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Analysis of Russia's fiscal  
sustainability under the new fiscal  
rules



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## Contents

Abstract .....	3
Introduction .....	4
Test of fiscal sustainability in the short run .....	4
Fiscal sustainability in the long run .....	8
New generation of fiscal rules .....	8
Methodology .....	9
Estimates of government finance under the new fiscal rules .....	11
Advantages and limitations of the new fiscal rules .....	15
Further development of the new fiscal rules .....	18
References .....	20

Sergey Vlasov<sup>1</sup>

# Analysis of Russia's fiscal sustainability under the new fiscal rules

## Abstract

This study examines Russia's short- and long run fiscal sustainability. The study reveals the possible risks, if fiscal sustainability deteriorates on the general government budget level. By employing a special fiscal stress index, Russia's public finances are evaluated as sustainable in the short run. In the long run, the study analyzes advantages and limitations of the new fiscal rules, compares the new rules with the previous fiscal rules suspended during the financial crisis and discusses the possibilities for further development of the fiscal rules in Russia. The official long run socio-economic development forecast is employed for the estimates. The analysis suggests that comparing to 2012 government revenue will decrease by 7.5 p.p. of GDP by 2050, explained by the drop in oil-and-gas revenue by 8.7 p.p. of GDP. Government expenditure will decrease by 6.0 p.p. of GDP. The value of government net worth will become negative by 2050 but on the infinite projection horizon should stabilize on the safe level close to -15% of GDP.

Keywords: fiscal sustainability, fiscal stress index, fiscal rules, general government budget, budget forecast.

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## Introduction

The concept of fiscal sustainability is attributed generally to long-term analysis. Public finances are sustainable, if the government is able to satisfy the needs of the current generation without any negative impact on the consumption of future generations and without making any changes in fiscal policies. To contribute to long run fiscal sustainability, governments usually introduce special fiscal rules. The analysis of fiscal sustainability in the short-term is also important, as it allows identifying and withstanding possible risks at an early stage. In order to evaluate fiscal sustainability in the short run, special indexes representing a set of complementary indicators can be employed.

The paper is organized as follows. The second section evaluates Russia's fiscal sustainability in the short run by calculating a fiscal stress index developed by the IMF. The third section is devoted to analysis of Russia's long run fiscal sustainability. It provides an estimate of government finance perspectives to 2050 under the new fiscal rules, discusses the advantages and limitations of the new rules, provides a comparison with the previous rules suspended at the beginning of the financial crisis and analyzes possible further development of the fiscal rules in Russia.

## Test of fiscal sustainability in the short run

In order to evaluate the short run fiscal sustainability as well as the state of public finances it is possible to employ a fiscal stress index developed by IMF experts as a set of complementary indicators. Below is a brief description of the methodology used for its estimation (for details see Baldacci et al. (2011a) and Baldacci et al. (2011b)). Under this approach an unsustainable state of public finances is associated with the widespread expectations that the government will have short- or medium-term difficulties in demonstrating solvency, i.e. inability to roll over its outstanding stock of liabilities without urgent adjustment measures.

The fiscal stress index represents 16 indicators classified into 3 clusters. *Basic fiscal variables* allow assessment of current and expected medium-term fiscal policy. *Long-term fiscal trends* show economic and demographic challenges in the long-term and their impact on expectations of economic agents. *Asset and liability management* evaluates the composition of government's assets and liabilities, especially in the short-term. Table 1 presents the clusters and indicators.

A threshold for every indicator is calculated by Baldacci et al. (2011b) by using a signal approach and data for 48 emerging economies over the period 1970-2010. Crossing the threshold in year T means that an indicator suggests a high risk of fiscal distress in year T+1.<sup>2</sup> The signaling power, i.e. the corresponding index weight, is also estimated by IMF experts for each indicator. The thresholds and index weights of each indicator are in Table 1.

The fiscal stress index represents the aggregated weight of the indicators crossing their thresholds. Its value lies between 0 and 100%. The fiscal stress index is estimated as

$$F\_stress = \sum_i \omega_i d_i(t)$$

where  $\omega_i$  is the weight of individual indicator  $i$  and  $d_i(t)$  is a dummy that takes the value of 1 if indicator  $i$  crosses its threshold in year  $t-1$  and 0 otherwise.

Table 1 further presents the estimates for 2012 and 2013 of the indicators composing the fiscal stress index. The estimates are for the Russian general government budget level.

<sup>2</sup> For details related to the signal approach see, for instance, IMF (2007).

Table 1. List of indicators composing the fiscal stress index and their estimates for Russia in 2012 and 2013.

Indicator	Threshold and safe direction	Index weight	2012	2013
<i>Basic fiscal variables</i>		23.7		
Government gross debt (as % of GDP)	< 42.8	2.5	13.0	16.3
Cyclical adjusted primary balance (as % of potential GDP)	> -0.5	9.9	-0.3	-0.7
Growth-adjusted interest rate (5 year forward moving average)	< 1.1	11.3	-4.8	-3.9
<i>Long-term fiscal trends</i>		43.6		
Projections of the change in public pension expenditure (30 years ahead, as p.p. of GDP)	< 4.0	13.4	6.0	6.0
Projections of the change in public health expenditure (30 years ahead, as p.p. of GDP)	< 2.7	8.2	2.0	2.1
Total fertility rate	0.8-3.4	5.2	1.7	1.6
Old age dependency ratio (20 years ahead projections of the ratio of population over 65 divided by the number of adults)	< 16.1	5.9	24.5	24.5
<i>Asset and liability management</i>		32.7		
Gross financing needs (as % of GDP)	< 20.6	2.8	1.1	1.4
Short-term debt as a share of total debt	< 44.0	9.2	12.0	5.0
Weighted average maturity of debt (years)	> 2.3	2.6	7.6	7.0
Short-term external debt as a share of gross international reserves	< 61.8	19.1	0.4	0.2
Debt denominated in foreign currencies as a share of total debt	< 40.3	9.9	19.2	20.0

Sources: *Basic fiscal variables*: Ministry of Finance, Federal Treasury, CBonds, Guidelines for the fiscal policy in 2013 and for 2014 and 2015 and long-term socio-economic forecast by Ministry of Economic Development; *Long-term fiscal trend* indicators: the public finances forecast by Ministry of Economic Development, long-term demographic forecast by Federal State Statistics Service and estimates from *Gurvich (2010)*; *Asset and liability management* indicators: Ministry of Finance, Federal Treasury, Bank of Russia and Guidelines for the fiscal policy in 2013-2015; *Thresholds and index weights*: *Baldacci et al. (2011b)*.

The main threats to the Russian public finances are associated with *long-term fiscal trends*. Indicative thresholds are substantially crossed by projections of the change in public pension expenditure and old age dependency ratio with a total weight of 19%. Moreover, comparing estimates for 2012 and 2013 it is possible to conclude that the rising public health expenditure in the long run and declining total fertility rate are also on the wrong path in terms of fiscal stress. During the last decade these challenges have become urgent in Russia as well as in many emerging and advanced economies. At present the Russian government is taking steps to improve the demographic situation and to reform the pension system.

The cluster of *basic fiscal variables* is more dependent on cyclical fluctuations than other clusters, and at the same time under the control of state administration. At present, the risks come from the cyclically adjusted primary balance that crossed its indicative threshold during the financial crisis period as a result of a general deterioration of macroeconomic environment and massive fiscal expansion, then returned to a safe level but close to its indicative threshold in 2012 and could again cross the threshold in 2013. Following the new fiscal rules should eliminate these risks in the near-term. Other indicators of this cluster are at the safe level. Due to prudent fiscal and debt policies, level of the general government debt became safe already in the beginning of 2000s and the debt to GDP ratio is still one of the lowest in the world. One of the most influential indicators of the fiscal stress index is the growth-adjusted interest rate: the higher the interest rate,

the larger is the primary budget surplus needed for a sustainable state of public finances. This indicator is strongly negative in Russia except for the crisis period characterized by an increase in the interest rate on debt and at the same time by a drop in the actual and projected economic growth rates. The box below provides a more detailed discussion on the growth-adjusted interest rate and other factors driving public debt dynamics.

