



# RUSSIAN FEDERATION

## 2017 ARTICLE IV CONSULTATION—PRESS RELEASE; STAFF REPORT

July 2017

Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. In the context of the 2017 Article IV consultation with the Russian Federation, the following documents have been released and are included in this package:

- A **Press Release** summarizing the views of the Executive Board as expressed during its June 30, 2017 consideration of the staff report that concluded the Article IV consultation with the Russian Federation.
- The **Staff Report** prepared by a staff team of the IMF for the Executive Board's consideration on June 30, 2017, following discussions that ended on May 20, 2017, with the officials of the Russian Federation on economic developments and policies. Based on information available at the time of these discussions, the staff report was completed on June 15, 2017.
- An **Informational Annex** prepared by the IMF staff.

The documents listed below have been or will be separately released.

Selected Issues

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July 10, 2017

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700 19<sup>th</sup> Street, NW  
Washington, D. C. 20431 USA

### **IMF Executive Board Concludes 2017 Article IV Consultation with the Russian Federation**

On June 30, 2017, the Executive Board of the International Monetary Fund (IMF) concluded the Article IV consultation<sup>1</sup> with the Russian Federation.

The Russian economy stabilized in 2016, contracting by just 0.2 percent of GDP, after being hit in 2014 by the dual shocks of lower oil prices and sanctions. The relatively modest reaction to the large external shocks reflects the authorities' effective policy response—floating exchange rate, banking system liquidity support and capital injections, and limited fiscal stimulus coupled with restrictive incomes policies. The policy response was also enabled by robust buffers.

The more stable oil prices and improved financial conditions will support a return to growth in 2017, with an expected increase in real GDP of 1.4 percent. Growth is forecast to continue at 1.4 percent in 2018. The still negative output gap, weak consumption demand, strengthening of the ruble and lower food prices from a bumper harvest are supporting the convergence of CPI inflation to the Central Bank target of 4 percent at end-2017. With adverse demographics, and barring significant structural reforms that lifts productivity, potential growth is likely to stay at around 1½ percent over the medium term. The main risk to the outlook remains a fall in oil prices.

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<sup>1</sup> Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. A staff team visits the country, collects economic and financial information, and discusses with officials the country's economic developments and policies. On return to headquarters, the staff prepares a report, which forms the basis for discussion by the Executive Board.

## Executive Board Assessment<sup>2</sup>

Executive Directors agreed with the thrust of the staff appraisal. They commended the authorities for their effective policy response which, drawing on robust buffers, has helped the Russian Federation exit a two-year recession. Looking forward, Directors stressed the need to reduce the economy's dependence on oil and rekindle structural reforms to support new sources of growth, accelerate per capita income convergence to that of advanced economies, and overcome demographic challenges.

Directors commended the authorities for reinstating the three-year fiscal framework in the 2017 budget to reduce policy uncertainty. They emphasized that for the fiscal adjustment to be sustained, it should be underpinned by durable, well-targeted measures and growth-enhancing spending. Directors underlined the need for a credible fiscal rule to anchor the adjustment, allow a smoother response to oil price changes and build adequate savings. A parametric reform of the pension system would also deliver fiscal savings over time.

Directors welcomed the progress towards achieving the inflation objective. They recommended that monetary policy easing continue, but at a gradual pace, given the uncertain size of the output gap and the potential for disinflation reversal. They encouraged the authorities to shift the focus of their communication strategy to cover a longer horizon and clarify the acceptable departures from the inflation target.

Directors welcomed the steps taken to increase the resilience of the financial system, including an improved bank resolution mechanism. They encouraged further efforts to remove obstacles that discourage investors from effectively acquiring assets and liabilities in bank resolutions, replace central bank funding with federal funds, and increase recourse to banking industry capital. Directors also encouraged the authorities to revamp the statutory bail-in legislation while keeping in mind financial stability implications. Directors noted that there is scope for further tightening the limit on related-party lending and accelerating the introduction of explicit early bank intervention procedures.

Directors underscored that accelerated structural reforms and broader trade relations can help promote a diversified export mix. They also urged the authorities to strengthen property rights, advance privatization, improve governance, and invest in innovation and infrastructure to build the foundations for higher potential growth.

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<sup>2</sup> At the conclusion of the discussion, the Managing Director, as Chairman of the Board, summarizes the views of Executive Directors, and this summary is transmitted to the country's authorities. An explanation of any qualifiers used in summings up can be found here: <http://www.imf.org/external/np/sec/misc/qualifiers.htm>

## Russian Federation: Selected Macroeconomic Indicators, 2014–18

	2014	2015	2016	2017	2018
				Projections	
<b>Production and prices</b>					
Real GDP	0.7	-2.8	-0.2	1.4	1.4
Consumer prices					
Period average	7.8	15.5	7.0	4.2	4.0
End of period	11.4	12.9	5.4	4.0	4.0
GDP deflator	10.7	8.2	3.6	5.7	3.8
<b>Public sector<sup>1</sup></b>					
	(Percent of GDP)				
General government					
Net lending/borrowing (overall balance)	-1.1	-3.4	-3.7	-1.9	-1.2
Revenue	33.8	31.8	32.8	32.6	31.9
Expenditures	34.9	35.2	36.4	34.5	33.1
Primary balance	-0.4	-2.6	-2.6	-1.0	-0.2
Nonoil balance	-11.4	-11.4	-9.8	-8.4	-7.6
Federal government					
Net lending/borrowing (overall balance)	-0.4	-2.3	-3.4	-1.7	-1.0
Nonoil balance	-9.9	-9.5	-9.0	-7.5	-6.8
	(Annual percent change)				
Base money	6.3	-4.3	3.8	6.3	6.4
Ruble broad money	1.5	11.3	9.2	9.4	9.6
<b>External sector</b>					
Export volumes	-0.2	6.4	0.9	1.4	3.4
Oil	0.1	7.0	-8.5	-2.1	0.7
Gas	-11.3	6.5	1.7	-0.8	0.1
Non-energy	4.1	-7.9	11.2	5.8	6.9
Import volumes	-8.0	-25.2	1.6	2.8	3.8
	(Billions of U.S. dollars: unless otherwise indicated)				
<b>External sector</b>					
Total merchandise exports, fob	496.8	341.5	281.7	330.4	339.1
Total merchandise imports, fob	-307.9	-193.0	-191.7	-203.1	-213.7
External current account	57.5	68.9	25.0	44.0	48.9
External current account (in percent of GDP)	2.8	5.0	1.9	2.9	3.2
Gross international reserves	496.8	341.5	281.7	330.4	339.1
Billions of U.S. dollars	385.5	368.4	377.7	395.3	412.6
Months of imports <sup>2</sup>	10.8	15.7	17.0	16.8	16.7
Percent of short-term debt	302	450	419	391	417
<i>Memorandum items:</i>					
Nominal GDP (billions of U.S.D)	2,064	1,366	1,283	1,498	1,551
Exchange rate (rubles per U.S.D., period average)	38.4	60.9	...	...	...
World oil price (U.S.D. per barrel)	96.2	50.8	42.8	51.9	52.0
Real effective exchange rate (average percent change)	-8.5	-17.4	...	...	...
Sources: Russian authorities; and IMF staff estimates.					
1/ Cash basis.					
2/ In months of imports of goods and non-factor services.					



# RUSSIAN FEDERATION

## STAFF REPORT FOR THE 2017 ARTICLE IV CONSULTATION

June 15, 2017

### KEY ISSUES

**Context.** After two years of recession, the economy is recovering due to higher oil prices and improved sentiment, amid tight fiscal and monetary policies. Medium-term prospects are nonetheless subdued given the expected stability of oil prices over the forecasting period and a structurally weak economy. Structural reforms over the past year consisted of a high profile partial privatization and other small measures.

**Near-term macroeconomic policy mix.** The pace of fiscal consolidation is appropriate, given the recovery and persistently lower oil prices compared to the recent past, but it should be supported with targeted, growth-friendly, durable measures, underpinned by a new fiscal rule. Although the inflation objective is practically met, monetary policy easing should proceed at a gradual pace given the risk that disinflation would reverse. Financial sector policies should continue implementing last year's Financial Sector Assessment Program (FSAP) recommendations to enhance the institutional framework.

**Medium-term structural policy challenges.** Policies need to harness tailwinds from stable oil prices while seeking to reduce oil dependency. A fiscal rule that would generate sufficient savings while providing flexibility in the face of volatile oil prices is needed, not only to anchor fiscal consolidation but also to contain Dutch disease. Banking sector clean up should continue to support financial deepening and confidence. Finally, rekindling the structural reform agenda to support new sources of growth and develop a broader and more sophisticated product and export mix remains key to improve Russia's growth potential and accelerate convergence towards advanced economy per capita income levels.

Approved By  
**Philip Gerson and  
 Vikram Haksar**

Discussions for the 2017 Article IV consultation were held in Moscow during May 10–20. The mission comprised Mr. Ramirez Rigo (Head), Mses. Kyobe and Taheri Sanjani, and Mr. Belhocine (all EUR), Mr. Culiuc (SPR), Mr. Saiyid (MCM), Mr. El Khoury (LEG) and Mr. Di Bella (Res. Rep.). Mses. Dynnikova (local senior economist) and Chebotareva (local economist) assisted the mission. Mr. Mozhin, Executive Director, participated in the discussions. The mission met with Minister of Finance Siluanov, Minister of Economy Oreshkin, Central Bank Governor Nabiullina, other senior officials and representatives of financial, academic and business institutions. Mses. Meng and Mahadewa contributed to the preparation of this report.

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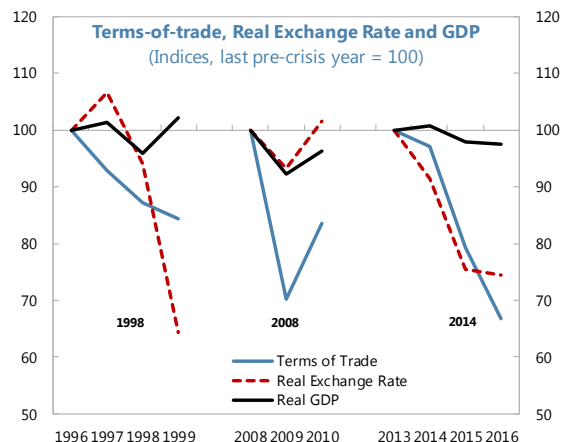
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## CONTEXT: LEVERAGING THE TAILWINDS OF HIGHER AND STABLE OIL PRICES

**1. The Russian economy proved to be more resilient than expected to the dual shocks of lower oil prices and sanctions.** Output fell sharply in 2015, by 2.8 percent (revised from an initial estimate of 3.7 percent) but stabilized in 2016, contracting by only 0.2 percent. The relatively modest response to the large external shocks reflects the authorities' effective policy response—floating exchange rate, banking system liquidity support and capital injections, and limited fiscal stimulus coupled with restrictive incomes policies—and was enabled by robust buffers.



**2. The recovery in oil prices is supporting the exit from the recession, but is accompanied by currency appreciation that could dampen prospects for rebalancing the economy.** The doubling of oil prices from a low of US\$26 pb in January 2016 to over US\$50 pb in May 2017 has laid the foundation for a recovery that is also supported by a 100 bps cut in the policy rate and a less contractionary fiscal stance than originally envisaged. The rebound of the economy gathered further momentum by end-2016 with the PMI reaching historical highs, capacity utilization increasing, unemployment falling, and real wages recovering. However, the non-commodity tradable sectors' response to the near 30 percent depreciation during 2014–2016 has been weak for the most part, and unevenly distributed across sectors, while a robust rebalancing of exports towards the non-energy tradable sector has yet to happen (Text Figure 1).

**3. The need for a new growth model to accelerate income convergence with advanced economies was visible even before external shocks hit Russia.** Slow capital accumulation since 2009, adverse demographics, and weak TFP growth had lowered potential growth in the run up to the 2014 crisis. At the time, there was broad consensus that the pre-2008 crisis growth model—based on rising oil prices and a drawdown of spare capacity—was no longer viable. Despite improvements in the World Bank Doing Business Indicators, weak property rights, poor infrastructure, and governance issues are still major constraints on growth (See [Selected Issues Papers of the 2016 Article IV](#)). Thus, convergence of per capita income to advanced economy levels has slowed considerably.

## RECENT DEVELOPMENTS

**4. The economic recovery is gaining pace (Figure 1).** In 2017Q1, GDP expanded by 0.5 percent y-o-y (0.3 percent y-o-y in 2016Q4), supported by an acceleration in consumption and



investment. An improvement in credit demand from households, particularly for mortgage loans—benefitting from a combination of a government subsidy program and easing inflation—is supporting credit growth, which reached 2.5 percent y-o-y in March 2017. A negative output gap, ruble appreciation and declining food prices from a strong harvest, have contributed to decreasing inflation, which reached 4.1 percent in April, down from 7.2 percent a year before.

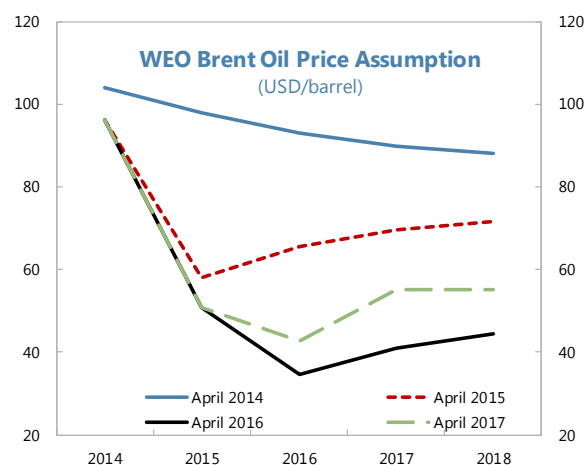
**5. The current account surplus declined as the recovery eased import compression, while the financial account strengthened as investor confidence improved (Figure 2).** A further drop in oil prices during the first quarter of 2016 led to a strong decline in export receipts in early 2016. With import compression stabilizing, the current account shrank from 5.1 percent of GDP in 2015 to 1.7 percent at end-2016. Accommodative monetary policies in major economies have supported capital inflows into local government debt, while more Russian companies were successful in tapping external markets than before, supporting the shrinking of the capital account deficit. Following the bottoming out of oil prices and the decline in economic uncertainty, the average REER over 2016 appreciated by 24 percent as of February 2017, and is now estimated by staff to be moderately overvalued, implying an external position in 2016 that was moderately weaker than suggested by medium-term fundamentals (see ESR, Annex II).

