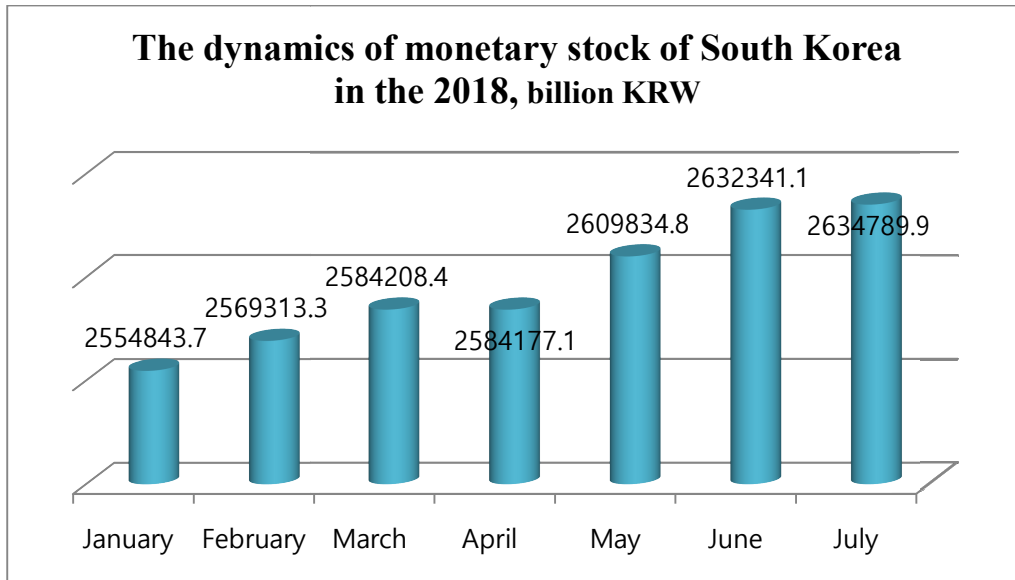


Figure 12: The dynamics of monetary stock of South Korea in the 2018.

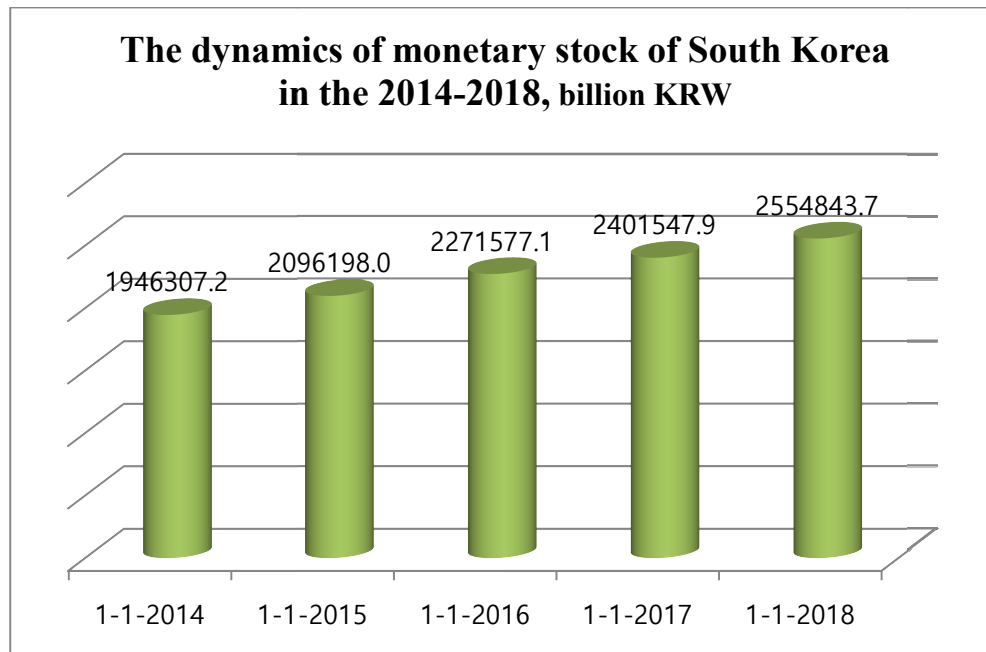


Figure 13: The dynamics of monetary stock of South Korea in the 2014-2018.