The cluster *asset and liability management* indicates the lowest risks of fiscal distress as all indicators are estimated to be at safe levels both in 2012 and 2013. During the last decade the only indicator that had a value above the indicative threshold is debt denominated in foreign currencies as a share of total debt. Its value is on the safe level since 2007 as a result of advance repayment of the bulk of external debt and a gradual substitution of external borrowings by internal ones.

As a whole, the value of the fiscal stress index is 19% for 2012 and 29% for 2013. As these values are sufficiently low, it allows us to evaluate Russia's public finances in the short run as sustainable. At the same time all threats found during the analysis have to be solved since they may have a significant negative effect on fiscal sustainability in the medium- and long run.

### Box. Factors driving public debt dynamics.

The dynamics of public debt as a per cent of GDP ( $D$ ) is driven by the following main factors:<sup>3</sup>

1. Government primary budget balance ( $PB$ );
2. Interest payments on government debt dependent on interest rate  $r$ ;
3. Nominal growth rate of the economy ( $g$ ) composed of the real economic growth and GDP deflator (which affect the debt-to-GDP ratio through the denominator);
4. Stock-flow adjustments ( $SFA$ ) that affect outstanding debt but do not affect the primary balance. They include dynamics of funds at the national bank and credit institutions, including changes in sovereign funds, accumulation and renunciation of financial assets, exchange rate valuation changes, some aspects of state debt policy such as changes in the volume of contingent liabilities (government guarantees), debt recognition and forgiveness as well as some other factors.

Change in the government debt-to-GDP ratio over the previous period ( $\Delta D$ ) is defined as follows:

$$\Delta D = \frac{r - g}{1 + g} D_{t-1} - PB_t + SFA_t,$$

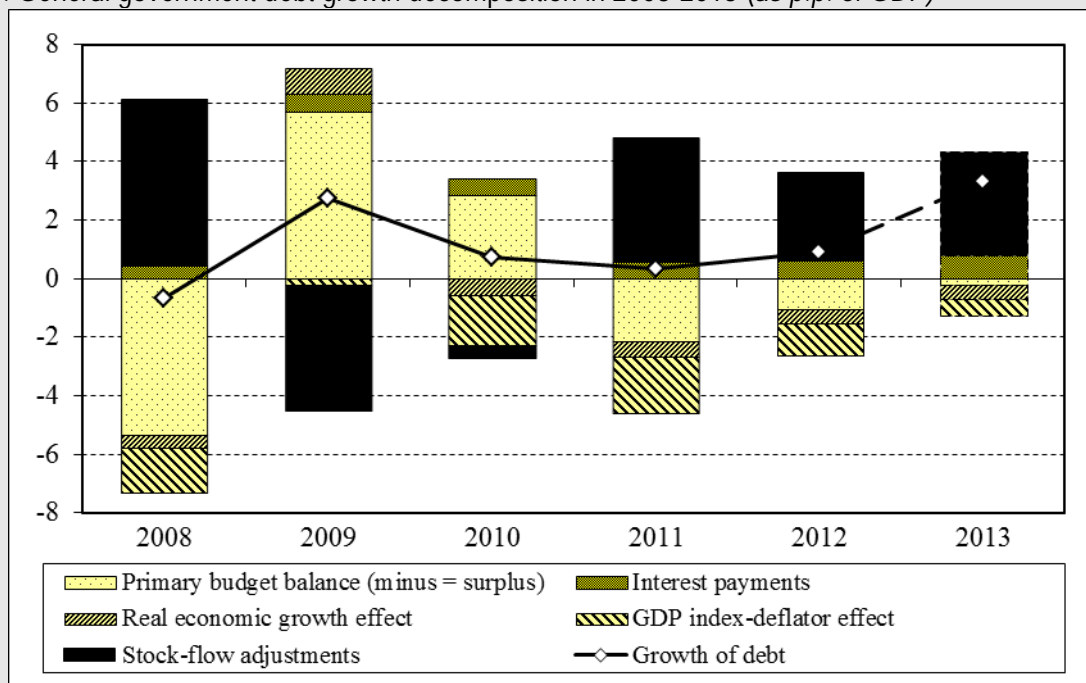
The equation states that a stable debt to GDP ratio requires that the primary budget balance equals the so-called growth-adjusted interest ( $r - g$ ) paid on debt, if we assume a neutral effect from the stock-flow adjustments. Only if the growth-adjusted interest rate is negative, the primary deficit will not necessarily increase the debt-to-GDP ratio. The negative value of the growth-adjusted interest rate is attributable to Russia and most emerging economies as well as some advanced economies. Most advanced economies have a positive value of the growth-adjusted interest rate, which requires the government to generate a sufficient primary surplus.<sup>4</sup> If stock-flow adjustments are positive, even a higher value of the primary budget surplus is required to keep the debt ratio stable. During the recent financial crisis many countries, especially advanced economies, had strongly positive stock-flow adjustments as a result of substantial financial support provided to ailing financial institutions in the form of capital injections and acquisitions as well as government guarantees. For instance, in the euro area the value of stock-flow adjustments increased from on average 0.3% of

<sup>3</sup> See, for example, ECB (2010).

<sup>4</sup> See Appendix 1 in IMF (2010) for the estimations of  $r - g$  indicator for a group of advanced and emerging economies during 1981-2008.

GDP over the period 2003-2007 to 3.2% of GDP in 2008 (ECB (2010)). In resource-rich countries such as Russia the dynamics of stock-flow adjustments is highly influenced by the change in the size of sovereign funds.

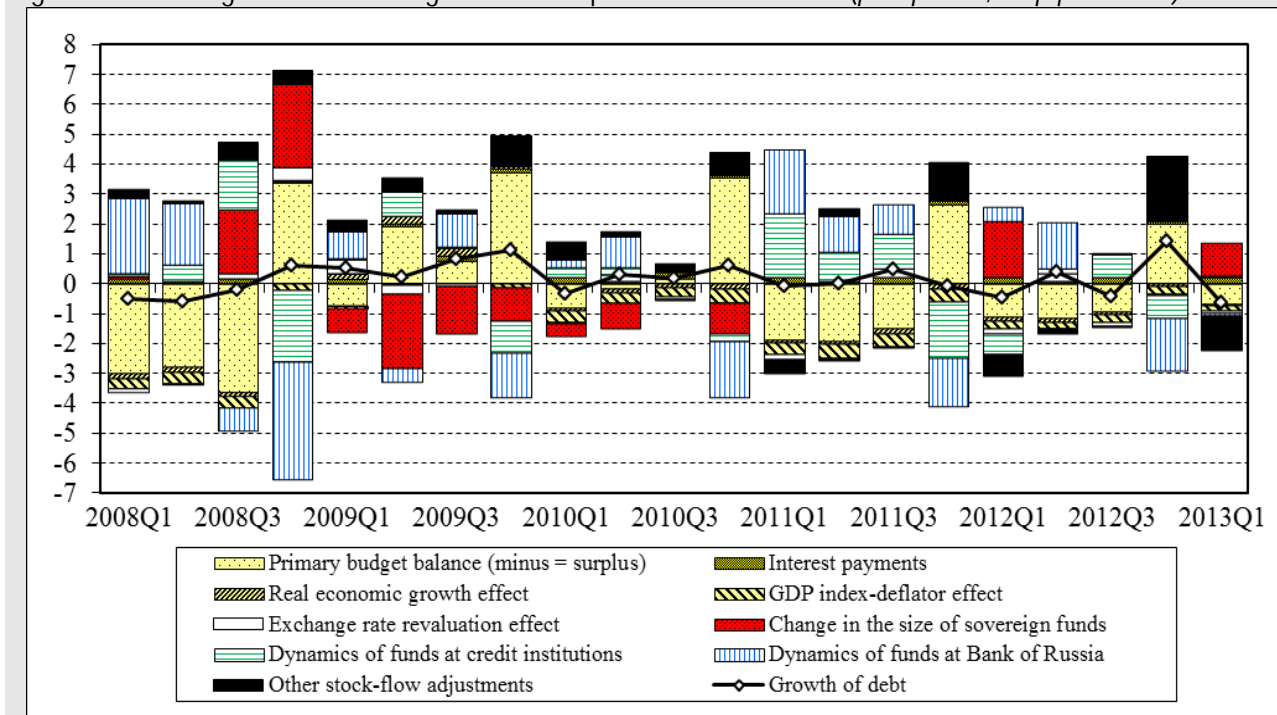
Figure 1. General government debt growth decomposition in 2008-2013 (as p.p. of GDP)