## OUTLOOK AND RISKS

**6. Higher oil prices, easier financial conditions and improving confidence will support the economy in 2017.** GDP is forecast to grow by 1.4

percent. The recovery should gain steam as oil prices are projected to stabilize and remain relatively high (US\$55pb on average over the medium-term, compared to the US\$26 low in 2016), real wages are recovering, the banking system has stabilized, and corporate profits have continued to improve. In addition, with financial conditions easing and confidence strengthening, the stage is set for a pick-up in investment and consumption. Thus, domestic demand is expected to support GDP growth while net exports'

contribution will diminish due to rapidly recovering imports and a weak response of the non-energy export sector to the 2014–2016 ruble depreciation. Inflation is expected to continue declining, driven by the ruble appreciation and falling inflation expectations in the context of a small negative output gap of about ½ percent.<sup>1</sup>



<sup>1</sup> There remains considerable uncertainty over the size of the output gap, in part due to the difficulty in assessing the structural versus cyclical component of the terms-of-trade shock and the relatively frequent data revisions.

**7. However, medium-term prospects are subdued.** Unlike in past oil price recoveries, fiscal policy is expected to provide little impetus to domestic demand and is likely to maintain a tight stance on income policies. Thus, the recovery of private consumption will be muted. In addition, the lingering effects of sanctions will dampen the potential for accelerating investment growth. Furthermore, with adverse demographics, and under the assumption of no structural reforms to increase productivity growth, potential growth is likely to linger at about 1½ percent over the medium term.

**8. Short-term risks have declined.** Risks to the outlook from persistently lower oil prices have diminished as production cuts by OPEC and other major oil producers seem to be sustained (RAM, Annex III). Higher Fed rates are not expected to negatively affect local markets: the interest rate differential that motivates carry trade is large; international financial markets remain relatively closed to Russian private entities; and most corporates have enough foreign exchange to cover their short term external debt obligations.<sup>2</sup> In addition, buffers are large: reserves stood at 206 percent of the Fund's adequacy metric adjusted for the impact of commodities at end-2016, public debt is low, and the current account is in surplus. However, a flare up in geopolitical tensions, a significant slowdown in China, continued drop in investment due to the lack of structural reforms or a slower than expected banking system recovery could negatively affect the pace of the recovery and medium-term prospects.

### ***Authorities' Views***

**9. The authorities agreed with staff that 2017 will be a recovery year and that risks have declined.** The Ministry of Finance and Ministry of Economic Development expect growth to reach 2 percent in 2017 while the Central Bank had a slightly less optimistic outlook with growth in the range of 1-1½ percent. They thought that investment had probably grown in Q1 despite still contracting construction activity. They expect the recovery in consumption to be driven by falling inflation, easing financial conditions and improved confidence. They believe that in the absence of structural reforms, growth prospects would remain subdued. They agreed with staff's estimate of a small negative output gap of about ½ percent, while noting the large uncertainty in measuring the slack in the economy. They also believed that risks to the economy have diminished given that the flexible exchange rate cushions the economy against volatile oil prices, while the recent banking sector external deleveraging and the gradual de-dollarization of the economy would reduce the impact of future external shocks on households and corporates. Finally, the Central Bank estimates that the ruble is overvalued by 5 to 9 percent.

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<sup>2</sup> The authorities' requirement on the five large SOEs to maintain the size of their net foreign assets no greater than the level of Q4 2014 (a capital flow management measure) was removed.

## POLICY DISCUSSIONS: SOWING THE SEEDS OF A STRONG, DURABLE RECOVERY

*The discussions focused on policies needed to harness the tailwinds from higher oil prices and accelerate the necessary reforms to lay the basis for a growth model that is less dependent on oil. There are four priorities: (i) introducing a fiscal rule that anchors consolidation, generates sufficient savings, dampens the impact of oil price volatility on the economy and contains Dutch disease; (ii) reaching the 4 percent inflation target while continuing with gradual monetary policy easing as the inflation objective is within reach; (iii) pursuing the current financial sector reforms to foster financial deepening and support growth; and (iv) advancing decisively on the structural reform agenda to improve potential growth and rebalance the economy toward non-commodity tradable sectors.*

### A. Fiscal Policy: Underpinning Consolidation with Lasting Measures

**10. The authorities approved an ambitious medium term fiscal adjustment program (Figure 3).** The 2017–19 federal budget approved in November 2016 marks the revival of the three-year budgeting framework—suspended after the oil price shock—and incorporates conservative spending and revenue assumptions. It assumes an oil price of US\$ 40 pb, targets about a 1 percentage point of GDP yearly reduction in the overall budget deficit, and relies mostly on a nominal spending freeze and temporary revenue measures to implement the adjustment. Spending ceilings assume that rising pensions and social payments (indexed to inflation) and higher debt service are offset by cuts to defense and other spending items of 6 and 9 percent, respectively, per year. On the revenue side, measures include increasing dividend payouts of state owned enterprises to 50 percent of their profits and higher excise and mineral extraction taxes, yielding up to 1 percent of GDP per year.

**11. The authorities amended the 2017 budget in May to target a lower deficit.** The budget deficit has been revised to 2.1 percent of GDP from 3.2 percent in the original budget. Non-oil revenue collections in 2017Q1 were well ahead of budget projections with higher VAT collections from improved tax administration and higher one-off revenues. Three-quarters of the additional non-oil revenues will be spent in 2017. The authorities aim to keep unchanged the annual reduction in the non-oil primary structural deficit over 2017–2019 at around 1 percentage point of GDP.<sup>3</sup>

**12. A new mechanism to save oil revenues was announced in February.** The Ministry of Finance (MoF) implemented a new mechanism to save the difference between actual oil revenues and those that would have accrued had the budgeted price prevailed. The mechanism is supposed to be symmetric around the benchmark price of US\$40 pb. The MoF purchases/sells the corresponding FX amount on the market and deposits/withdraws it in/from the Reserve Fund (RF). The daily purchases have amounted to US\$70–100 million in February and March, which is relatively small

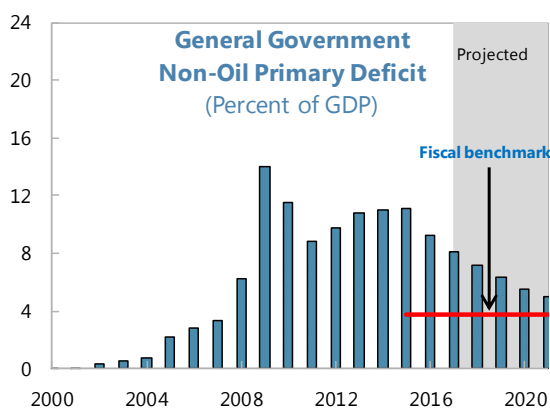
<sup>3</sup> The underlying fiscal adjustment is measured by the change in the non-oil primary structural balance.

compared to the average daily FX turnover in the spot market (US\$3–5 billion). The MoF sees this mechanism as a way to preserve, and eventually replenish, the RF—so long as the budgeted oil price is below market prices on average—which would have otherwise been depleted, and thereby smooth the economic impact of swings in oil prices.

**13. The authorities are designing a new fiscal rule.** The previous rule failed to ensure a sufficiently rapid adjustment to the sharp drop in oil prices and was therefore suspended in 2015. The authorities plan to introduce a new rule, effective in 2019, when the budget will be close to balance. Discussions of a new rule center on a fixed (real) oil price benchmark of US\$40 pb—instead of a backward-looking price formula as in the previous rule—and a zero-primary balance target at the benchmark oil price, versus a 1 percent overall deficit under the old rule.<sup>4</sup>

**14. Staff agreed with the pace of adjustment but advocated for better quality fiscal measures to protect growth enhancing spending.** Because the recovery is gaining momentum, the balanced fiscal adjustment path over the next three years is appropriate; it will allow a steady adjustment to permanently lower oil prices and to rebuild buffers in the face of potentially volatile oil prices, even if some fiscal space exists from the low debt level and the limited financing needs. The authorities' macroeconomic forecast implies reaching a primary surplus by 2019, getting closer to a benchmark fiscal position that staff views as consistent with intergenerational equity (See [Selected Issues Paper of the 2015 AIV](#)). Ensuring that the burden of the adjustment is equitably distributed and that it does not impact spending on education, health, and infrastructure requires a comprehensive review of spending priorities. The focus should be placed on subsidies, social programs, pension payments and regional transfers (See Box 2)—as more than half of budget spending is dedicated to these items. Staff reiterated that the fiscal adjustment should be based on more permanent and better targeted measures (e.g., improving the targeting of social assistance programs), ideally with low multipliers in the short-term to limit the impact on growth (e.g., reductions in energy subsidies). Lastly, a parametric reform of the pension system could deliver increased fiscal savings over time.

**15. Staff supported a reinstatement of a fiscal rule but encouraged a higher level of savings and argued for an oil benchmark that would adjust to persistent oil price changes.** Even though the FX purchase program is pre-announced and predictable, it is short of a fiscal rule. Staff views this mechanism as a short-term tool to replenish fiscal buffers and to improve predictability of fiscal policy by ensuring that excess oil revenues are saved rather than



<sup>4</sup> The choice of US\$40 pb is the 50-year average of oil prices. The oil price benchmark is in real US\$ 2016 terms and would nominally increase with U.S. inflation.

spent. Although the broad principles of the fiscal rule under consideration are appropriate, two operational aspects could be revisited (See Box 1): (i) introducing flexibility in the oil price benchmark by including oil future prices to allow for a faster, rule-based adjustment of fiscal policy to persistent oil price developments, thus avoiding the need to suspend the rule when faced with pressures to increase spending during an oil price boom, or when market pressures constrain financing during an oil price downturn (See [Macroeconomic Policy Frameworks for Resource-Rich Developing Countries](#)); and (ii) increasing the savings generated by the proposed fiscal rule given that Russia's projected non-oil primary deficits by 2019 will be about 1–2 percent of GDP short of meeting the fiscal benchmark suggested by intergenerational equity. An additional target on expenditure growth could help further limit pro-cyclical fiscal policies, especially with respect to non-oil revenues. As an alternative, once the macroeconomic data are more rich, adjusting non-oil revenues to the economic cycle could be also considered.

### ***Authorities' Views***

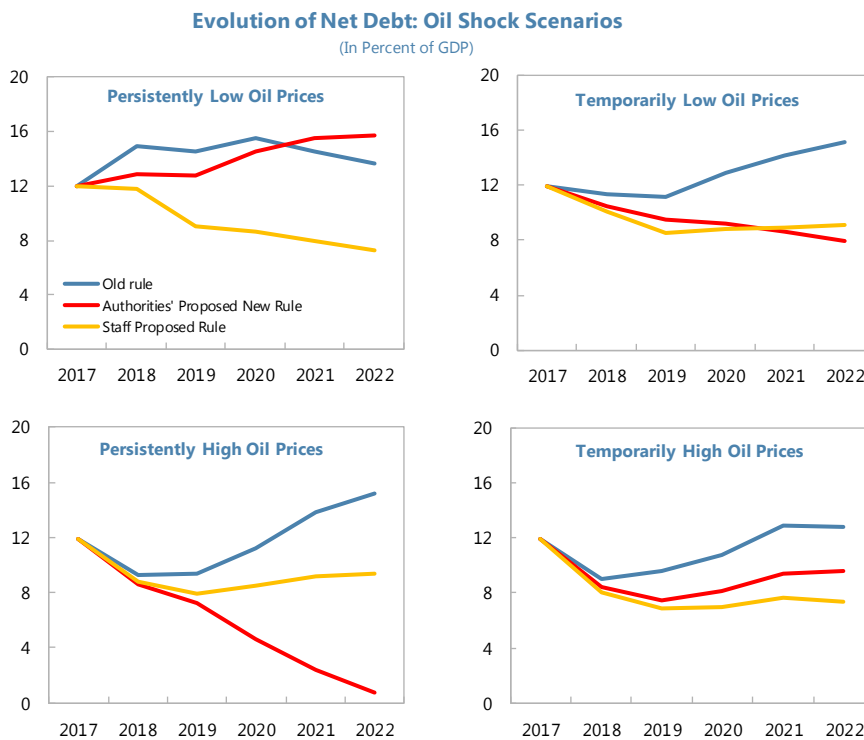
**16. The authorities are committed to fiscal consolidation.** They view their amended 2017 budget as a clear signal that consolidation will continue even in the face of higher oil prices. They noted efforts to increase tax collection by reducing informality were yielding dividends. They emphasized their ongoing efforts to find appropriate consolidation measures, including means-testing of social benefits. They viewed that the fiscal rule would not only provide a fiscal anchor, but more importantly would shield the budget from volatile fluctuations in oil prices and dampen their impact on the economy. They believe a fiscal rule with a fixed oil price (in real terms) is simpler, more transparent and easier to communicate. Instead of a flexible oil price benchmark, they are considering escape clauses in the event of persistently low oil prices—capping withdrawals from the reserve fund when savings reach a certain threshold—to prevent a depletion of savings. They acknowledged, however, that this mechanism might not be strictly binding as it does not include a constraint on borrowing. While confirming pension reform could only happen sometime after presidential elections, they discussed three sets of measures that could be considered: (i) increasing and equalizing statutory retirement ages; (ii) reducing early retirement benefits; and (iii) curtailing pension benefits for pensioners below the mandatory retirement age. They agreed that fiscal policy at the federal level should be designed to support the development of regional tax bases and noted they have started developing incentives to encourage regions to generate higher own revenues.

### Box 1. Evaluating Russia’s New Proposed Fiscal Rule

We evaluate the authorities proposed new fiscal rule against alternative fiscal rules: the authorities’ old rule which was abandoned in 2015 as it did not allow for a sufficient or timely adjustment to permanently lower oil prices; and Staff’s proposed rule which makes two modifications to the old rule: i) targeting a 1 percent of GDP budget surplus (rather than a primary balance) and ii) allowing the benchmark oil price to adjust to persistent oil price changes using futures prices (instead of a fixed oil price).<sup>1</sup>

The IMF Flexible System of Global Models is used to simulate fiscal and macroeconomic outcomes under the three fiscal rules and

different oil price shocks. The simulation shows that the authorities’ proposed new rule appropriately builds up the nearly depleted reserve fund under a scenario where oil prices are as in the baseline and where oil prices are persistently higher than the US\$40 pb benchmark. However, should oil prices be persistently lower than the US\$40 pb benchmark, the new rule results in lower savings compared to



Source: IMF staff estimates.