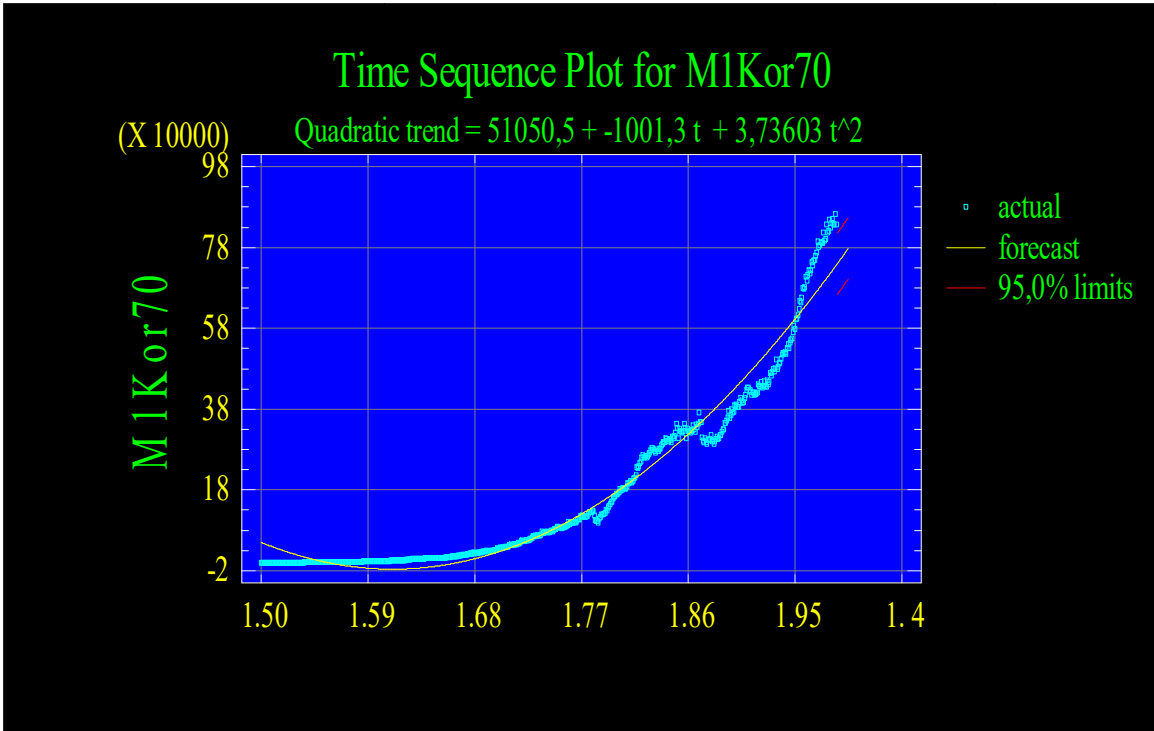


Figure 14: The dynamics of monetary aggregate M1 of South Korea in the 2014-2018³³.