Sources: Ministry of Finance, Federal Treasury, Federal State Statistics Service, author's calculations

Figure 1 presents the decomposition of Russian general government debt growth in 2008-2012 and the forecast for 2013. The average annual joint impact of interest payments and nominal GDP growth, the so-called snow-ball effect, is positive to debt decrease and equals 0.8% of GDP for the whole period and 1.3% of GDP if we exclude the crisis year of 2009. The primary budget balance and stock-flow adjustments have opposite dynamics. The dynamics can be explained by the change in reserves in national and foreign currency at the banking system, especially in the sovereign funds, which were accumulated in the pre-crisis period and used in 2009-2010 when borrowing conditions worsened and liquidity was in excessive demand. An improvement in economic conditions and a switch back to primary surplus in recent years has allowed restarting the accumulation of reserves. Figure 2 presents a more detailed decomposition of the general government debt dynamics on a quarterly basis for 2008-2013.



Figure 2. General government debt growth decomposition in 2008-2013 (per quarter, as p.p. of GDP)<sup>5</sup>

Sources: Ministry of Finance, Federal Treasury, Federal State Statistics Service, author's calculations

## Fiscal sustainability in the long run

### New generation of fiscal rules

In recent years a growing number of countries have introduced fiscal rules, particularly in place of those suspended during the financial crisis. Fiscal rules discipline policymakers and contribute to macroeconomic stability and long run fiscal sustainability. This is of particular importance in the post crisis period when the main fiscal indicators such as the budget deficit are far from pre-crisis and sustainable levels in many countries. The new fiscal rules are more complex and more binding than the previous ones and at the same time more flexible. They try to take into account the fiscal legacy of the crisis and current economic uncertainty. Most of the rules combine the sustainability goal with the flexibility to accommodate to cyclical fluctuations. It seems that the rules are so complex that their opportunities and constraints are not easily explained to the general public while it is also difficult to monitor compliance of the rules. As the financial crisis continues to drag economic development, governments usually set a certain transitional period before the fiscal rules will be fully implemented.

New fiscal rules can be divided in four groups, and some governments have already introduced two or more groups of rules.<sup>6</sup> The rules that limit the budget deficit usually adjust balances for cyclical fluctuations, i.e. limit the size of the structural budget deficit, for instance, to

<sup>5</sup> Other stock-flow adjustments are mostly determined by the changes in the volume of government guarantees. This tool has been developing in Russia at a rapid pace since 2009.

<sup>6</sup> A large IMF fiscal rules dataset covers the information on use and design as well as the details on various characteristics of fiscal rules in 81 countries over 1985-2012 and is available at [www.imf.org/external/datamapper/FiscalRules/map/map.htm](http://www.imf.org/external/datamapper/FiscalRules/map/map.htm)

0.35% of GDP in Austria and Germany and 1.0% of GDP in Colombia, since it is assumed that in the long run the cyclical component stabilizes symmetrically over the business cycle. Such a rule was also implemented in March 2012 on a supranational level in the European Union, and the annual structural budget deficit is limited to 0.5% of GDP or 1.0% of GDP for countries with debt-to-GDP level below 60% of GDP and low sustainability risks.

United States and Japan have introduced so-called pay-as-you-go fiscal rules. These rules imply that any measure involving increase in budget expenditure or decrease in budget revenue has to be compensated for by any comparable measure(s) of the opposite nature to have a neutral effect on the budget deficit.

Some countries have implemented rules limiting the debt ratio as a per cent of GDP. Usually the gross debt ratio is bound, for instance, at 45% of GDP in Serbia and 60% of GDP in Israel. However, the United Kingdom is using the net-debt-to-GDP ratio.

Some governments have introduced fiscal rules limiting government spending. There are basically three different ways how governments do it:

- by regulating the annual increase of spending. For example, in Romania spending should not exceed the projected nominal GDP growth, if the budget is in deficit.
- by binding maximum spending to the budget revenue. In Ecuador, current expenditure cannot be higher than permanent revenue including oil income.
- by limiting the share of spending in GDP. In Namibia, spending cannot exceed 30% of GDP.

In 2013, Russia implemented new fiscal rules to be used on a federal budget level, which replace the rules suspended during the financial crisis.<sup>7</sup> The main change is the way of calculating the size of the oil-and-gas transfer, i.e. the oil-and-gas revenue used on government spending in the corresponding year. The oil-and-gas transfer used to be fixed as a percentage of GDP, but in the new rules the transfer is based on a ten-year moving average of the oil price, which is called the base oil price. Until 2018, there is a transitional period of gradual tightening of fiscal policy, particularly by increasing the length of the period for calculating the base oil price. A similar system was used with the Stabilization Fund during 2004-2007. The other critical change is easing of the mechanism for situations when the oil price exceeds the base price and leads to extra oil-and-gas revenue. According to the new rules, the target value of the Reserve Fund is decreased from 10 to 7% of GDP and up to half of the oil-and-gas revenue in excess ("runover" of the Reserve Fund oil-and-gas revenue) can be used on infrastructural facilities and other priority projects.

## Methodology

The methodology used in the paper is generally similar to that presented in Vlasov (2011). Below is a shortened description.

- We conduct the analysis for the general government budget level.
- We assume continuance of current policies, including decisions already made. So, for the period to 2014 budget expenditure and sources for financing budget deficits are assumed to be in accordance with the Guidelines for fiscal policy in 2013 and for 2014 and 2015.

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<sup>7</sup> For details relating to the new and previous fiscal rules see the Budget code of the Russian Federation, chapter 13.2. (current and previous editions).