Staff’s proposed rule. Simulations illustrate that savings can be achieved through a more stringent fiscal target as in Staff’s proposal, a more credible option, instead of an inflexible conservative benchmark that risks the fiscal rule being abandoned should oil prices be persistently below or above the benchmark price. Moreover, both staff and authorities’ proposed rules perform equally well in shielding the economy from volatile oil prices, with no discernible difference among the rules in their impact on growth and the real effective exchange rate. Finally, the simulation validates the reason for abandoning the old rule, since it would have led to the lowest savings and highest spending in the period of high oil prices and to a large fiscal stimulus in the face of persistent low oil prices, quickly depleting reserve buffers and increasing debt.

<sup>1</sup> See Selected Issues Paper, “Evaluating Russia’s Fiscal Rule.”

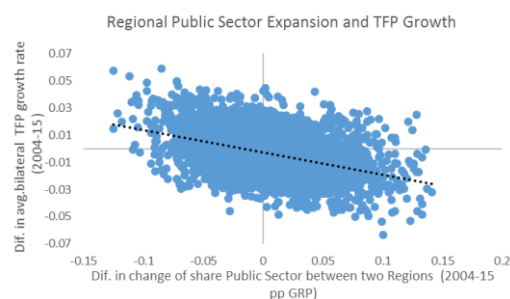
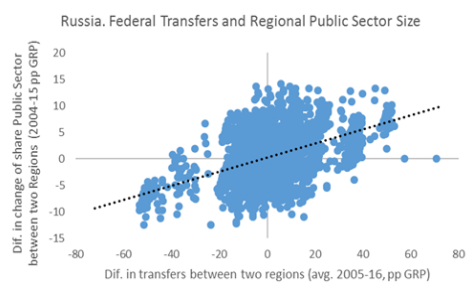
## Box 2. Fiscal Federalism and Regional Economic Performance

Staff analyzed the economic performance of regions in relation to the support provided by the federal government.<sup>1</sup> The main building blocks of Russia's fiscal federalism are a relatively centralized tax authority and a complex system of federal transfers. These transfers aim to reduce large cross-regional dispersion of fiscal revenues. Staff found that transfers have been effective in supporting factor accumulation in lower per capita income regions and in reducing cross regional disparities in real per capita spending in education and health. In addition, regions receiving higher transfers have generally shown larger investment-to-Gross Regional Product (GRP) ratios.

Nonetheless, federal transfers have been less effective in supporting self-sustaining GRP growth and productivity increases. While transfers pushed up regional growth through the expansion of public sector services (which expanded more in regions receiving higher federal transfers), they resulted in lower real per capita growth. This result is supported by an estimation of a system of simultaneous equations that allows for interactions between per capita GRP growth, GRP structure and transfers. Faster growth in physical and human capital together with lower per capita growth suggests lower TFP growth. This is confirmed by growth accounting exercises for 79 regions: productivity grew at lower annual rates in regions receiving relatively high levels of federal transfers. Accordingly, large cross-regional differences in the ratio of own fiscal revenues-to-expenditures have persisted and so have the associated dependence on federal transfers.

Regional dependence on transfers will likely continue, which calls for revisiting strategic objectives considering that regions receiving transfers grew less than others. The solution does not lie, however, in sudden decreases or reallocation of transfers, as these would create disruptions, while complete elimination of regional dispersion is an unrealistic goal. Rather, policies should consider the fiscal sustainability of regions together with the current equalization objective.

Fiscal policy at the federal level should support the development of regional tax bases since open-ended transfers may have weakened regional incentives to enlarge their tax bases, supporting a pattern of dependence. Expanding the use of personal property taxes, which currently represent only 0.4 percent of the consolidated revenues of regions would strengthen regional tax bases and improve regional sustainability and accountability. In addition, a well-designed fiscal rule would dampen the volatility of oil prices on the real exchange rate with positive spillovers for lower per-capita income regions where agriculture represents a larger share of GRP. Finally, rebalancing domestic taxes in favor of lower labor taxes should support decreases in informality that are more predominant in low per-capita income regions.



<sup>1</sup> See Selected Issues Paper, "Fiscal Federalism and Regional Economic Performance."



## B. Monetary Policy: Gradual Easing

**17. Monetary policy easing has resumed (Figure 4).** After staying on hold for half-a-year, the Central Bank of Russia (CBR) resumed its easing cycle in March, cutting its policy rate by a cumulative 75bps to 9.25 percent. The inflation target of 4 percent has been practically met as inflation fell to 4.1 percent in April due to weak consumption demand, strengthening of the ruble and lower food prices from a bumper harvest. Even though core inflation has continued to decelerate, the CBR remains concerned that disinflation could unwind quickly, especially in the context of a moderately overvalued exchange rate—jeopardizing the achievement of the 4 percent inflation target by end-year. The authorities have started work on communicating a medium-term inflation target—around the parameters of an acceptable deviation from target and over what horizon—while being mindful of the need to keep inflation expectations anchored.

**18. Staff recommended that further monetary easing should continue at a gradual pace given risks to the inflation outlook.** Staff estimates that the current stance is tight given that the gap between the current policy rate and the estimated neutral rate is around 2–3.5 percentage points. In addition, conditions for further disinflation remain largely in place due to a negative, albeit small, output gap, and slowly recovering consumption amid a tight fiscal policy stance. Also, sequential inflation points towards a deceleration in core inflation that is consistent with achieving or even undershooting the inflation target. However, staff advised a gradual pace of monetary easing given: the risks that inflation expectations remain above the CBR inflation target; the uncertain pace of the recovery especially in the context of volatile oil prices; the tightening labor market—the slope of the core inflation Philips curve is expected to increase with the economic recovery underway (See Box 3); and importantly, the potential reversal of the ruble overvaluation, which might be in part driven by the current tight monetary stance.

**19. Staff recommended that the CBR shift its communication strategy to a horizon beyond end-year.** So far, the CBR has put major emphasis on the attainment of a 4 percent inflation target by end-2017 and communication has been mostly focused on this objective. Staff argued that the CBR shifts its communication beyond the attainment of the 4 percent objective by end-year and provide more clarity as to what it means to keep inflation at 4 percent afterward. Staff also pointed out that attempting to keep inflation at the target under all circumstances may cause undesirable volatility in output. Staff recommended that the CBR elaborate on its medium-term target by either defining a horizon over which it plans to hit its target, or referring to its inflation horizon objective as an average over the medium-term.

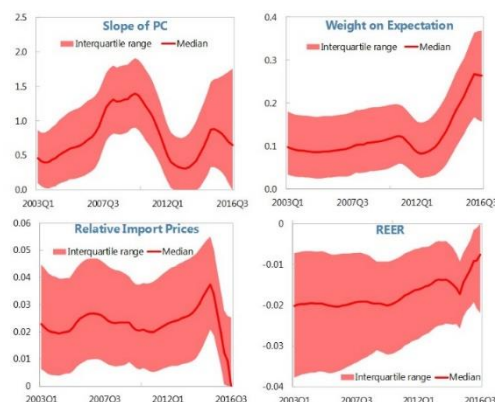


### Box 3. Russia's Core Inflation Philips Curve: A Time-Varying Approach

Since the 2014 crisis, the combination of muted unemployment and volatile inflation has raised questions as to whether the nature of cyclical unemployment and the inflation trade-off has changed in Russia.<sup>1</sup> Particularly, has the Phillips curve (PC) disappeared or has it changed over time? We answer this question by estimating a hybrid New Keynesian Phillips curve for Russia core inflation with time varying coefficients.

The time-varying feature of the model helps policy makers to understand how the importance of various variables that explain core inflation have evolved over time. We employ a multivariate model to explain inflation over the period 2000Q1 to 2016Q3. We compare our findings to bivariate estimations of the relationship between different measures of inflation and slack. We find that a hybrid NK model of the Phillips curve better explains the transmission channels as it explicitly accounts for the role of imported inflation and the exchange rate, whereas a bivariate specification of the relationship can be misleading—with a slope that differs depending on the state of the business cycle, and across different measures of inflation.

The slope of the Phillips curve is expected to increase with the economic recovery underway. The impact of cyclical unemployment on core inflation varies over time and its slope tends to increase during normal-times and to decrease in the aftermath of a crisis. The weight on inflation expectations in the Phillips curve has increased recently, likely due to the introduction of a credible IT regime. Our results illustrate that while the coefficient of REER have been small and stable overtime, the importance of import price inflation has increased until recently, consistent with rising import penetration and globalization. Since the onset of the sanctions the elasticity of the response of core inflation to import prices inflation has declined.



Sources: Haver Analytics; and IMF staff calculations.

<sup>1</sup> See Selected Issues Paper, "Putting the Curve back in Russia's Philips Curve: A Time-varying Approach".

### Authorities' Views

**20. The authorities agreed with the need for a gradual easing of monetary policy.** They highlighted that faster disinflation than originally forecasted was driven by ruble appreciation, a bumper harvest, and still weak consumer demand. They still viewed the ruble as vulnerable to volatile capital flows and oil prices, including due to uncertainty over the renewal of the OPEC production agreement. Given that these factors are unpredictable and could easily reverse, a cautious monetary policy easing approach was necessary to continue anchoring inflation expectations while the moderately tight monetary stance was being gradually relaxed, even if this meant undershooting slightly the end-year target. As for communicating a medium-term target, the CBR indicated that it aims to lower interest rate volatility—ultimately creating more predictable conditions for less output volatility—by allowing inflation to deviate slightly from target and that it is working on defining

acceptable deviation parameters together with a horizon over which it plans to meet the inflation target. They plan to release these details in September.

### C. Macro-Financial: Pursuing Reforms to Foster the Sector's Contribution to Growth

#### 21. The banking sector's performance has been improving over the past year (Figure 5).

Banks' deposit funding has experienced healthy growth and the banking system is now in a structural liquidity surplus. Lending activity stopped contracting in Q4 for the retail segment and remained positive, albeit weak and stagnating, for the overall economy, with loan volume growth averaging 2 percent annually since early 2016. Banks' profitability is increasing—although it varies greatly across banks—on the back of higher net interest margins and lower provisioning on stabilized NPLs, which after rising for two years have settled at around 9.5 percent. The Capital Adequacy Ratio remained stable overall and increased moderately in the past few months to around 13 percent, against a regulatory minimum of 8 percent, with a Common Equity Tier 1 (CET1) ratio of 9.2 percent in relation to a phased-in Basel III capital requirement of 4.5 percent. The CBR closed 110 credit institutions in 2016, compared to 101 in 2015, continuing to target mostly small banks that are weak and/or involved in dubious transactions, bringing the number of total credit institutions to 616, from 923 at end-2013.

#### 22. Macro-financial risks declined as the economy has adjusted to lower oil prices (Figure 6).

Profitability of the tradable and the non-tradable sectors has picked up on the back of improving economic activity and higher oil prices. Both ruble- and FX-denominated corporate overdue loans have stabilized and are even falling in some corporate sectors that experienced increased credit risks in the past two years, such as construction and retail trade. Corporate and bank FX risks in the short-term remain low as their short-term liabilities are sufficiently covered by their liquid external assets. Corporate deleveraging over the past two years improved balance sheets while borrowing domestically and externally remained relatively stable, although as much as 10 percent of corporates may have less than full coverage of interest servicing costs with earnings.<sup>5</sup>

**23. The authorities have taken actions to support financial stability.** The CBR has initiated some elements of an Asset Quality Review, through the newly created Risk Assessment Department, for the entire banking system, and the review is expected to be completed by end-2018. The Central Bank also tightened macroprudential requirements to reduce dollarization by setting higher capital risk weights for FX lending by banks to unhedged borrowers; strengthened stress-testing by adjusting for potential misclassification of loans and linked the stress-test results to supervisory action; established a tiered supervisory framework for banks; and defined a capital surcharge for ten domestic systemically important banks. Other measures incorporated elements of FSAP recommendations, including on the AML/CFT. However, the AML/CFT framework needs further strengthening by upgrading the definition of politically exposed persons in line with international

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<sup>5</sup>See [IMF Global Financial Stability Report, April 2017](#).

standards and improving the transparency of legal persons by making the beneficial ownership information available (See Annex IV).

**24. The authorities introduced a law amending the current bank resolution framework.**

Effective from mid-June, the legislation modifies and replaces the open bank resolution framework operated by the Deposit Insurance Agency (DIA) with one operated by the CBR. It will allow the CBR to provide an equity capital injection but only after wiping out shareholders' equity capital, rather than extending a loan below-market rates via the DIA. A limited amount of bail-in is possible, for subordinated liabilities held by individuals who are managers or/and exercise control over the bank. The new law creates a Bank Consolidation Fund (BCF), financed and managed by the CBR, to provide resolution funding. It BCF does not carry an explicit arrangement for federal government funding and its size would be determined on a case-by-case basis. Finally, the CBR will take majority control of the DIA's board of directors to better oversee the restructuring of the 27 banks that are currently undergoing open bank resolutions.

**25. While CBR-administered open bank resolution framework has some positive features, it is not yet consistent with international standards.**

The decision to replace below-market rate loans with direct capital injection should reduce balance sheet encumbrance, remove disincentives to expedite resolution of problem loans and shorten the process of open bank resolution. However, the reform falls short of Russia's G20 commitment to implement the Financial Stability Board's Key Attributes. In addition, there are still some shortcomings in the mechanism. First, the new law does not replace CBR funding by federal government funds while the budget would incur an indirect cost through lower CBR profits—which is not recognized explicitly. Second, the modified bank resolution procedure has no provision for statutory bail-in, increasing the cost of intervention for the state. Third, despite CBR support, purchase and assumption (P&A) transactions likely remain unattractive to investors because the new law requires asset transfers to occur at book value. All assets—good and bad—must be acquired and some of the large banks are already absorbing past acquisitions of problem banks. Staff argued that the removal of impediments to P&A would enable a bridge bank transaction, with temporary government acquisition of the good assets and liabilities of the resolved bank at market value, along with the creation of a run-off entity for bad assets which might increase the chances of P&A transactions in future.

***Authorities' Views***

**26. The authorities indicated that the new resolution mechanism is an improvement over the previous framework.**

The previous mechanism for bank resolution was discontinued for two reasons: (i) it had become expensive as market interest rates declined; and (ii) it created opportunities in P&A transactions of acquiring banks to fraudulently pool their own bad assets with those of the institution being resolved. The authorities argued that P&A transactions are unlikely to occur soon as it is difficult to find buyers within the domestic banking system—some large banks are already in the process of absorbing failed institutions. They also think it is appropriate to continue using CBR funds in resolution for now as it provides a faster mechanism to intervene. They believe that asset transfers from failing institutions to acquiring banks should remain at book value because

of concerns about potential for abuse in assessments of their market valuation. Finally, the authorities agreed that enhancing the AML/CFT framework will help in deterring financial crimes. They noted legislative amendments have been prepared to upgrade the framework in line with international standards.