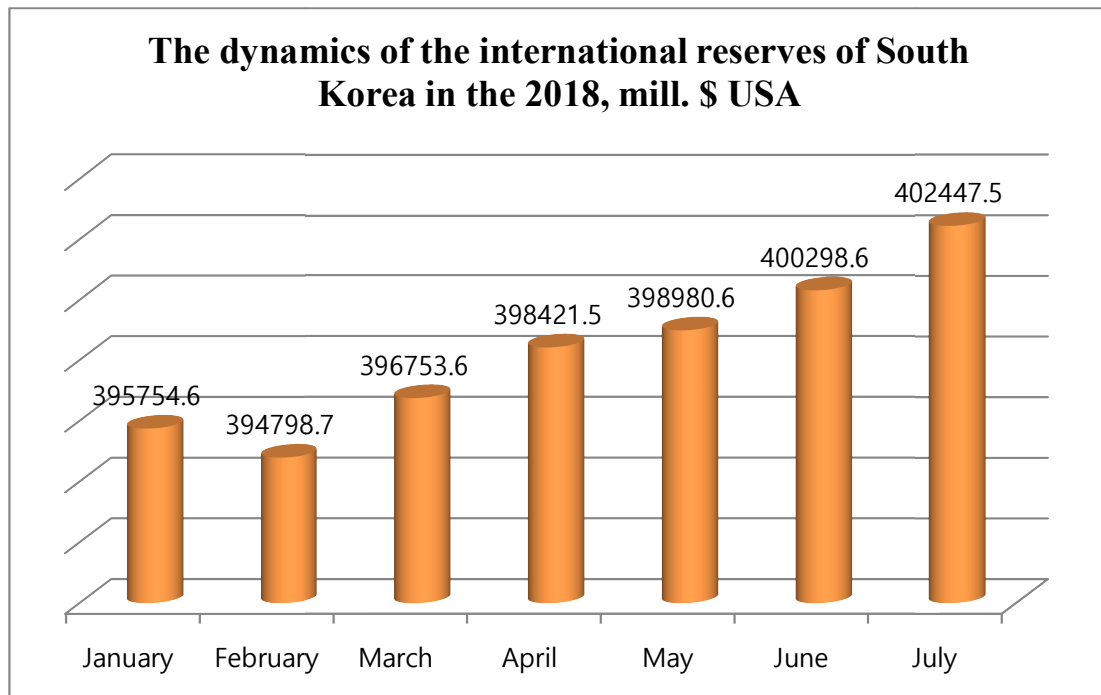


Figure 15: The dynamics of the international reserves of South Korea in the 2018.

³³ The data array was investigated with the 1970 to 01.06.2018.

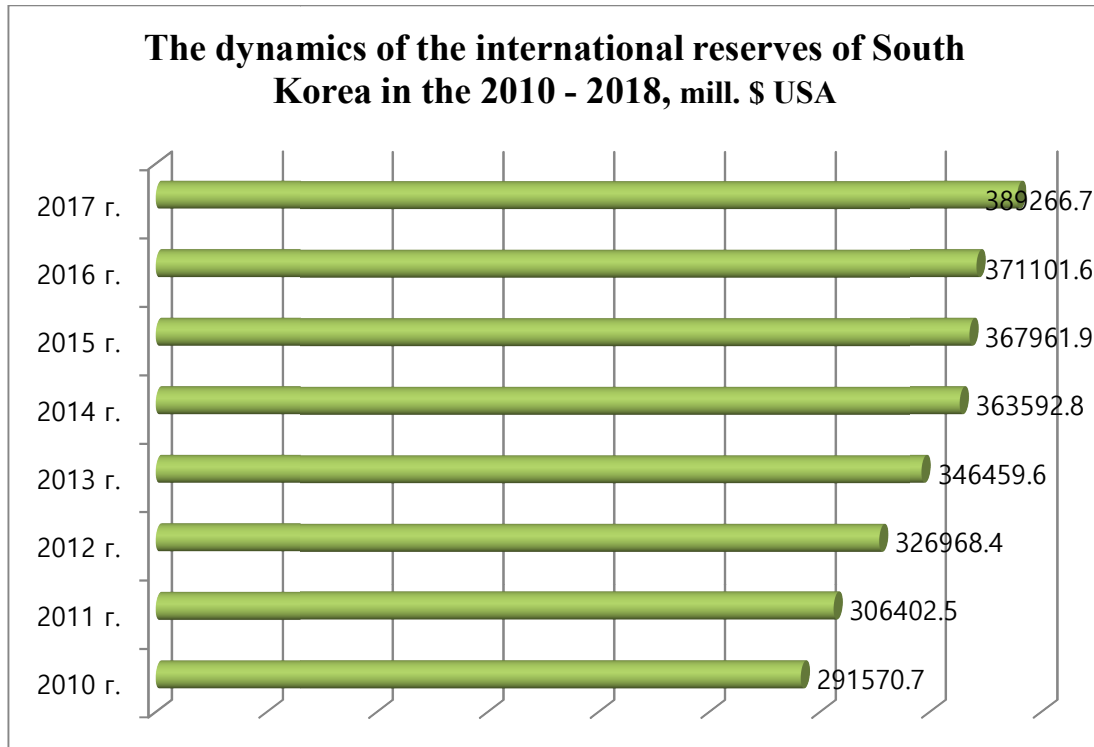


Figure 16: The dynamics of the international reserves of South Korea in the 2010 - 2018.