- We take the period until 2050 as the main projection horizon because of the uncertainty about the ability to extract oil in Russia after 2050. We also present rough estimates of the main fiscal indicators after 2050.
- We base our calculations on the innovative scenario of the socio-economic development forecast to 2030 prepared by the Ministry of Economic Development in April 2012 as the basic variant of Russia's long run development. The scenario assumes strengthening of innovative components of economic growth and Russia's position in the world economy. The projected economic growth is 4-5% with a downward trend, with inflation declining from 6.2% in 2013 to 3% from the middle of 2020s onwards until the end of the projected horizon. Dependency on the oil-and-gas sector of the economy gradually decreases but continues to be significant during the whole forecast period.<sup>8</sup>
- To forecast general government budget revenue we use spreadsheet-based methodology (see, for instance, Keene, Thomson, 2007) applying the forecasted growth rates of relevant proxy variables from the 2030 forecast. (I) Among the non-oil-and-gas revenue the most important relations are the following: 1) income taxes and social contributions track the increase of the economy's wage sum, 2) corporate taxes follow corporate profit dynamics (which also effect wages), 3) VAT on goods produced in Russia tracks the nominal GDP growth rate adjusted for the change in the share of non-oil-and-gas revenue in the budget, 4) VAT on imported goods and import customs duties track import dynamics, and 5) export customs duties follow non-oil-and-gas export dynamics. (II) In order to forecast oil-and-gas revenue, we apply special formulas prescribed by the corresponding law. The formulas are based on production, export volumes, prices and the exchange rate of the US dollar against the Russian ruble. (III) We take into account all prospective changes in the Russian governmental policy in accordance with the Guidelines for fiscal policy in 2013 and for 2014 and 2015. The base rate of social contributions was decreased from 34 to 30% in 2012 (fully at the expense of the part that goes to the Pension fund of the Russian Federation). Another significant change is the reduction of the rates of import and export customs duties resulting from joining the WTO, which could cost the general budget 1.2% of GDP over 2013-2015. In the post-crisis period till 2015 excise duties, due to their hikes, have been one of the main sources of the increase in the non-oil-and-gas revenue as a percentage of GDP. (IV) We believe that this increase cannot continue in the long run and from 2016 we adjust the tariff growth to follow GDP growth. Moreover, from 2016 we adjust the tax revenue from the gas extraction tariff for gas price dynamics.<sup>9</sup> (V) We do not assume any enhancement in tax collection because of the uncertainty involved.
- In accordance with the new fiscal rules, total general government budget expenditure is financed by total revenue of the regions and extra-budgetary funds (state social funds), the non-oil-and-gas revenue and the oil-and-gas transfer of the federal budget, borrowings and other financing within the limits fixed in legislation as well as up to half of the "runover" of the Reserve Fund oil-and-gas revenue. As mentioned above, the size of the oil-and-gas transfer is determined by the base oil price. We assume balanced budgets for the regions and extra-budgetary funds at the

<sup>8</sup> The forecast and the corresponding explanatory note are available at [www.economy.gov.ru/minec/activity/sections/macro/prognoz/doc20120428\\_0010](http://www.economy.gov.ru/minec/activity/sections/macro/prognoz/doc20120428_0010)

<sup>9</sup> The tax on gas extraction is the only one among oil-and-gas budget revenue fixed in ruble terms and not affected by oil/gas price dynamics.

expense of interbudget transfers from the federal budget and at the same time at most 1% of GDP net borrowings at the federal level<sup>10</sup>. In addition, we assume maximum possible financing of infrastructural facilities and other priority projects, i.e. 50% of the “runover” of the Reserve Fund oil-and-gas revenue. This can be explained by the active search by the Ministry of Economic Development for additional sources to boost economic growth.<sup>11</sup> Moreover, we assume that all expenditure is fully spent.

- The change in the size of sovereign funds depends on the corresponding incoming and outgoing cash flows and also revaluation in accordance with the existing currency composition. The inflows are the oil-and-gas revenue calculated in accordance with the new fiscal rules and from 2017 also the return on the funds<sup>12</sup>, which depends on the yield. In 2011, the yield amounted to 1.8% for the Reserve Fund and 2.7% for the National Wealth Fund.<sup>13</sup> Based on the guidelines for fiscal policy in 2013 and for 2014 and 2015, we assume that in 2012 the yield was halved, in 2013-2014 it will gradually return to the level of 2011, in 2015 it will further increase to 2 and 3% correspondingly, and no change after that. We expect the increase in the yield because of the prospective creation of the Russian financial agency in 2013 and the resulting increase in financial investment efficiency.<sup>14</sup> The outflow is the amount of funds needed to finance the oil-and-gas transfer in case the current oil price is lower than the base price.
- As the criterion of the solvency of the government and sustainable state of public finances we use safe level of government net worth indicator. Government net worth is calculated as the difference between net overall reserves and net overall debt of the general government. Based on the estimates of the safe level of public debt made by the IMF and the Ministry of Finance, the indicative threshold for the Russian government net worth on the infinite time horizon is chosen as –30% of GDP. For further details see Vlasov (2011).

## Estimates of government finance under the new fiscal rules

The long-term scenario till 2050 is characterized by the following dynamics of the main general government fiscal indicators. Total budget revenue will gradually decline from 38% of GDP in 2012 to 31% of GDP in 2050 (see Figure 3). This is the result of the drop in the oil-and-gas revenue from 11 to 2% of GDP, which is a consequence of considerably low growth of production and export volumes, especially of oil, slow rise in their prices and slow depreciation of the national currency in comparison with the GDP growth rates. The decrease in the oil-and-gas revenue will be partly compensated by the increase in non-oil-and-gas revenue from 28% of GDP in 2012 to 29% of GDP in 2050 and to a very small degree by the return earned by the sovereign funds (from 0.16% of GDP in 2012 to 0.23% of GDP in 2050). The increase in the return earned by the sovereign funds is expected both because of the increase in the size of the funds as a per cent of GDP and better financial investment efficiency. The increase in the non-oil-and-gas revenue is explained by the

<sup>10</sup> This also corresponds to the maximum possible value of the non-oil-and-gas deficit of the federal budget.

<sup>11</sup> For this purpose the Russian Ministry of Economic Development insists particularly on the further decrease of the standard value of the Reserve Fund to 5% of GDP.

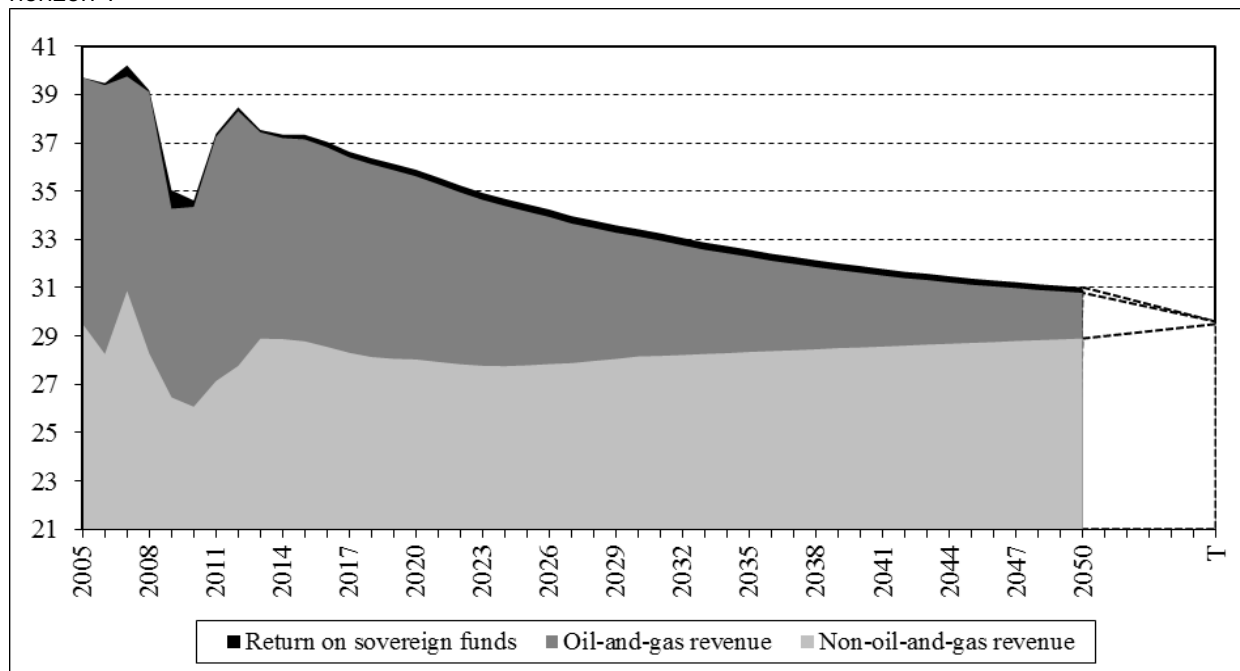
<sup>12</sup> In accordance with the Budget code of the Russian Federation, the return on the sovereign funds does not enter the corresponding funds before 2017.