## D. Structural Policies: Re-kindling the Structural Reform Agenda to Lift Potential Growth

**27. The authorities have yet to implement far-reaching and long-overdue structural reforms.** They have taken some structural measures such as passing a PPP law and continuing for a third year to purge weak banks from the banking system to support financial deepening. In addition, the authorities have successfully privatized a 19.5 percent stake in Rosneft and in other, mostly small, SOEs. However, with fiscal pressures abating, the privatization agenda for 2017–2019 has been scaled back and the initial plans to partially privatize the second largest state owned bank (VTB) and an extra 10 percent of Rosneft have been postponed. The state continues to play a significant role in the economy, with a large portion of the workforce employed by the public administration or state-owned enterprises (SOEs) (See Box 4). Moreover, private firms that rely on public contracts cite burdensome government regulations (see [Selected Issues Papers, 2016](#)). Although the authorities have been considering structural reform priorities for a long time and recognize the structural impediments, no major reforms in the product and labor markets have been introduced, while pension reform has yet to be implemented.

### Box 4. Footprint of the State

The state plays a significant role in the Russian economy. A large network of corporations (counting about 64,000 at end-2016), falling into several legal definitions of unitary and joint stock companies operate in agriculture, mining and extraction, and in all the range of manufacturing and service activities including real estate and banking. Finally, more than half of total banking system assets are held by state-owned banks. Data constraints do not allow a comprehensive analysis of the potential impact of the large state involvement on the broader economy. There is no consistent time series of employment in the general government sector (at its different levels) nor across the range of enterprises in which the state has a stake.

An analysis using regional data, however, suggests that a larger footprint of the state—proxied by public sector expansions (as a share of Gross Regional Product)—is associated with lower productivity increases. Federal transfers have increased the size of regional public sectors, with a positive impact on factor accumulation but a negative impact on productivity. More generally, real per capita regional income is negatively associated with the footprint of the state (see Box 2).

**28. The significant REER depreciation during 2014-2015 has so far not led to a strong rebalancing of exports towards the non-energy tradable sectors.** Since Q3 2016, only two non-energy export sectors experienced large jumps—"machinery and equipment" and "other goods"—although a consistent trend is yet to emerge as these two categories tend to see lumpy movements (see Text Figure 1). Structural constraints (poor property rights and business regulation) and a non-diversified export basket weigh on the export response (see 2016 Article IV SIP).

Furthermore, unfavorable compositional changes in the export basket over the past 15 years—Russia's manufactured exports have become on average less sophisticated—may have further muted the response. The Russian industry may also be at a disadvantage given the lack of preferential access to large markets; Russia's only regional trade agreements (RTAs) are with much smaller neighbors whose domestic demand fell together with that of Russia. This contrasts with other emerging markets, which over the last two decades have dramatically expanded the share of global market they can reach through RTAs. Russia's relatively large domestic market compensates in part for this. But, even by the standards of other large countries, Russia's RTAs provide access to a very low share of global GDP.

**29. Staff argued that the REER depreciation has not spurred the expected pickup in the non-energy tradeable sector due to structural impediments.** The non-commodity tradable sector suffers during commodity booms but busts are generally not conducive to a rapid reversal process. Still, the reallocation of resources can be supported by flexible product and labor markets (i.e., reducing regulations and constraints that impede the movement of labor) and a deep and well-capitalized financial system that can shift credit to new sectors. Improvements in customs administrations, for example by increasing automation of processes would reduce the burden of customs procedures improving incentives for export. Additionally, preferential market access beyond the immediate neighborhood can facilitate Russia's integration into global value chains and increase potential gains from future improvements in price competitiveness (See Box 5).

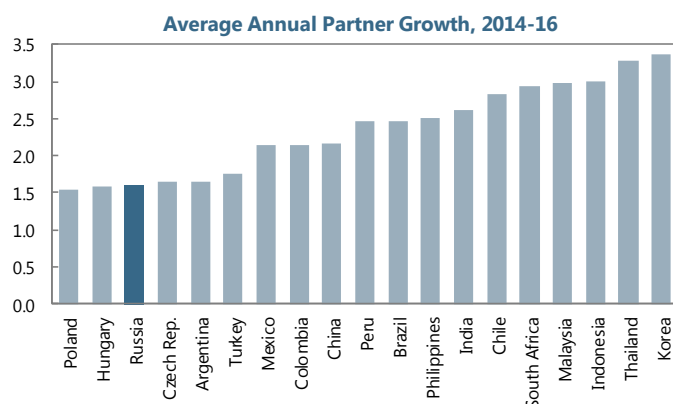
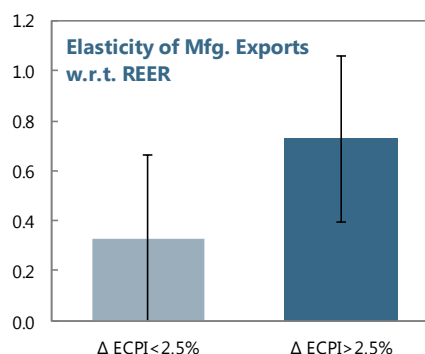
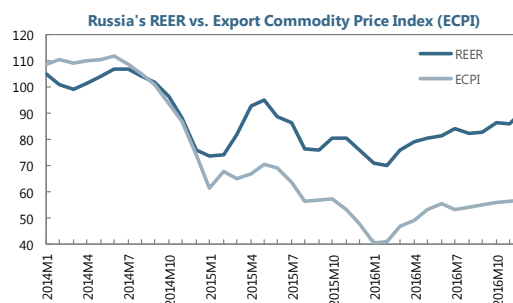
**30. Staff advocated rekindling the structural reform agenda and reiterated reform priorities.** Now that the economy is emerging from a two-year recession with an upturn in economic cycle, the structural causes of the slowdown that preceded the external shocks need to be addressed. Unless accompanied by structural reforms, the price competitiveness generated by the depreciation might not be sufficient to attract investment and thus develop a broader and more sophisticated product and export mix. Staff reiterated the views expressed in the last Article AIV Consultation and [Selected Issues Papers](#) that the priority areas included institutional improvements in property rights and governance, labor market policies, and innovation and infrastructure. Sequencing within reform priorities would favor improvements in the institutional and investment environment, as a pre-requisite to realize dividends from investing in innovation. The investment environment would also benefit from the authorities' ongoing implementation of commitments to fight financial crimes made at the May 2016 London anti-corruption summit. The authorities' ongoing efforts to expand RTAs beyond the neighboring countries are a welcome step to secure access to additional markets.

### Box 5. The Muted Response of Non-Commodity Exports to REER Depreciation

The limited response of Russia’s non-commodity tradable sector to the large real depreciation has been puzzling.<sup>1</sup> Cross-country panel regression analysis reveals that, for commodity exporters, the medium-term elasticity of manufactured exports to the REER decreases during periods of falling commodity prices (proxy by the Export Commodity Price Index (ECPI)<sup>2</sup> falling by over 2.5 percent a year) even when controlling for external demand. Thus, a commodity exporter is less likely to respond quickly to a real devaluation that coincides with a commodity price downturn.

The slower response could be due to the overall stress that the economy faces when a terms of trade shock hits, since the volatility reduces corporates’ appetite for investment while the banking system fails to finance tradable sector projects as it undergoes a period of adjustment (e.g., unhedged borrowers in the non-tradable sector slide into NPLs).

Finally, episodes of improved price competitiveness tend to coincide with lower external demand. Indeed, while the recent drop in oil prices has been linked primarily to supply factors, the economic performance of Russia’s export trading partners has been relatively poor, limiting demand for Russian exports. Russia’s non-commodity exports are concentrated on immediate neighbors: over a quarter of manufacturing exports go to CIS countries representing only 0.6 percent of global GDP. Growth in these countries is strongly correlated with that of Russia, either because some countries are also commodity exporters, or because they are themselves highly dependent on exports to/remittances from Russia.

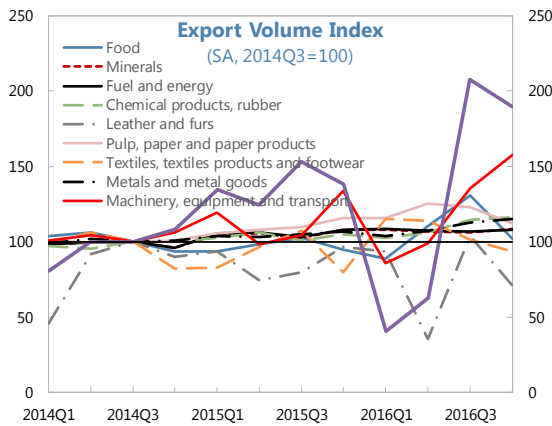


<sup>1</sup> See Selected Issues Paper, “Russia’s Non-Commodity Exports: Why The Muted Response to The Recent Devaluation?.”

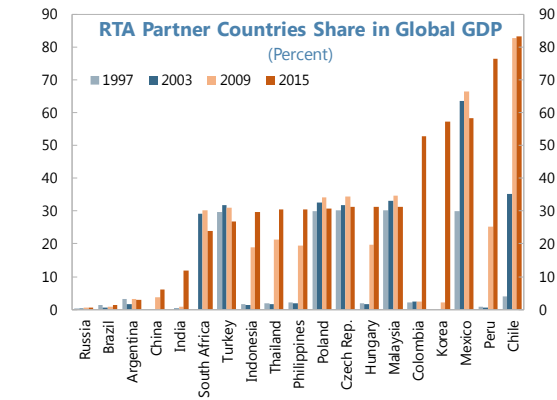
<sup>2</sup> The index is computed in Gruss, B. (2014) “[After the Boom: Commodity Prices and Economic Growth in Latin America and the Caribbean](#),” IMF Working Paper No. 14/154.

**Text Figure 1. Russia: Non-Energy Export Developments**

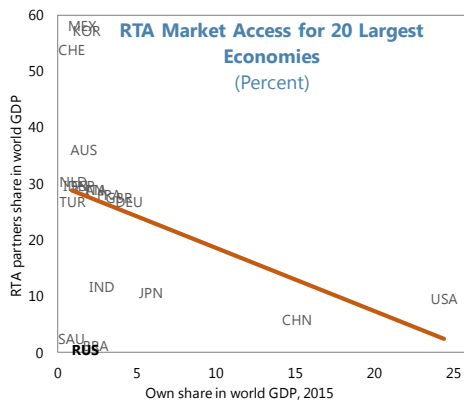
*The rebound in non-commodity exports remains volatile....*



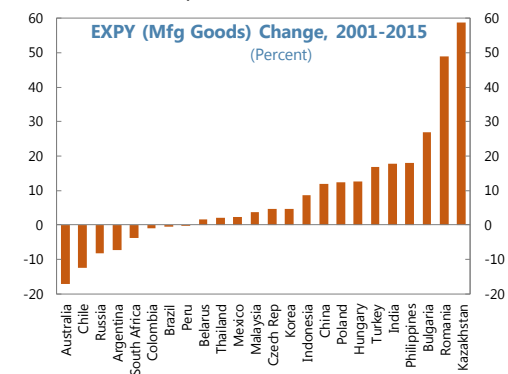
*...while Russia continues to have limited access to external markets...*



*... even when compared to other large economies ...*



*... amid a worsening in the sophistication of the manufactured export basket.*



Sources: Haver Analytics, WTO, CEPI, COMTRADE; and IMF staff calculations.

**31. Staff highlighted fiscal measures that would support non-commodity exports and medium-term growth prospects.** An appropriately designed fiscal-oil price rule would lessen the impact of oil prices on the REER and protect competitiveness from oil price volatility. In addition, there could be room for tax policy changes that would contribute to competitiveness, such as a rebalancing from labor taxes to consumption taxation (reducing social security contributions from 30 percent to 22 percent and increasing the VAT rate from 18 to 22 percent), thereby stimulating exports temporarily and helping to reduce informality in the labor market. The design of fiscal policy interaction between federal and regional governments should insure transfers do not dis-incentivize development of regional tax bases and discourage private sector development. While transfers from the federal government to the regional government have pushed up regional growth, overall they have resulted in less self-sustaining regional growth and in lower increases in productivity. More broadly, given the uncertain prospects for oil prices, a refocus of fiscal policy is needed. The first objective should be to increase non-oil revenues and to improve the balance between current and



capital spending. Shifting the composition of spending to dedicate more resources to public investments should help Russia move away from its low productivity, low investment growth model. Finally, parametric pension reform, such as increasing the statutory retirement age, could help to offset the negative demographic trend on labor markets.

### ***Authorities' Views***

#### **32. The authorities are still designing a comprehensive structural transformation strategy.**

They are considering reforms—which would address many staff-identified bottlenecks to higher potential growth—to improve the investment climate and to support technological progress and productivity gains. The authorities highlighted efforts to reform customs administration, importantly automating clearance of goods and modernizing the risk management framework to speed up customs procedures. They have approved the 2030 economic security strategy and noted a comprehensive reform agenda will be likely be implemented after the upcoming presidential elections. The authorities see early signs that, on the back of the weaker ruble, the economy has started reorienting itself towards the tradable sector, especially in the chemical industry, food processing and agricultural sectors. However, they agree that these green shoots will take some time to translate into a meaningful contribution to growth, including for reasons identified by staff.

## **STAFF APPRAISAL**

**33. The economy is exiting a two-year recession that proved shallower than past downturns.** The authorities' effective policy response, enabled by the economy's robust buffers, cushioned the shocks. Growth is expected to resume in 2017, supported by higher oil prices and improved sentiment. Short-term risks from volatile financial markets and oil prices have diminished.

**34. Medium-term prospects are subdued.** The expected stability of oil prices, at lower levels than historical highs, and a structurally weak economy—adverse demographics, lingering effects of sanctions on productivity and investment, and structural constraints—are weighing on potential growth. The depreciation of the exchange rate has so far not ignited a robust response of non-traditional industries and a new growth model that is less dependent on commodities is yet to emerge. Furthermore, the external position in 2016 was moderately weaker than suggested by medium-term fundamentals and desirable policy settings.

**35. Fiscal adjustment should be underpinned by quality measures.** The reinstatement of the three-year budget framework in the 2017–2019 federal budget is a welcome step to reduce policy uncertainty. In addition, the envisaged pace of fiscal consolidation is appropriate as it allows a steady adjustment to permanently lower oil prices in the context of a recovering economy. However, the consolidation relies on spending reductions that are not targeted. Thus, more permanent and better targeted measures should be envisaged to safeguard growth-enhancing fiscal spending and sustain the significant adjustment. Finally, a parametric reform of the pension system could deliver substantial fiscal savings over time and help ease the negative demographic trend on labor markets.