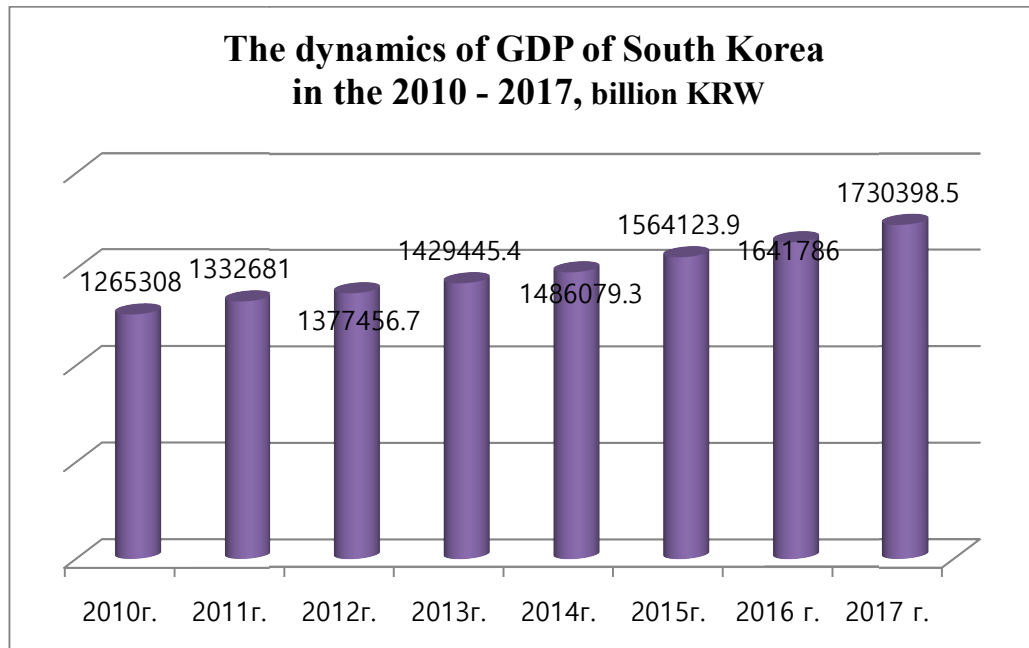
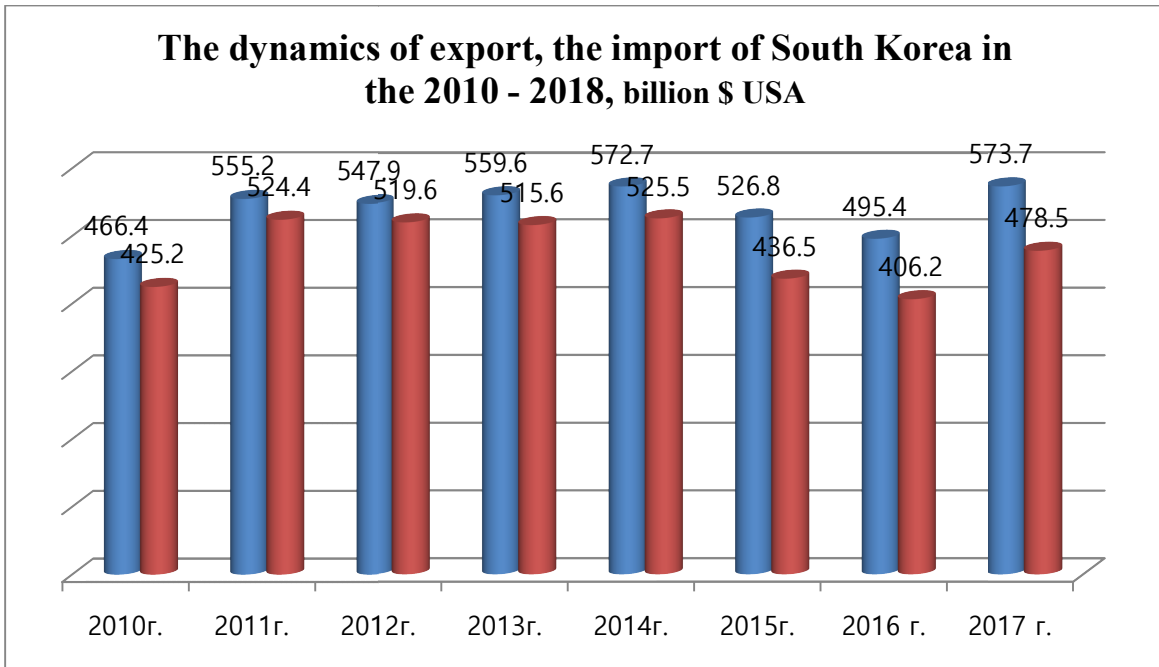
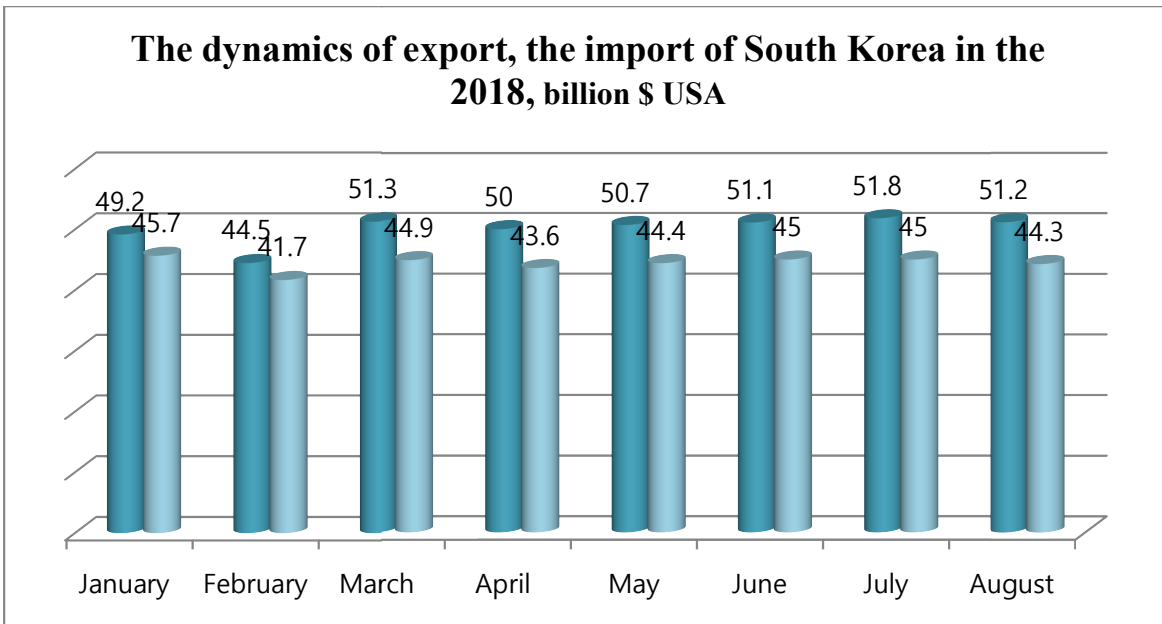