<sup>13</sup> Source: [www1.minfin.ru/ru/official/index.php?id4=15465](http://www1.minfin.ru/ru/official/index.php?id4=15465)

<sup>14</sup> Source: [www.minfin.ru/ru/press/speech/printable.php?id4=16775](http://www.minfin.ru/ru/press/speech/printable.php?id4=16775)

greater role of non-oil-and-gas sectors in the economy. At the same time negative dynamics are attributed to the revenue dependent on import and export volumes following their slower growth rates compared with GDP growth rates. In particular, this relates to the value added tax on commodities imported, especially from the second half of 2010s until the beginning of 2020s.

Figure 3. General government budget revenue (as % of GDP) in 2005-2050 and rough dynamics on the infinite horizon T



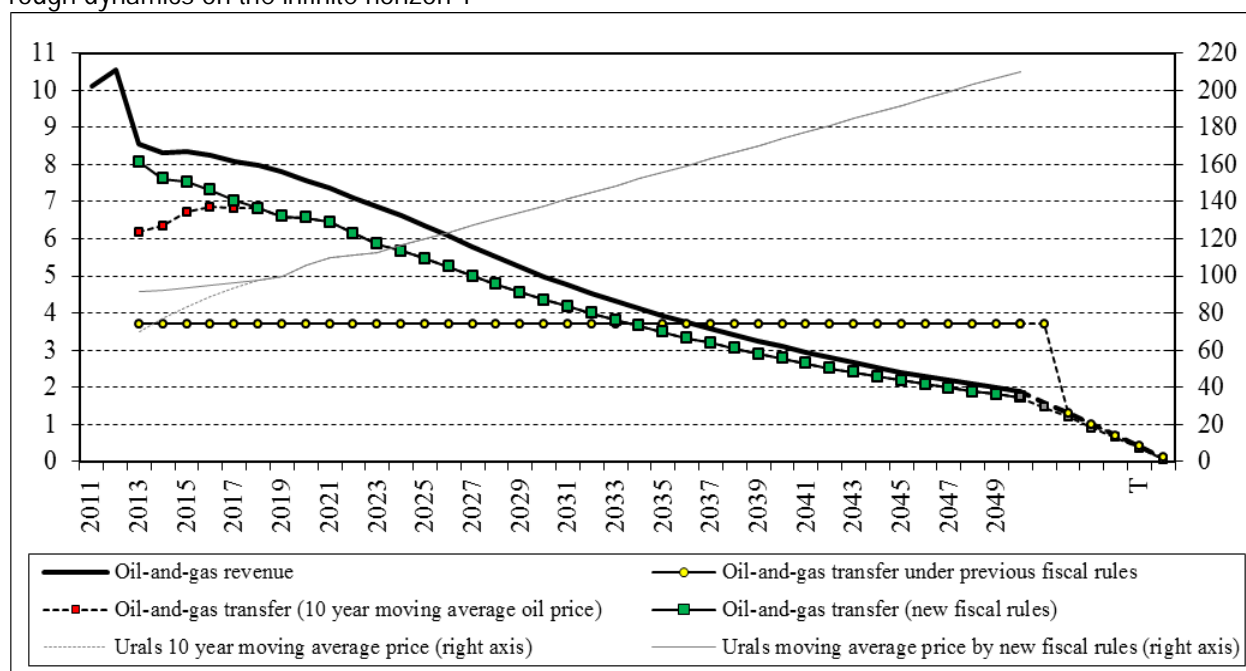
Sources: Federal Treasury, Federal State Statistics Service, long-term socio-economic forecast by Ministry of Economic Development, author's calculations

In accordance with the new fiscal rules, the gradual decrease in the oil-and-gas revenue will result in corresponding reduction of the oil-and-gas transfer (see Figure 4). The calculations show that the oil-and-gas transfer could be equal to 8% of GDP in 2013 and fall to less than 2% of GDP by 2050. However, the transitional period will allow to avoid a large decrease in its size in the near-term.<sup>15</sup> Comparing with the previous fiscal rules, there will be a higher oil-and-gas transfer as a per cent of GDP till 2033 and lower transfer after that. The scenario of the socio-economic forecast by the Ministry of Economic Development does not assume any sharp fall of the oil price, and thus accumulation of the sovereign funds continues during the whole projection horizon. If the oil price would become lower than its base level, it would be necessary to apply the Reserve Fund to co-finance the oil-and-gas transfer<sup>16</sup>. However, as we move to the end of our forecast horizon, the size of the replenishment of the Reserve Fund becomes lower as a per cent of GDP. It would reach its maximum of 1.2% of GDP in 2019 and then decrease to less than 0.2% of GDP in 2050.

<sup>15</sup> The oil-and-gas transfer might have been equal to only 6.2% of GDP in 2013 if the base oil price was calculated as the 10-year moving average without the transitional period until 2018.

<sup>16</sup> Such a situation was simulated in the previous long run socio-economic development forecast prepared by the Ministry of Economic Development in January 2011 as in 2018 the oil price falls below its base level.

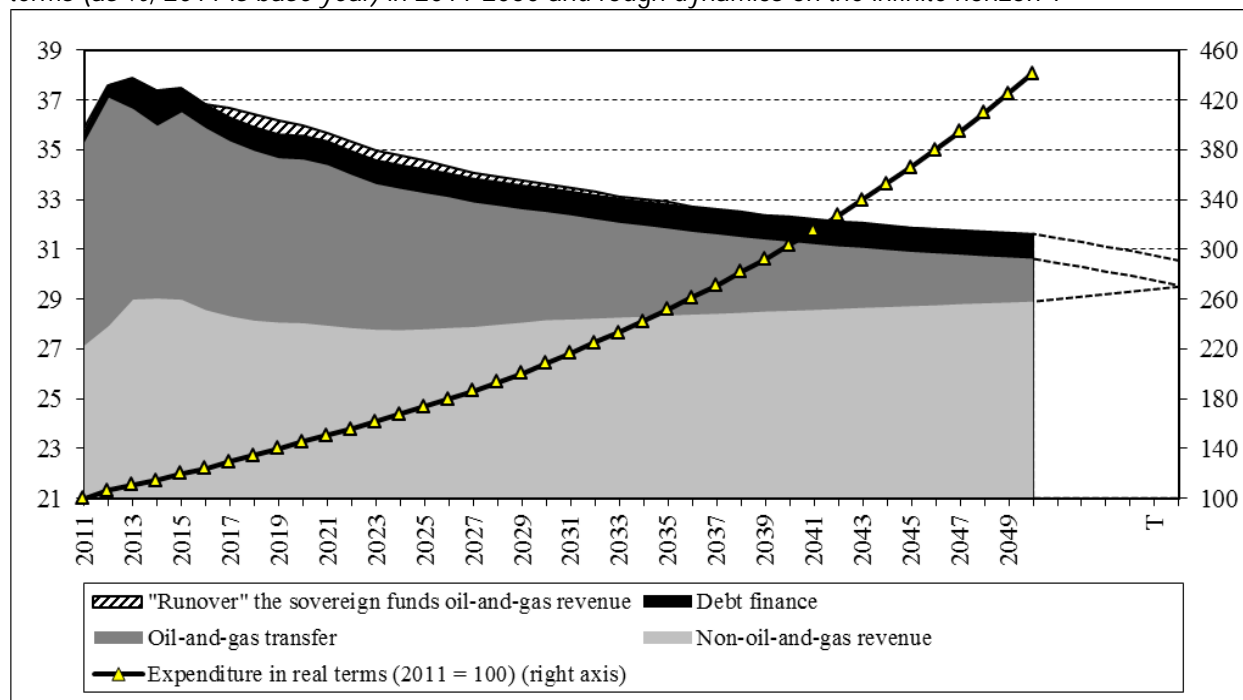
Figure 4. General government budget oil-and-gas revenue and oil-and-gas transfer under the new and previous fiscal rules (as % of GDP) and Urals brand oil moving average price (in US doll.) in 2011-2050 and rough dynamics on the infinite horizon T