**36. A credible fiscal rule is paramount to support medium-term sustainability and mitigate the effect of oil price volatility.** Although the FX purchase program functions as a short-term tool to replenish fiscal buffers, it is short of a fiscal rule. A credible fiscal rule that anchors the deficit at an appropriate level would reduce fiscal policy uncertainty. The authorities' current fiscal rule proposal, while broadly appropriate, could be improved. The rule could be modified to allow for a smoother adjustment of fiscal policy to persistent oil price changes; and to generate more savings as Russia's current and projected non-oil primary deficits are larger than suggested by long-term fiscal benchmarks.

**37. Staff commends the CBR for having largely met its inflation target.** The monetary policy easing initiated in March was appropriate considering the inflation outlook and the decline in inflation expectations. Monetary policy remains tight and thus interest rate cuts should continue but at a gradual pace given the uncertain size of the output gap and the potential reversal of the exchange rate-driven disinflation.

**38. The CBR should shift its communication strategy to a horizon beyond end-2017.** They should elaborate on their medium-term inflation targeting framework by providing clarity as to what constitutes acceptable departures from the 4 percent inflation target and over what horizon. The CBR could consider either defining a horizon over which it plans to hit its target or refer to its inflation horizon objective as an average over the medium-term.

**39. The banking system's performance is improving and the authorities should continue with implementing last year's FSAP recommendations.** The authorities have increased the resilience of the banking system by setting limits on related-party lending, gradually reducing dollarization through macroprudential measures, and introducing a tiered supervisory framework. There is scope for further tightening the limit on related party lending over time. To enhance the supervisory framework, the authorities should accelerate the introduction of explicit early bank intervention procedures. The new resolution mechanism should shorten the process of open bank resolution and reduce balance sheet encumbrance. However, the authorities should work towards removing obstacles for effective use of P&A transactions, replacing central bank funding by federal funds, and increasing the recourse to banking industry capital. In this regard, the authorities should continue to work on statutory bail-in legislation that would factor in financial stability implications. Further strengthening the effectiveness of the AML/CFT framework, including through measures related to politically exposed persons and entity transparency, will support the authorities' efforts to address financial crimes related to tax evasion and corruption.

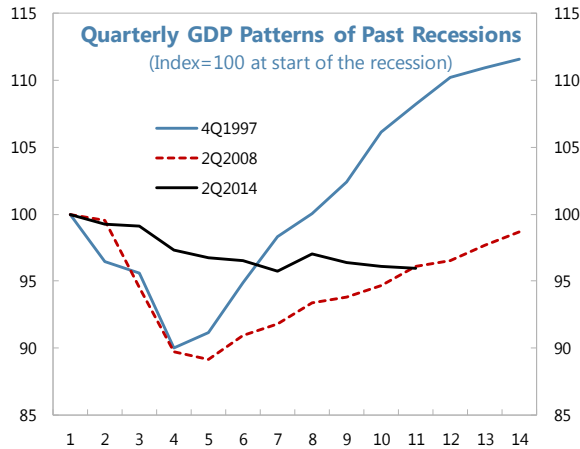
**40. Structural reforms to lift potential output and accelerate per capita income convergence with advanced economies are needed.** The authorities took some welcome steps such as passing a PPP law, privatizing some companies, and purging weak banks from the financial system. However, a wider reform agenda is needed to jump start investment, leverage the impact of the more competitive exchange rate and increase productivity. The priorities remain the areas of property rights, governance, labor market policies, innovation, and infrastructure. In addition, it is urgent to better understand and measure the channels through which the large size of the state may

be hampering economic performance. This should allow a focus of state activity in areas with positive spillovers for productivity and competition, including at the regional level. Also, strengthening regional and multilateral trade relations could allow greater penetration of foreign markets by Russian entities. Finally, pension reform, such as increasing the statutory retirement age, could help offset the impact of negative demographic trends on labor markets.

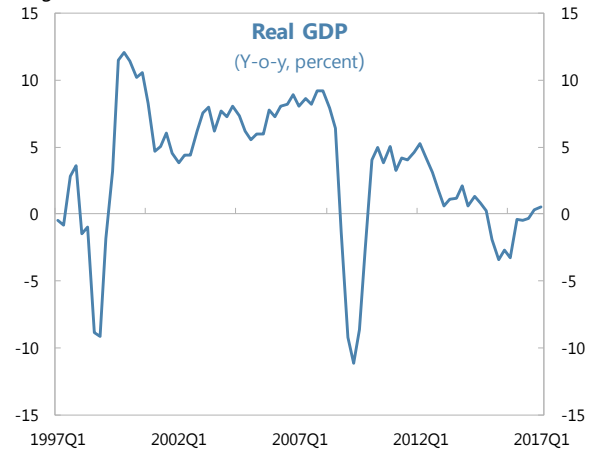
**41. The next Article IV consultation should be held on the standard 12-month cycle.**

**Figure 1. Russian Federation: Real Sector Developments, 1997–2017**

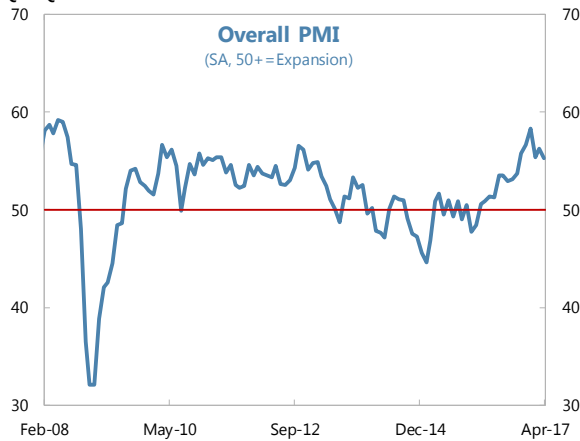
The recession has been shallower compared to previous ones...



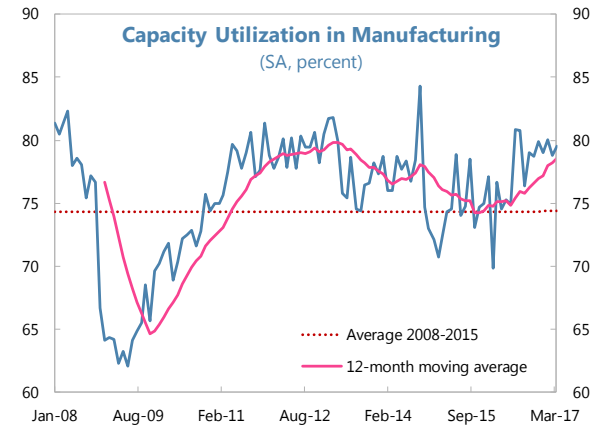
... and the economy is now recovering from its two-year long recession...



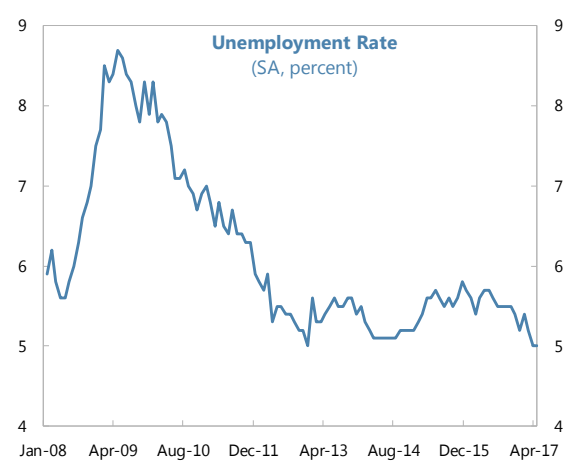
... with high frequency indicators pointing to a recovery in Q3-Q4...



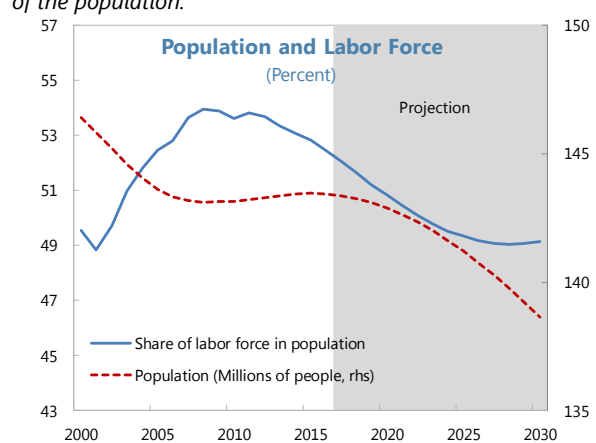
... and reduced slack with an increase in capacity utilization...



... together with a fall in unemployment...



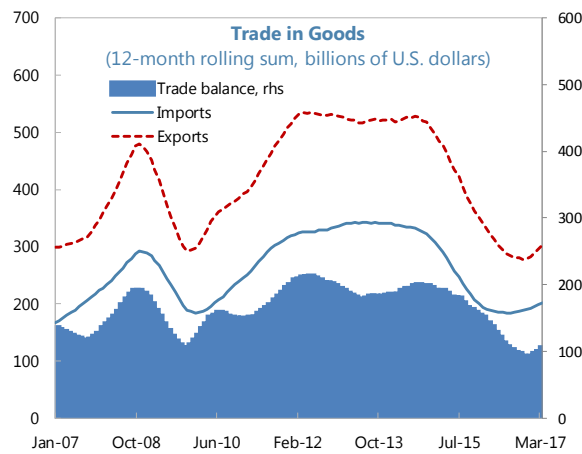
... in part reflecting structural features related to the aging of the population.



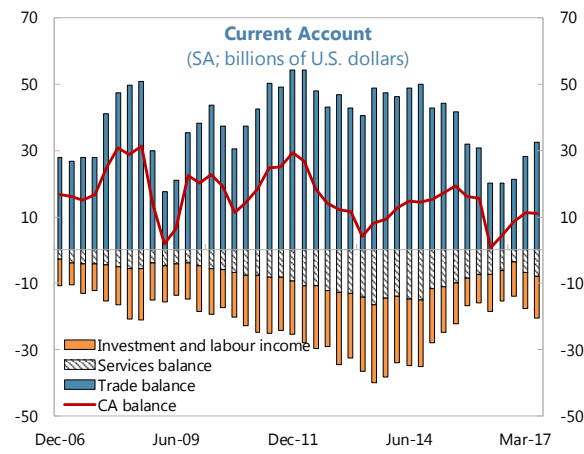
Sources: Rosstat; and IMF Staff calculations.

**Figure 2. Russian Federation: External Sector Developments, 1997–2017**

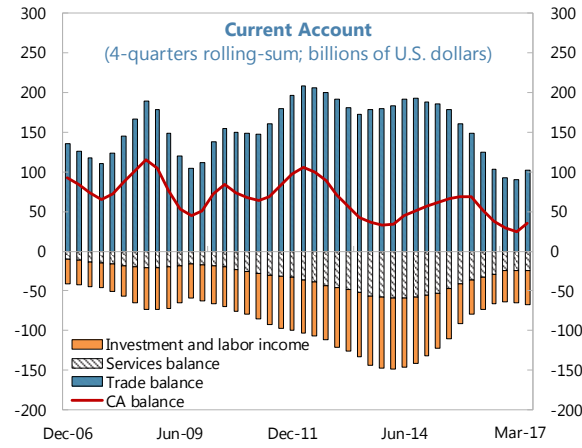
*Imports leveled off before exports stopped contracting...*



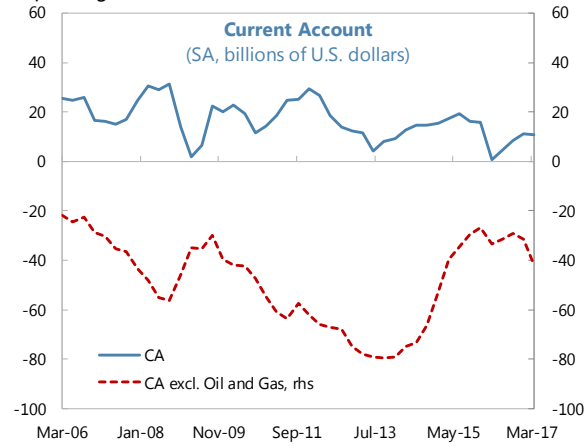
*... leading to a deterioration of the current account...*



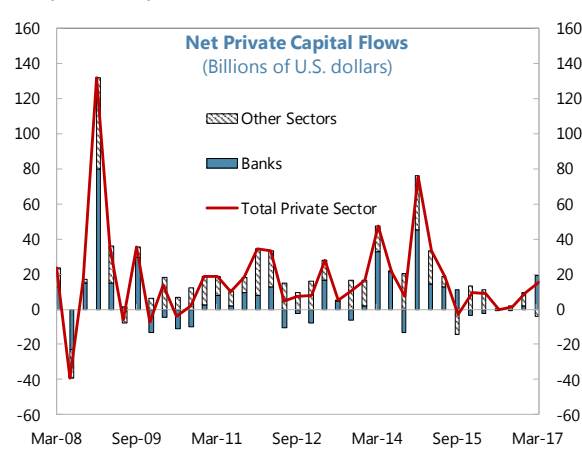
*... the trade balance is supporting the improvement in the headline CA...*



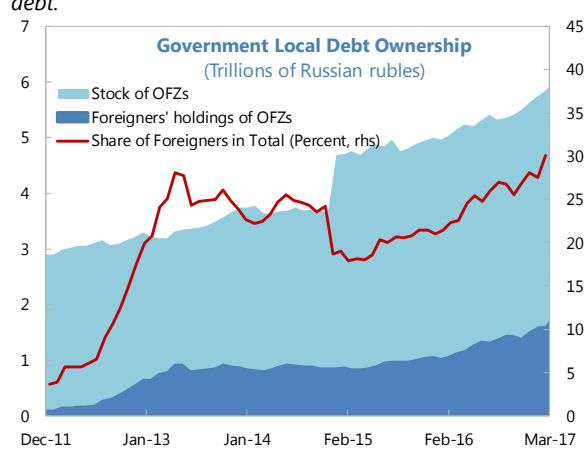
*... while the non-energy current account has stopped improving.*



*Net private capital outflows have declined...*



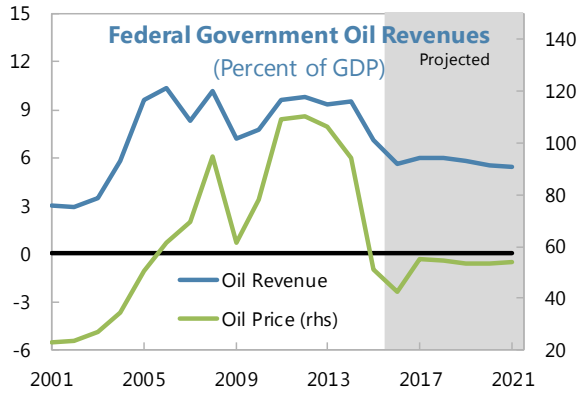
*... supported by inflows into the local sovereign public debt.*



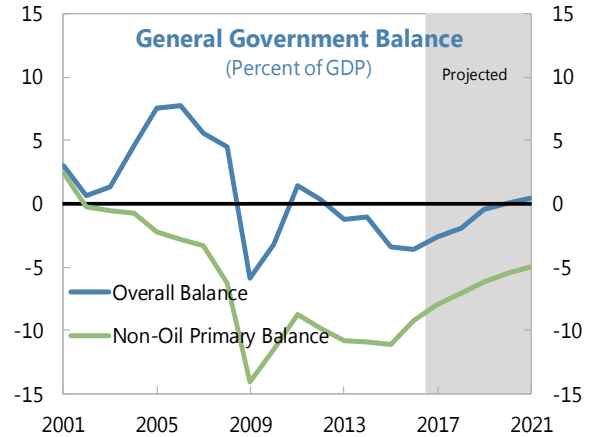
Sources: Rosstat; and IMF Staff calculations.