Figure 17: The dynamics of GDP of South Korea in the 2010 - 2017.



Row 1(blue) – the export, Row 2(red) – the import.

Figure 18: The dynamics of export, the import of South Korea in the 2010 - 2018.



Row 1(left) – the export, Row 2(right) – the import.

Figure 19: The dynamics of export, the import of South Korea in the 2018.

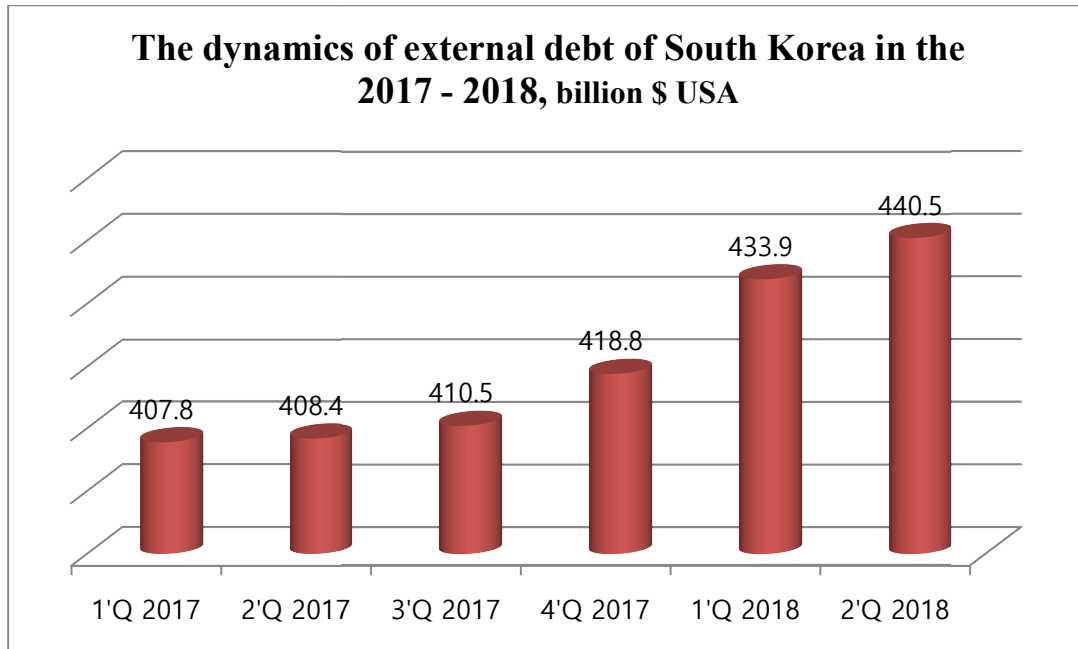


Figure 20: The dynamics of external debt of South Korea in the 2017 - 2018.