Sources: Federal Treasury, Federal State Statistics Service, long-term socio-economic forecast by Ministry of Economic Development, author's calculations

To a large degree decreasing oil-and-gas transfer will determine dynamics of general government budget expenditure (see Figure 5). Partly it will be compensated by the increase in non-oil-and-gas revenue and during a certain period and to a small degree by the “runover” of the Reserve Fund oil-and-gas revenue. The latter should exist in 2017-2038 with total cumulative value of 3.5% of the period's average annual GDP. Consequently total budget expenditure will gradually decline from 38% of GDP in 2012 to 32% of GDP in 2050. Though the expenditure will decrease as a per cent of GDP, it will rise in real terms by about 320% during 2013-2050 with annual average increase of 3.8%, if nominal expenditure is deflated by the projected rise of GDP deflator.

Figure 5. Decomposition of general government budget expenditure (as % of GDP) and its growth in real terms (as %, 2011 is base year) in 2011-2050 and rough dynamics on the infinite horizon T



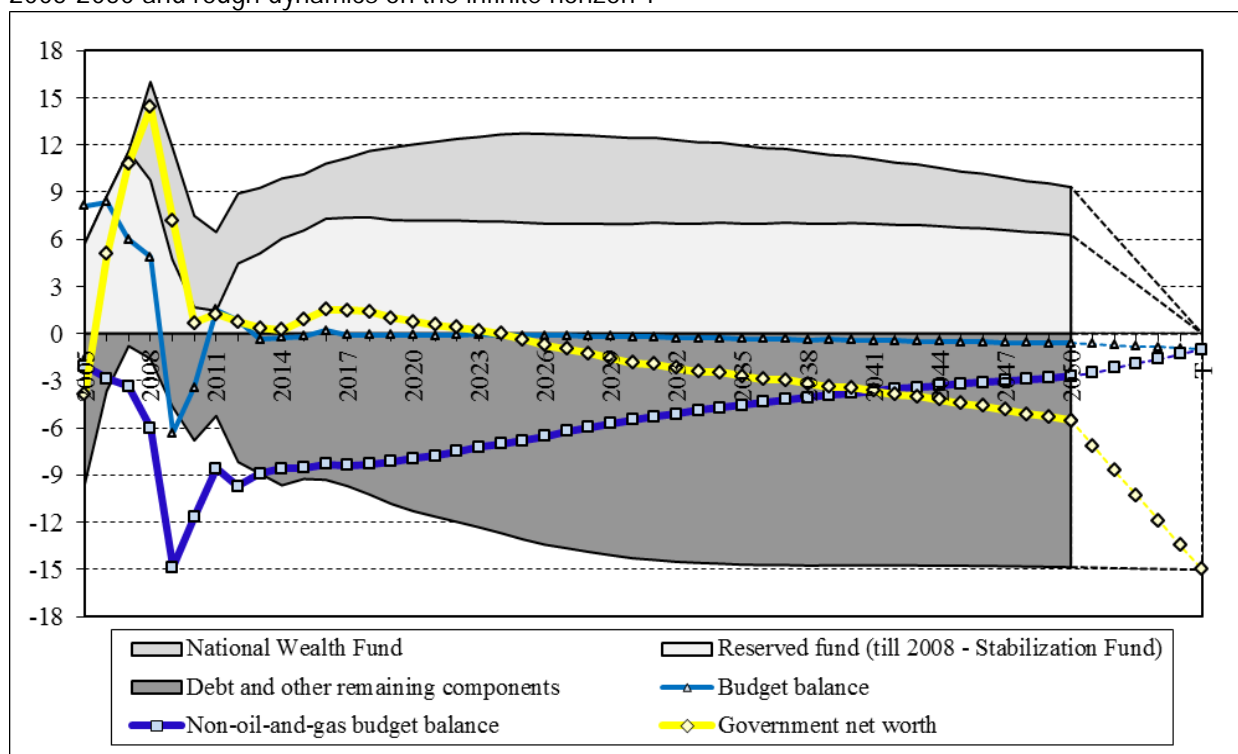
Note: For expenditure in real terms, nominal expenditure has been deflated by the projected GDP deflator.

Sources: Federal Treasury, Federal State Statistics Service, long-term socio-economic forecast by Ministry of Economic Development, author's calculations

Under the chosen prerequisites the new fiscal rules would lead to a permanent small general government budget deficit (see Figure 6). The reason is that the value of annual net borrowings of 1% of GDP will not be fully compensated by oil-and-gas savings. The value of the budget deficit will be close to zero, though it will increase slightly from 0.1 to 0.6% of GDP over 2017-2050. The non-oil-and-gas deficit will follow the dynamics of the oil-and-gas transfer and gradually decrease from 10% of GDP in 2012 to 3% of GDP in 2050.

The target value of the Reserve Fund should be reached in 2016, and from 2017 oil-and-gas revenue should start to flow to the National Wealth Fund. The total value of both funds as a per cent of GDP could rise till 2025, to 13%, and decline afterwards as a result of the decrease in the amount of savings as a per cent of GDP and the GDP growth denominator effect. The negative size of the remaining components of government net worth, which is mostly debt, will gradually increase and in the long run should stabilize on the level close to -15% of GDP. Thus, government net worth will decline from 0.7% of GDP at the end of 2012 to almost -6% of GDP at the end of 2050.

Figure 6. General government budget balance and decomposition of government net worth (as % of GDP) in 2005-2050 and rough dynamics on the infinite horizon T



Sources: Ministry of Finance, Federal Treasury, Federal State Statistics Service, Bank of Russia, long-term socio-economic forecast by Ministry of Economic Development, author's calculations

After 2050 we can expect a further decrease in oil-and-gas revenue as a per cent of GDP, which is partly compensated by the increase in non-oil-and-gas revenue. Therefore, total general government budget revenue will further decline and stabilize to less than 30% of GDP. Following the negative path of oil-and-gas revenue, the size of oil-and-gas transfer will also continue to fall and will eventually vanish. This will entail a further decrease in general government budget expenditure which will stabilize on the level close to 30% of GDP. The general budget deficit and the non-oil-and-gas deficit (from the opposite directions with different speeds) will converge to 1% of GDP. The amount of the sovereign funds per GDP will continue to decline because of the GDP growth denominator effects. Therefore on the infinite projection horizon government net worth stabilizes on the level of its remaining components of -15% of GDP (see Figures 3 to 6).