**Figure 3. Russian Federation: Fiscal Policy, 2000–2022**

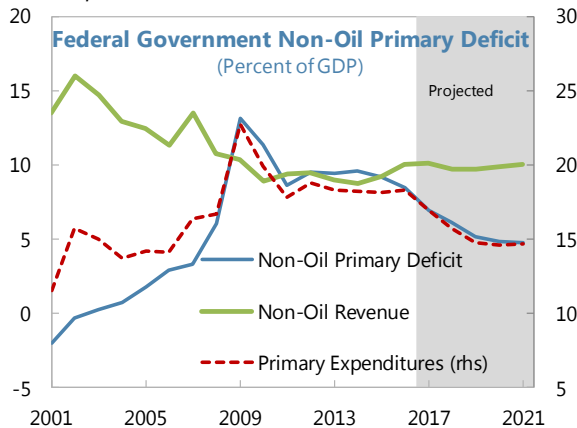
The decline in oil prices led to a large drop in oil revenues...



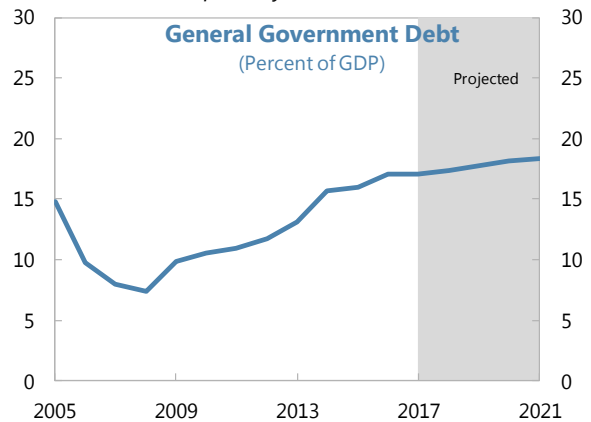
... widening the deficit at a time of an elevated non-oil deficit.



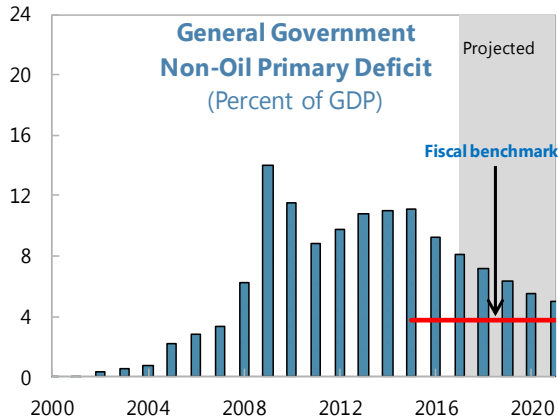
Fiscal consolidation is expected to be achieved through lower expenditures.



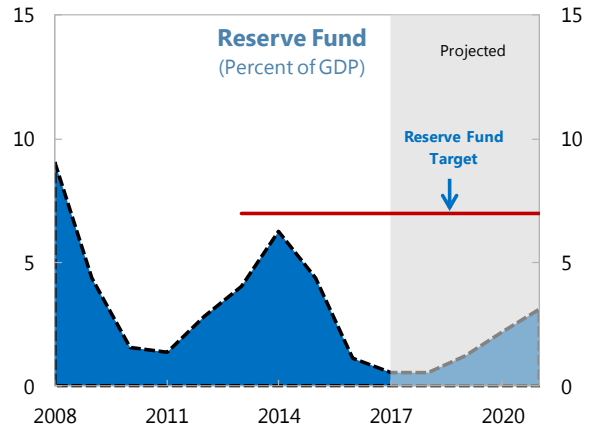
Gross government debt is expected to remain low, due to the use of the RF to partially finance deficits in 2015-17.



Ambitious fiscal consolidation could bring the non-oil deficit close to a level consistent with intergenerational equity...



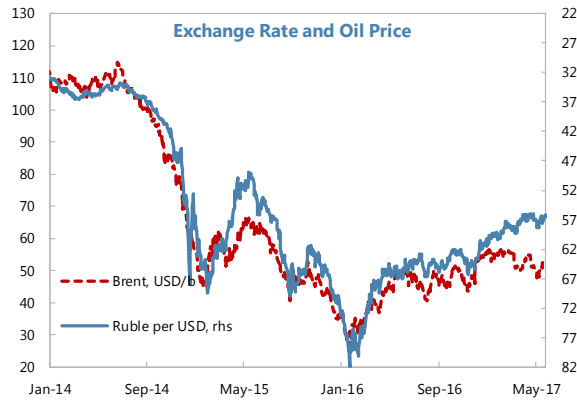
But the Reserve Fund would only gradually increase providing a limited buffer against volatile oil prices.



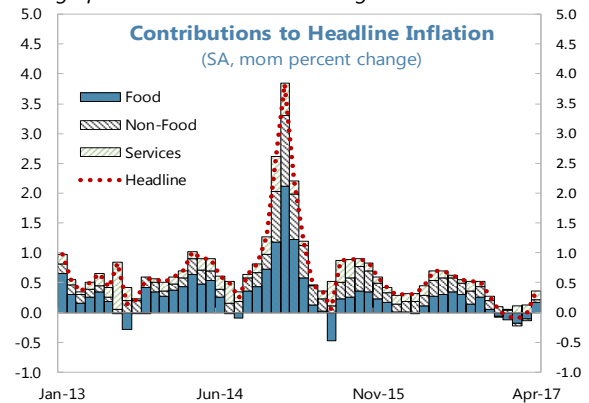
Sources: Russian authorities and IMF Staff calculations.

**Figure 4. Russian Federation: Monetary Policy and Inflation, 2013–2017**

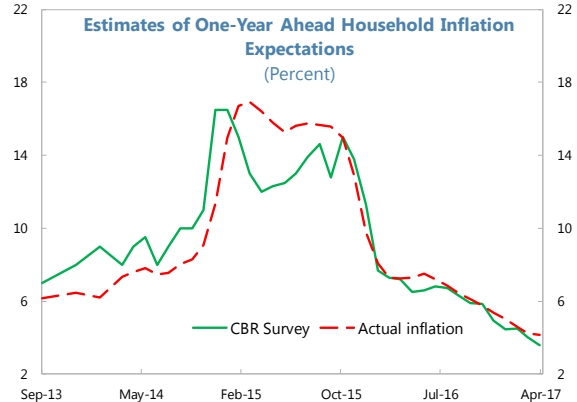
The recovery of oil prices since February 2016 led to a ruble rebound ...



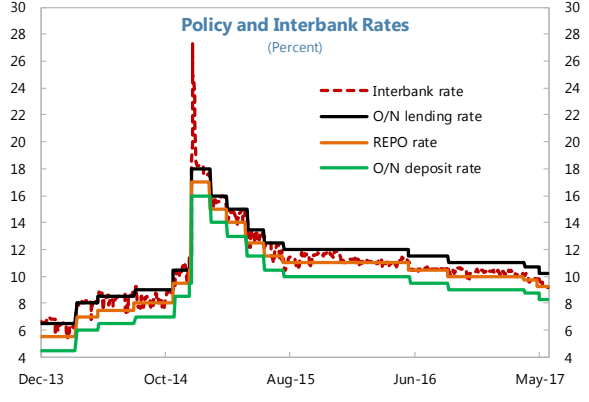
... which is supporting the decline of inflation at a fast enough pace to achieve the CBR target.



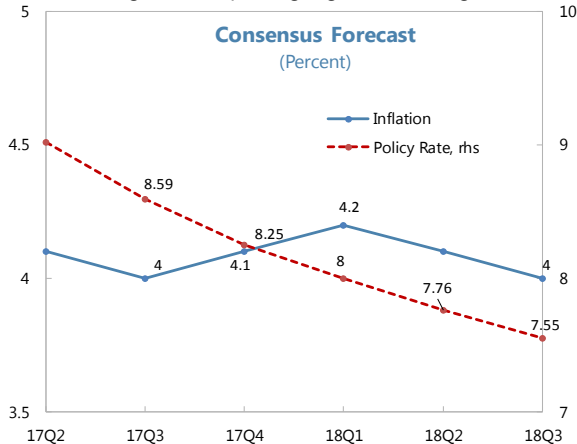
Households' inflation expectations continue to fall towards the 4 percent inflation target ...



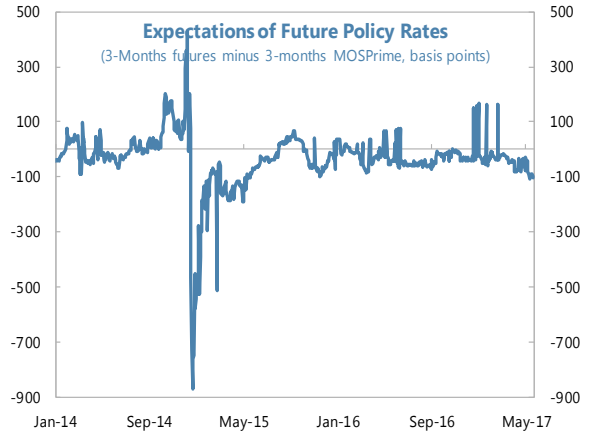
... leading the CBR to start cutting rates in March by 25bps...



... as consensus forecast has yet to show that inflation will reach the target and expecting a gradual easing ...



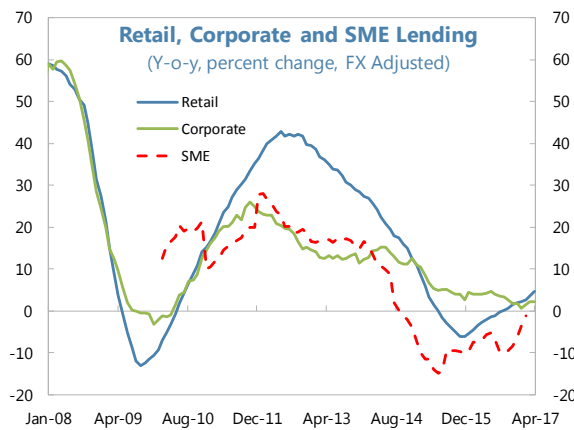
... in line with the market sentiments on the cautious future interest rate cuts.



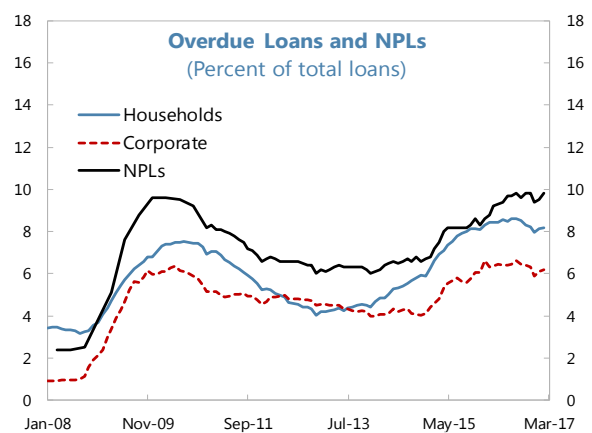
Sources: Central Bank of Russia and Public Opinion Foundation Survey; Russia Economic Barometer; Bloomberg Financial Market L.P., and IMF staff calculations.

**Figure 5. Russian Federation: Banking Sector Developments, 2008–2017**

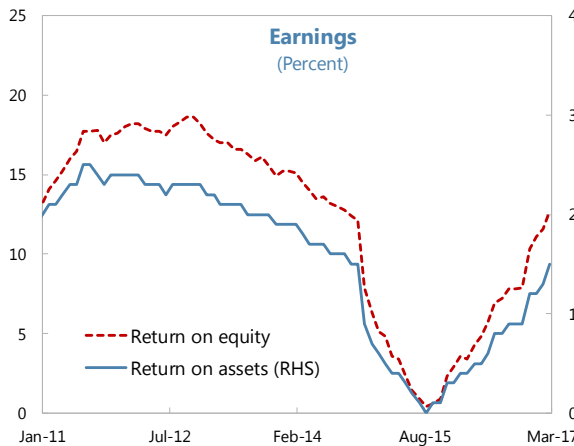
Consumer credit growth continues to recover ...



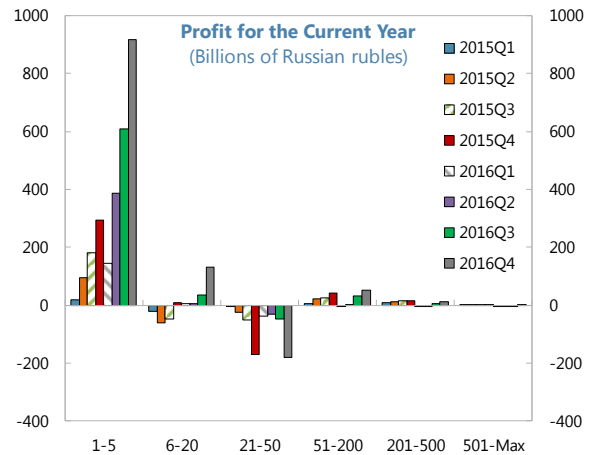
... while NPLs have started falling.



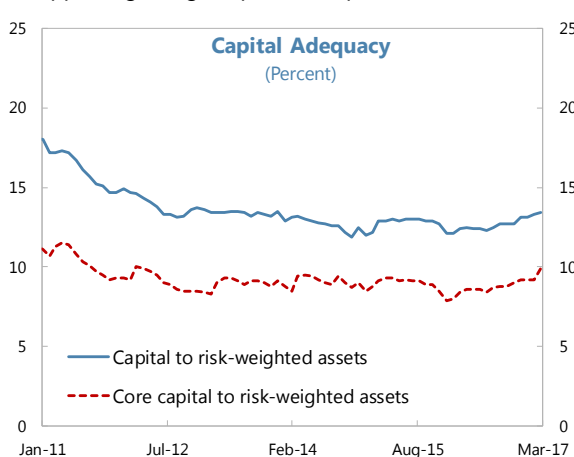
Banks' profitability continues to increase ...



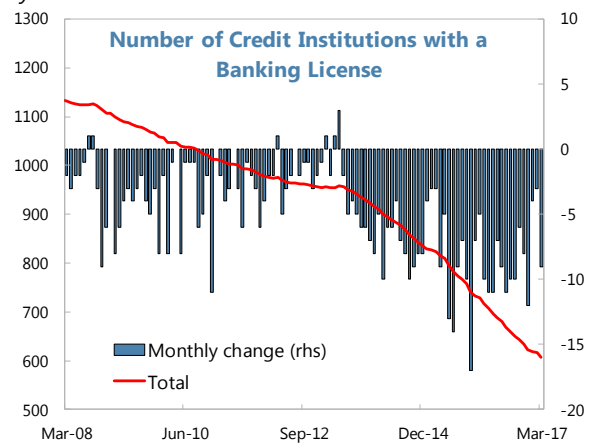
... driven by the performance of the top-5 banks, ...



... supporting a slight uptick in capital ratios...



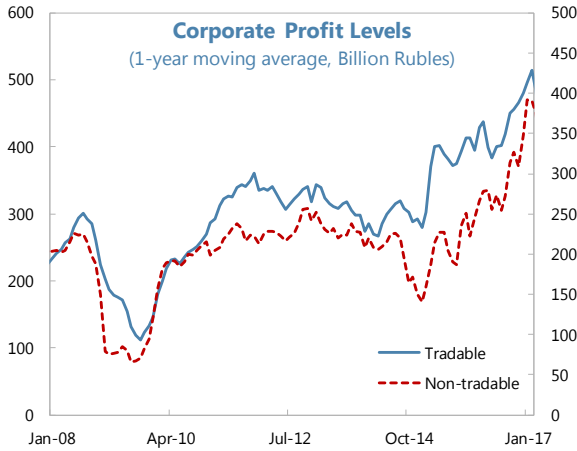
... while the CBR continues cleaning up the banking system.



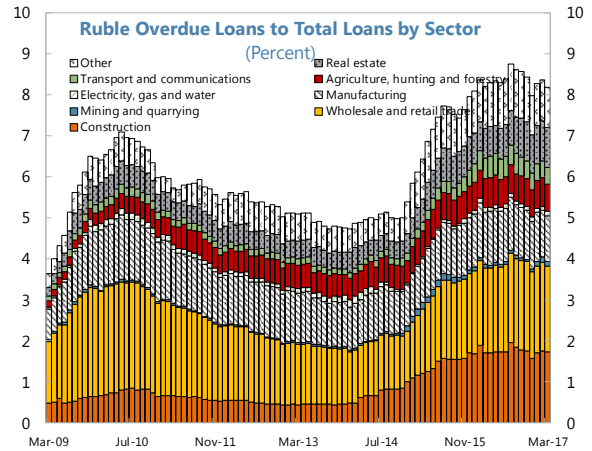
Sources: Central Bank of Russia and IMF staff calculations. 1/ On January 1<sup>st</sup>, 2016, CBR implemented the stricter Basel III definition of capital.

**Figure 6. Russian Federation: Macro-Financial Developments, 2008–2017**

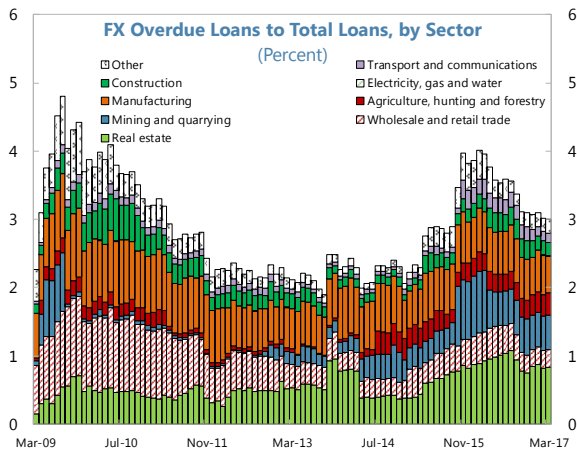
Profitability has been increasing in both the tradable and non-tradable sectors ...



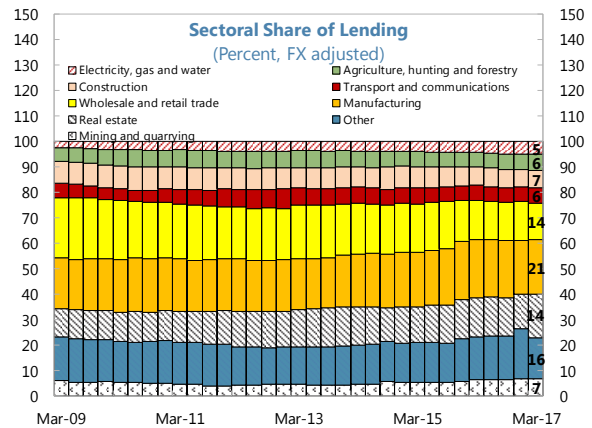
... while overdue loans in ruble are falling across all sectors...



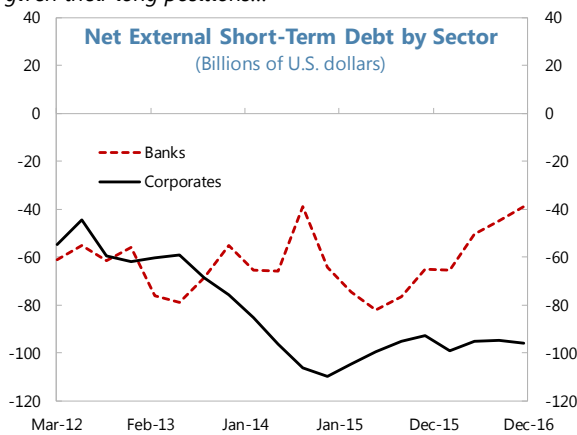
... while those in FX are falling at an even faster pace for construction and retail ...



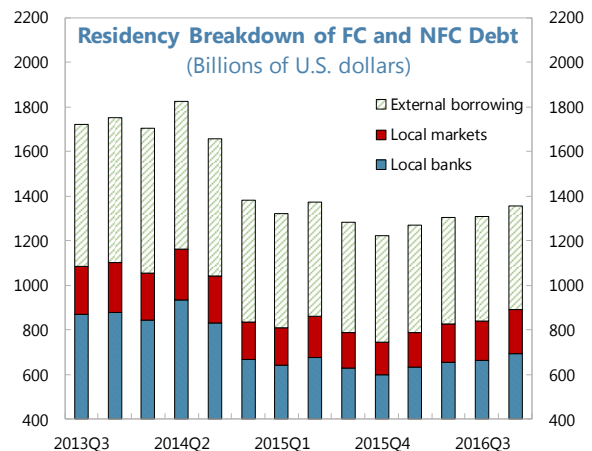
... supporting a higher share of these sectors in banks' portfolios.



FX maturity risks for corporates and banks remain low given their long positions...



... while borrowing has remained relatively stable.



Sources: Central Bank of Russia; and IMF staff calculations.



**Table 1. Russian Federation: Selected Macroeconomic Indicators, 2014–22**

	2014	2015	2016	2017	2018	2019	2020	2021	2022
			Est.	Projection					
(Annual percent change)									
Production and prices									
Real GDP	0.7	-2.8	-0.2	1.4	1.4	1.5	1.5	1.5	1.5
Real domestic demand	-0.3	-9.3	-2.3	1.0	1.0	1.1	1.2	1.2	1.2
Consumption	0.9	-8.0	-3.5	0.6	1.0	1.1	1.3	1.3	1.3
Investment	-4.4	-13.4	1.5	2.5	1.0	1.0	1.0	1.0	1.0
Consumer prices									
Period average	7.8	15.5	7.0	4.2	4.0	4.0	4.0	4.0	4.0
End of period	11.4	12.9	5.4	4.0	4.0	4.0	4.0	4.0	4.0
GDP deflator	10.7	8.2	3.6	5.7	3.8	4.0	3.9	4.0	3.9
Unemployment rate	5.2	5.6	5.5	5.5	5.5	5.5	5.5	5.5	5.5
(Percent of GDP)									
Public sector 1/									
General government									
Net lending/borrowing (overall balance)	-1.1	-3.4	-3.7	-1.9	-1.2	-0.7	0.1	0.5	0.6
Revenue	33.8	31.8	32.8	32.6	31.9	31.7	31.9	32.2	32.3
Expenditures	34.9	35.2	36.4	34.5	33.1	32.3	31.8	31.7	31.7
Primary balance	-0.4	-2.6	-2.6	-1.0	-0.2	0.3	1.1	1.5	1.7
Nonoil balance	-11.4	-11.4	-9.8	-8.4	-7.6	-6.9	-6.0	-5.5	-5.4
Nonoil primary structural balance	-10.2	-10.5	-8.9	-8.1	-7.4	-6.6	-5.7	-5.2	-5.1
Federal government									
Net lending/borrowing (overall balance)	-0.4	-2.3	-3.4	-1.7	-1.0	-0.3	0.0	0.0	0.0
Nonoil balance	-9.9	-9.5	-9.0	-7.5	-6.8	-5.9	-5.5	-5.4	-5.4
(Annual percent change)									
Money									
Base money	6.3	-4.3	3.8	6.3	6.4	6.4	6.4	6.4	6.4
Ruble broad money	1.5	11.3	9.2	9.4	9.6	9.6	9.6	9.6	9.6
Credit to the economy	29.6	8.4	-1.6	5.4	7.8	9.8	9.8	9.8	9.8
External sector									
Export volumes	-0.2	6.4	0.9	1.4	3.4	3.6	3.6	3.6	4.3
Oil	0.1	7.0	-8.5	-2.1	0.7	0.2	0.5	0.5	2.1
Gas	-11.3	6.5	1.7	-0.8	0.1	0.0	0.0	0.0	2.0
Non-energy	4.1	-7.9	11.2	5.8	6.9	7.6	7.0	6.7	6.4
Import volumes	-8.0	-25.2	1.6	2.8	3.8	2.4	2.4	4.4	5.6
(Billions of U.S. dollars; unless otherwise indicated)									
External sector									
Total merchandise exports, f.o.b	496.8	341.5	281.7	330.4	339.1	349.7	366.3	385.2	412.6
Total merchandise imports, f.o.b	-307.9	-193.0	-191.7	-203.1	-213.7	-221.9	-229.4	-241.6	-257.6
External current account	57.5	68.9	25.0	44.0	48.9	56.6	63.8	67.9	72.2
External current account (percent of GDP)	2.8	5.0	1.9	2.9	3.2	3.5	3.8	3.9	4.0
Gross international reserves									
Billions of U.S. dollars	385.5	368.4	377.7	395.3	412.6	427.9	442.1	456.4	469.6
Months of imports 2/	10.8	15.7	17.0	16.8	16.7	16.7	16.7	16.3	15.8
Percent of short-term debt	302	450	419	391	417	426	451	470	474
Memorandum items:									
Nominal GDP (billions of rubles)	79,200	83,233	86,044	92,277	97,152	102,598	108,220	114,186	120,452
Nominal GDP (billions of U.S. dollars)	2,064	1,366	1,283	1,498	1,551	1,602	1,660	1,729	1,787
Exchange rate (rubles per U.S. dollar, period average)	38.4	60.9	67.1	...	...	...	...	...	...
Oil exports (billions of U.S. dollars)	269.7	157.0	119.8	141.5	142.9	141.9	144.1	147.4	156.5
Brent oil price (U.S. dollars per barrel)	98.9	52.4	44.0	52.9	53.1	52.8	53.0	53.8	55.0
Urals crude oil spot price (U.S. dollars per barrel)	94.5	51.0	42.7	51.5	51.8	51.4	51.6	52.4	52.3
Oil Extraction (millions of tons)	525.1	525.0	525.0	525.0	525.0	525.0	525.0	525.0	525.0
Real effective exchange rate (average percent change)	-8.5	-17.4	-1.2	...	...	...	...	...	...

Sources: Russian authorities; and IMF staff estimates.

1/ Cash basis.

2/ In months of imports of goods and non-factor services.