## Advantages and limitations of the new fiscal rules

There are a number of advantages as well as limitations of the new fiscal rules. One of the advantages is that the underlying mechanism contributes to countercyclicality of fiscal policy by saving extra oil-and-gas revenue when the prices are high and spending them when the prices are low. Although there is no generally accepted methodology for dividing oil-and-gas revenue on the structural and cyclical components (see, for instance, Alberola, Montero 2006; Vladkova-Hollar, Zettelmeyer, 2008), the ten year average oil price can be used for such purpose.

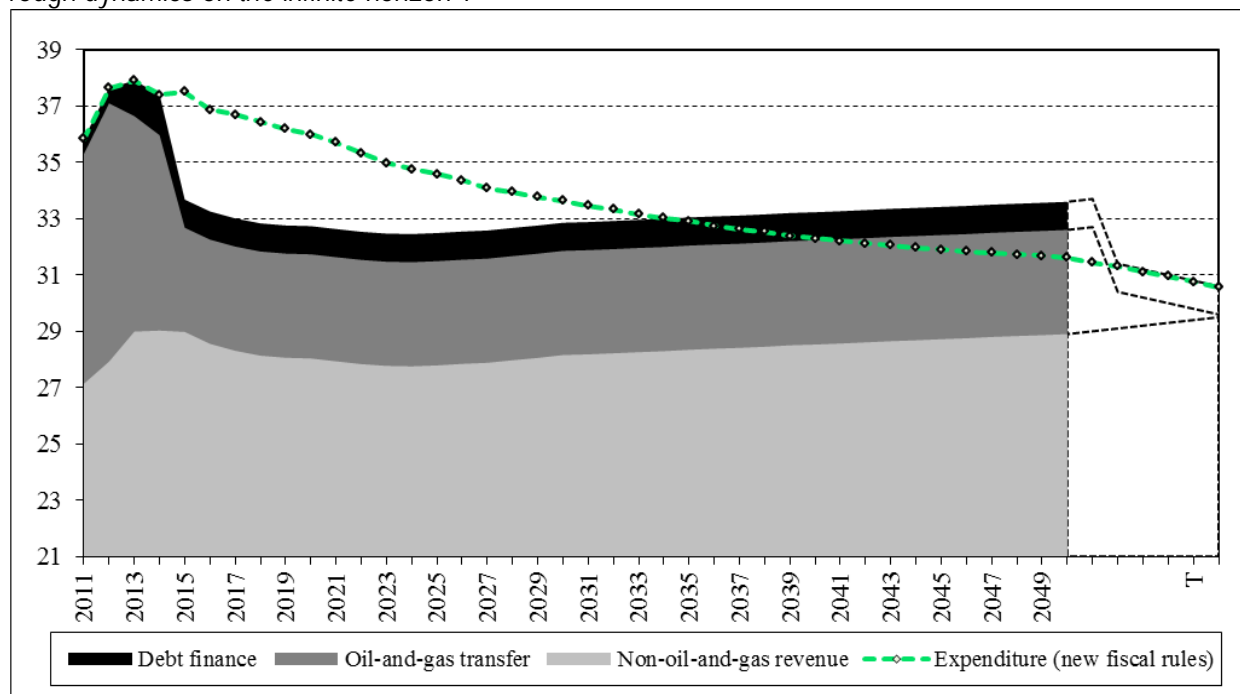
An important advantage of the new fiscal rules is their sound, phased-in design during the transitional period. During the financial crisis, budget expenditure increased sharply as a per cent of



GDP, particularly as a result of the sizeable fiscal stimulus. Moreover, the share of oil-and-gas revenue of total budget revenue increased significantly, i.e. fiscal policy became even more dependent on the oil-and-gas sector. The new legislatively mandated fiscal rules allow to gradually reduce public expenditure, the oil-and-gas transfer and the non-oil-and-gas deficit as a per cent of GDP as well as oil-and-gas revenue as a basis for total budget expenditure (see Figures 4 to 6). Moreover, the delayed consolidation could minimize the negative impact on economic growth. This corresponds with the stand of IMF experts, whose estimates show that at present the values of fiscal multipliers are on their historical maxima, and, thereby, gradual tightening should prevail over large-scale abrupt adjustments (IMF, 2012).

For comparison, Figure 7 represents the situation of restoring (from 2015) the previous fiscal rules with the oil-and-gas transfer of 3.7% of GDP. Under the previous rules, it would have been hard to avoid an abrupt fiscal consolidation, as avoiding would have required arbitrary determination of the size of the main fiscal indicators during several years (a transition period). That would not have been an easy task, especially in the post crisis period when there is a necessity to raise economic growth rates. In the future, the previous rules would have also required a decrease in budget expenditure (soon) after 2050, when the sovereign funds are depleted while oil-and-gas revenue is considerably lower than 3.7% of GDP and thus the oil-and-gas transfer would have become small. However, according to the Ministry of Finance calculations, the optimal oil-and-gas transfer is about 3.7% of GDP, while the optimal non-oil-and-gas budget deficit is 4-5% of GDP.<sup>17</sup> Under the new fiscal rules, these optimal values will be achieved only in the beginning of 2030s, so the speed of progress can be characterized as rather modest (see Figure 6).

Figure 7. General government budget expenditure under previous fiscal rules (*as % of GDP*) in 2011-2050 and rough dynamics on the infinite horizon T



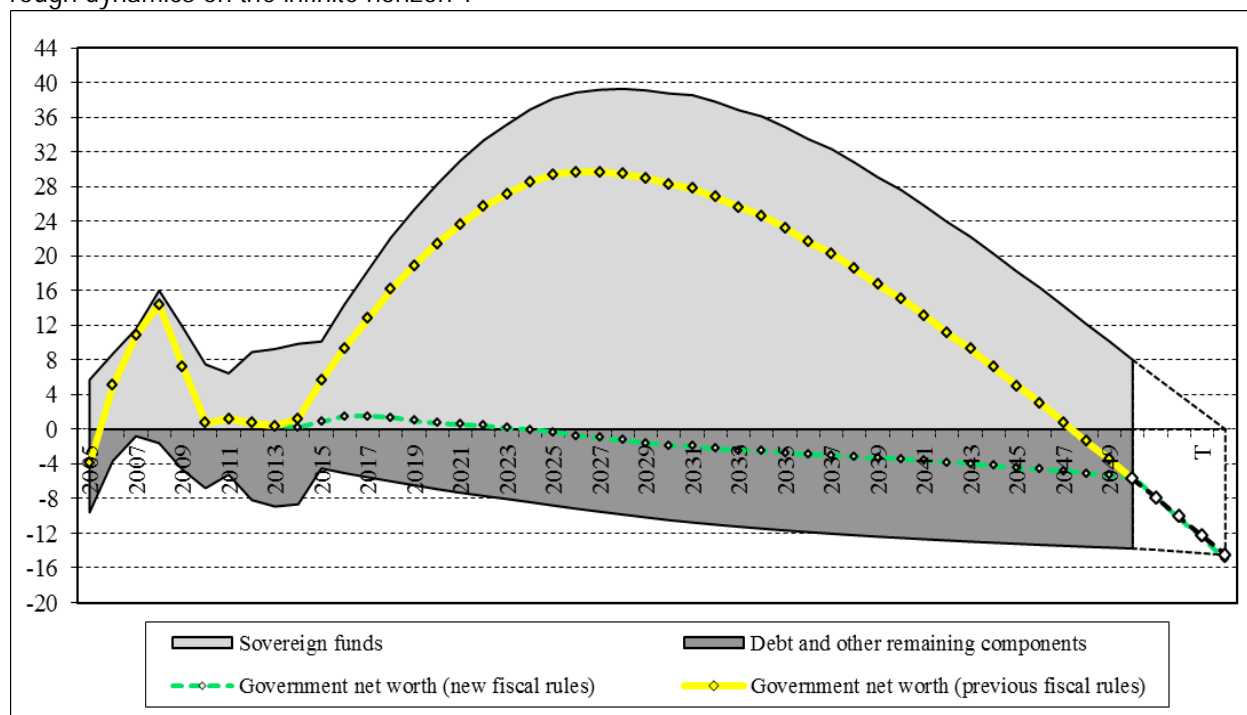
Sources: Federal Treasury, Federal State Statistics Service, long-term socio-economic forecast by Ministry of Economic Development, author's calculations

<sup>17</sup> Source: [ria.ru/economy/20120920/754987196.html](http://ria.ru/economy/20120920/754987196.html) (in Russian)

The advantage of the new fiscal rules is that they allow to maintain government net worth on a safe level, and actually far from its indicative threshold of  $-30\%$  of GDP during the whole projection period as well as on the infinite horizon. General government debt should be on the level close to  $15\%$  of GDP in 2050 and would still be one of the lowest in the world. At the same time, the government could accumulate sizeable reserves in the sovereign funds, whose total value should be above  $10\%$  of GDP during most of the projection period. These funds should allow the government to cope with decreased revenue, if there is a sudden drop in the oil price. Since government revenue is highly dependent on the external economic environment, considerable reserves crucial for sustainable state of public finances. Moreover, reserves could improve Russia's solvency ratings and reduce regular interest payments.

Under the previous fiscal rules, government net worth would have been in the long run also on the safe level and far from its threshold. The main difference is the way of accumulating and spending the reserves. Under the previous fiscal rules, there would have been a significant increase in the size of the sovereign funds over the second half of 2010s and in 2020s, and a decrease during the remaining period. The decrease was a result of a fall in oil-and-gas revenue below oil-and-gas transfer and the GDP growth denominator effect (see Figure 8). The previous fiscal rules would have contributed more to intergenerational equality, coping with negative effects of the so-called "Dutch disease"<sup>18</sup> and improving solvency ratings.

Figure 8. Decomposition of government net worth under previous fiscal rules (as % of GDP) in 2005-2050 and rough dynamics on the infinite horizon T



Sources: Ministry of Finance, Federal Treasury, Federal State Statistics Service, Bank of Russia, long-term socio-economic forecast by Ministry of Economic Development, author's calculations

An important limitation of the new fiscal rules is the considerable decrease in the budget expenditure as a per cent of GDP in the long term. But as expenditure will grow in real terms (see

<sup>18</sup> See, for instance, Kudrin (2007) for discussion of the corresponding Russian and international experience.

Figure 5), this would allow the government not only to meet fully its current obligations but also to assume new ones. At the same time, however, this would require the government to pursue relatively conservative fiscal policy whereby the increase in major items of budget expenditure, especially social obligations, would not exceed the rise of the consumer price index, inter alia, as a result of coping with the challenges related to the long-term demographic change. The latter indeed requires the government to implement the respective reforms, e.g. pension reform, and/or to shift a part of public spending to the private sector. Otherwise it may be required to assume less other obligations or modify the new rules by raising the oil-and-gas transfer or increasing borrowing.

A controversial point related to the implementation of the new fiscal rules is the decrease of the target value of the Reserve Fund from 10 to 7% of GDP and the possibility to spend up to half of the excess revenue on infrastructural facilities and other priority development projects. On a one hand, this allows to contribute earlier and in a larger scale to economic development. Baunsgaard et al. in their recent study find that group of resource-rich countries with long-lasting resource revenue (not less than one generation or 30-35 years) but scarce capital, including Russia, should prefer investing resource revenue domestically in order to increase non-resource growth rather than accumulating financial savings for future generations (Baunsgaard et al., 2012). On the other hand, spending extra oil-and-gas revenue faster increases both the vulnerability to the negative effects of the “Dutch disease” and the fiscal sustainability risks. During the financial crisis period of 2009-2010, part of the Reserve Fund was used on smoothing the negative crisis consequences and it decreased from 9.8 to 1.7% of GDP. It is important to emphasize the fact that the Reserve Fund became a “safety cushion” not for the oil-and-gas part but for the non-oil-and-gas part of the budget. During the crisis period, oil-and-gas revenue was every year higher than the legislatively mandated size of the oil-and-gas transfer of 3.7% of GDP. If only the crisis had not been attended with such circumstances the Reserve Fund would have been fully depleted. Thus, taking into account the vulnerability of the Russian economy to cyclical fluctuations and the scale of dishoarding government funds during 2009-2010, the target value of the Reserve Fund of 7% of GDP might have been insufficient to cope with the negative consequences of the next crisis. Moreover, this might have had a negative impact on the Russian investment appeal and ratings of solvency.

## Further development of the new fiscal rules

Logical further development of fiscal rules in Russia should be the switch from actual budget balancing to structural budget balancing for the purpose of managing the non-oil-and-gas part of the budget. This should allow building the budget fully responsive to cyclical fluctuations and contributing to the sustainable state of public finances. As mentioned in section 3.1, many countries have introduced fiscal rules targeting the structural budget balance value. Business cycle fluctuations cause decrease (increase) in budget balance during economic downturn (boom). Since it is assumed that in the long run the cyclical component stabilizes symmetrically over the business cycle and has a neutral effect on government net worth, it is worthwhile to reallocate funds by saving extra surplus during periods of economic boom and spending them during economic downturns. This will allow building an additional automatic stabilizer to the budget, which prevents from excessive fiscal expansion in favourable periods and softens fiscal policy stance during crisis.

The calculations show that business cycle fluctuations can have a significant impact on public finances in Russia. In 2007, this contributed to the increase in the budget surplus by 1.5 p.p. of GDP, while in 2009 it had an adverse effect of 1.0 p.p. of GDP. During 2003-2012, the aggregate cyclical non-oil-and-gas component in the general government budget was only 0.9 p.p. of GDP,

while the annual average amount was less than 0.1 p.p. of GDP. Thus, the positive contribution of 2006-2008 characterized by economic “overheating” was almost fully “compensated” during the economic downturn.<sup>19</sup>

Switching to structural budget balancing will not change the above presented estimates and conclusions, since the output gap has recently been close to zero (Bank of Russia, 2013). It has almost no effect on the size of the budget balance because in the long run calculations GDP growth is expected to be on its potential.

For the development of the Russian fiscal rules, the Ministry of Economic Development suggests further reduction in the target value of the Reserve Fund from 7 to 5% of GDP. This would certainly allow for an even earlier and larger-scale economic stimulus.<sup>20</sup> However, such a step could threaten sustainability of Russian public finances.

The new fiscal rules can also be developed by changing the size of annual net borrowings. The indicative threshold for the Russian government net worth is chosen to equal -30% of GDP, but under the new fiscal rules on the infinite horizon it stabilizes on the level close to -15% of GDP. This would allow the government to expand its fiscal policy by increasing borrowing in order to boost economic growth. The calculations show that for such purposes the level of annual net borrowings can be raised by 1.1% of GDP. However, it is important to keep in mind that according to the no-Ponzi game condition government can have no debt at all on the infinite time horizon (O’Connell, Zeldes, 1988). The condition requires the non-oil-and-gas budget deficit being equal to the size of the oil-and-gas transfer. Taking all this into account, it is possible to conclude that the size of annual net borrowings of 1% of GDP is a certain “golden mean” and it is worthwhile to keep it unchanged.

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<sup>19</sup> For the employed methodology, see Vlasov (2011).

<sup>20</sup> Source: [rdr.ria.ru/news/20120920/265782718.html](http://rdr.ria.ru/news/20120920/265782718.html) (in Russian)

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