**Table 2. Russian Federation: Balance of Payments, 2014–22**

(Billions of U.S. dollars, unless otherwise indicated)

	2014	2015	2016	2017	2018	2019	2020	2021	2022
				Projection					
Current Account	57.5	68.9	25.0	44.0	48.9	56.6	63.8	67.9	72.2
Trade Balance	188.9	148.5	90.0	127.3	125.4	127.8	136.9	143.6	155.0
Exports	496.8	341.5	281.7	330.4	339.1	349.7	366.3	385.2	412.6
Non-energy	172.4	142.6	130.6	151.3	158.5	170.3	184.6	199.7	215.3
Energy	324.4	198.9	151.1	179.0	180.6	179.3	181.7	185.5	197.3
Oil	269.7	157.0	119.8	141.5	142.9	141.9	144.1	147.4	156.5
Gas	54.7	41.8	31.3	37.5	37.7	37.4	37.6	38.1	40.8
Imports	-307.9	-193.0	-191.7	-203.1	-213.7	-221.9	-229.4	-241.6	-257.6
Services	-55.3	-36.9	-23.9	-20.6	-23.2	-24.4	-24.5	-26.1	-27.5
Income	-68.0	-36.9	-34.7	-56.0	-46.4	-39.6	-41.2	-41.9	-47.3
Public sector interest (net)	-0.6	0.1	-0.3	0.1	1.6	1.8	0.4	0.2	-0.1
Other sectors	-67.4	-37.0	-34.4	-56.2	-48.0	-41.4	-41.6	-42.1	-47.2
Current transfers	-8.2	-5.7	-6.4	-6.7	-6.9	-7.1	-7.4	-7.7	-7.9
Capital and financial account	-173.1	-70.3	-13.9	-26.4	-31.7	-41.3	-49.5	-53.7	-59.0
Capital transfers	-42.0	-0.3	-0.8	0.0	0.0	0.0	0.0	0.0	0.0
Financial accounts									
Federal government	30.0	-9.9	3.9	6.5	2.9	4.2	2.7	5.8	3.8
Portfolio investment	-8.7	-6.9	5.2	8.3	4.9	6.1	4.6	7.7	5.6
Loans	33.8	-1.8	-0.3	0.1	0.1	0.1	0.1	0.1	0.1
Other investment	4.9	-1.2	-0.9	-1.8	-2.1	-2.0	-2.0	-2.0	-2.0
Local governments	-0.1	0.1	-0.4	0.1	0.0	0.0	0.0	0.0	0.0
Private sector capital	-158.8	-61.8	-17.3	-33.7	-35.3	-46.1	-52.9	-60.1	-63.4
Direct investment	-35.1	-15.2	10.4	-10.0	-15.5	-15.3	-18.8	-22.9	-23.7
Portfolio investment	-17.8	-7.7	-3.5	-5.7	-6.7	-8.4	-8.7	-7.6	-7.8
Other investment, commercial banks	-88.5	-33.0	1.7	-4.4	-12.7	-9.7	-10.9	-12.2	-13.1
Assets	-46.7	27.5	30.5	0.3	-8.1	-7.5	-9.8	-13.3	-16.4
Liabilities (loans, deposits, etc.)	-41.9	-60.6	-28.8	-4.7	-4.6	-2.2	-1.1	1.1	3.3
Loans, corporations	11.5	22.9	-2.5	-3.6	-0.7	3.4	5.5	5.6	6.9
Disbursements	138.9	103.1	48.1	55.8	67.2	71.2	73.7	74.5	76.0
Amortizations	-127.4	-80.3	-50.5	-59.4	-67.9	-67.8	-68.3	-69.0	-69.0
Other private sector capital flows	-28.8	-28.7	-23.4	-10.0	0.4	-16.1	-19.9	-23.0	-25.7
Errors and omissions, net	8.0	3.1	-2.9	0.0	0.0	0.0	0.0	0.0	0.0
Of which: valuation adjustment	16.6	18.8	-1.1	0.0	0.0	0.0	0.0	0.0	0.0
Overall balance	-107.5	1.7	8.2	17.6	17.3	15.3	14.3	14.2	13.2
Financing	107.5	-1.7	-8.2	-17.6	-17.3	-15.3	-14.3	-14.2	-13.2
Net international reserves	107.5	-1.7	-8.2	-17.6	-17.3	-15.3	-14.3	-14.2	-13.2
Arrears and rescheduling	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Memorandum items:									
Current account (percent of GDP)	2.8	5.0	1.9	2.9	3.2	3.5	3.8	3.9	4.0
Non-energy current account (percent of GDP)	-12.9	-9.5	-9.8	-9.0	-8.5	-7.7	-7.1	-6.8	-7.0
Gross reserves 1/	385.5	368.4	377.7	395.3	412.6	427.9	442.1	456.4	469.6
(months of imports of GNFS)	10.8	15.7	17.0	16.8	16.7	16.7	16.7	16.3	15.8
(percent of short-term debt) 2/	301.7	449.6	419.1	391.2	416.8	425.8	451.2	469.6	473.7
Real growth in partner countries (percent change)	2.3	2.0	2.2	2.5	2.6	2.6	2.7	2.7	2.7
Net private capital flows (percent of exports of GNFS)	-28.2	-15.7	-5.2	-8.7	-8.8	-11.2	-12.3	-13.3	-13.1
Net private capital flows, banks	-86.6	-30.3	5.5	-0.5	-8.7	-5.6	-6.8	-8.1	-9.0
Public external debt service payments 3/	8.7	5.5	5.0	5.3	5.6	5.3	8.8	6.1	5.6
(percent of exports of goods and services)	1.5	1.4	1.5	1.4	1.4	1.3	2.0	1.3	1.1
Public external debt 4/	52.2	42.3	51.4	59.9	64.9	71.1	75.8	83.5	89.3
(percent of GDP)	2.5	3.1	4.0	4.0	4.2	4.4	4.6	4.8	5.0
Private external debt	547.7	493.6	482.4	478.1	477.4	483.6	493.4	505.3	520.5
(percent of GDP)	26.5	36.1	37.6	31.9	30.8	30.2	29.7	29.2	29.1
Total external debt	599.9	519.1	513.5	538.0	542.3	554.7	569.1	588.8	609.8
(percent of GDP)	29.1	38.0	40.0	35.9	35.0	34.6	34.3	34.0	34.1
Brent oil price (U.S. dollars per barrel)	98.9	52.4	44.0	52.9	53.1	52.8	53.0	53.8	55.0
Urals oil price (U.S. dollars per barrel)	94.5	51.0	42.7	51.5	51.8	51.4	51.6	52.4	52.3
Terms of trade (percent)	-2.9	-18.1	-16.3	12.3	-2.1	-1.9	0.2	0.6	1.7

Sources: Central Bank of Russia; and IMF staff estimates.

1/ Excluding repos with non-residents to avoid double counting of reserves. Including valuation effects.

2/ Excludes arrears.

3/ Net of rescheduling.

4/ Includes indebtedness of repos by the monetary authorities.

**Table 3. Russian Federation: External Financing Requirements and Sources, 2014–2022**

(Billions of U.S. dollars)

	2014	2015	2016	2017	2018	2019	2020	2021	2022
	Projection								
Gross financing requirements	-140	-53	-51	-40	-46	-36	-31	-24	-19
Current account balance	58	69	25	44	49	57	64	68	72
Debt amortization	-198	-122	-76	-84	-95	-93	-94	-92	-91
Public sector	-6	-4	-3	-3	-4	-3	-4	-1	0
Central Bank									
General government	-6	-4	-3	-3	-4	-3	-4	-1	0
Banks	-65	-39	-23	-22	-23	-23	-22	-22	-22
Corporates	-127	-80	-51	-59	-68	-68	-68	-69	-69
Sources of financing	33	55	60	58	64	52	45	38	32
Capital account balance (net)	-42	0	-1	0	0	0	0	0	0
Foreign direct investment (net)	-35	-15	10	-10	-16	-15	-19	-23	-24
RUS investment abroad	-57	-22	-23	-32	-39	-41	-47	-53	-57
Foreign investment in RUS	22	7	33	22	24	26	28	30	33
New borrowing and debt rollover	162	111	59	78	89	95	98	101	102
Borrowing	162	111	59	78	89	95	98	101	102
Public sector	0	0	3	5	3	3	3	3	0
Central Bank									
General government	0	0	3	5	3	3	3	3	0
Banks	23	8	8	17	19	20	21	23	25
Corporates	139	103	48	56	67	71	74	75	76
Other	-52	-40	-9	-10	-10	-28	-34	-40	-46
of which: Net errors and omissions	8	3	-3	0	0	0	0	0	0
GIR change	-108	2	8	18	17	15	14	14	13
Financing gap	0	0	0	0	0	0	0	0	0

Sources: Central Bank of Russia; and IMF staff estimates.

**Table 4. Russian Federation: Fiscal Operations, 2014–22 1/**

(Percent of GDP, unless otherwise indicated)

	2014	2015	2016	2017	2018	2019	2020	2021	2022
			Est.			Projection			
<b>General government</b>									
Revenue	33.8	31.8	32.8	32.6	31.9	31.7	31.9	32.2	32.3
<i>o/w Oil revenue</i>	10.3	8.0	6.1	6.5	6.5	6.2	6.1	6.0	6.0
<i>o/w Nonoil revenue</i>	23.5	23.8	26.6	26.1	25.4	25.4	25.8	26.2	26.3
Taxes	25.4	22.8	22.2	23.2	22.6	22.4	22.6	22.7	22.8
Corporate profit tax	3.0	3.1	3.2	3.4	3.3	3.3	3.4	3.4	3.4
Personal income tax	3.4	3.4	3.5	3.6	3.6	3.6	3.7	3.7	3.7
VAT	5.0	5.1	5.3	5.6	5.1	5.2	5.4	5.4	5.4
Excises	1.4	1.3	1.6	1.7	1.7	1.7	1.7	1.7	1.7
Custom tariffs	6.9	4.0	3.0	2.9	2.7	2.6	2.5	2.6	2.6
Resource extraction tax	4.0	4.1	3.7	4.2	4.3	4.1	4.0	3.9	4.0
Other tax revenue	1.8	1.9	1.8	1.9	1.9	1.9	2.0	2.1	2.1
Social contributions	6.4	6.4	7.0	6.7	6.8	6.7	6.8	6.9	7.0
Other revenue	2.0	2.6	3.5	2.6	2.6	2.6	2.6	2.6	2.6
Expenditure	34.9	35.2	36.4	34.5	33.1	32.3	31.8	31.7	31.7
Expense	30.8	30.6	31.1	30.3	29.1	28.6	28.1	28.0	28.0
Compensation of employees	4.6	4.3	4.7	4.4	4.3	4.2	4.0	3.9	3.9
Use of goods and services	3.5	3.3	3.3	3.2	3.0	2.9	2.9	2.9	2.9
Interest	0.7	0.8	1.0	0.8	0.9	1.0	1.1	1.0	1.1
Subsidies	8.3	6.9	6.9	6.6	6.3	6.1	6.0	6.0	6.1
Grants	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Social benefits	12.6	13.2	13.6	13.9	13.5	13.4	13.2	13.0	13.0
Other expense	0.3	1.0	0.4	0.3	0.1	0.1	0.1	0.2	0.3
Net acquisition of nonfinancial assets	4.1	4.6	4.3	4.2	3.9	3.8	3.7	3.7	3.7
Net lending (+)/borrowing (-) (overall balance)	-1.1	-3.4	-3.7	-1.9	-1.2	-0.7	0.1	0.5	0.6
Non-oil primary structural balance	-10.2	-10.5	-8.9	-8.1	-7.4	-6.6	-5.7	-5.2	-5.1
Gross financing requirements	3.8	7.4	5.8	3.6	2.7	2.1	0.9	0.3	0.5
<b>Federal government 3/</b>									
Revenue	18.3	16.4	15.6	16.2	15.5	15.3	15.3	15.4	15.4
<i>o/w Oil revenue</i>	9.5	7.1	5.6	5.8	5.9	5.6	5.5	5.4	5.4
<i>o/w Nonoil revenue</i>	8.8	9.3	10.0	10.5	9.7	9.7	9.8	10.0	10.0
Expenditure	18.7	18.8	19.1	17.9	16.5	15.6	15.3	15.4	15.4
Expense	16.2	15.5	16.0	15.0	13.8	13.0	12.7	12.8	12.8
Net acquisition of nonfinancial assets	2.6	3.2	3.1	3.0	2.7	2.6	2.6	2.6	2.6
Net lending (+)/borrowing (-) (overall balance)	-0.4	-2.3	-3.4	-1.7	-1.0	-0.3	0.0	0.0	0.0
Non-oil primary structural balance	-8.6	-9.2	-8.5	-7.0	-6.2	-5.2	-4.8	-4.8	-4.9
Gross financing requirements	0.9	3.6	4.8	2.8	1.8	1.1	0.8	0.6	1.0
Memorandum items:									
General government nonoil primary balance	-10.7	-10.6	-8.8	-7.5	-6.7	-5.9	-5.0	-4.5	-4.4
General government nonoil overall balance	-11.4	-11.4	-9.8	-8.4	-7.6	-6.9	-6.0	-5.5	-5.4
Federal government nonoil primary balance	-9.6	-9.2	-8.5	-6.9	-6.2	-5.2	-4.7	-4.7	-4.8
Federal government nonoil overall balance	-9.9	-9.5	-9.0	-7.5	-6.8	-5.9	-5.5	-5.4	-5.4
World oil price (U.S.dollars per barrel)	96.2	50.8	42.8	51.9	52.0	51.5	51.7	52.5	53.7
Urals prices (U.S. dollars per barrel)	94.5	51.0	42.7	51.5	51.8	51.4	51.6	52.4	52.3
Oil funds 2/	11.8	10.7	6.2	5.4	5.2	5.8	6.4	7.0	7.5
Reserve Fund	6.2	4.4	1.1	0.6	0.6	1.3	2.1	2.8	3.5
NWF	5.5	6.3	5.0	4.8	4.7	4.5	4.3	4.2	4.0
General government debt	15.6	15.9	15.6	17.4	17.8	18.3	18.3	18.1	18.0
GDP (billions of rubles)	79,200	83,233	86,044	92,277	97,152	102,598	108,220	114,186	120,452

Sources: Russian authorities; and IMF staff estimates.

1/ Cash basis.

2/ Balances reflect staff estimates based on projected oil savings.

3/ Expenditures reflect the authorities budget, oil revenues are Staff's estimates.

Table 5. Russian Federation: Monetary Accounts, 2014–22

(Billions of Russian rubles, unless otherwise indicated)

	2014	2015	2016	2017	2018	2019	2020	2021	2022
				Projection					
Monetary authorities									
Base money	9,140	8,746	9,076	9,647	10,268	10,924	11,622	12,366	13,156
Currency issued	8,841	8,522	8,790	9,331	9,919	10,539	11,197	11,897	12,638
Required reserves on ruble deposits	299	224	286	316	349	385	425	469	518
NIR 1/	20,706	26,255	22,418	24,061	25,633	27,153	28,518	29,950	31,458
Gross reserves	21,665	26,850	22,918	24,562	26,134	27,654	29,018	30,451	31,958
Gross liabilities	960	595	501	501	501	501	501	501	501
<i>GIR (billions of U.S. dollars)</i>	385	368	378	395	413	428	442	456	470
NDA	-11,566	-17,509	-13,341	-14,415	-15,366	-16,229	-16,896	-17,584	-18,302
Net credit to general government	-10,342	-9,182	-6,254	-5,654	-5,521	-5,944	-6,824	-7,994	-9,269
Net credit to federal government	-8,926	-8,019	-5,031	-4,567	-4,579	-5,314	-6,251	-7,199	-8,098
CBR net ruble credit to federal government 1/	-682	-798	-1,373	-1,245	-1,148	-1,044	-953	-837	-677
Foreign exchange credit	207	276	222	222	222	222	222	222	222
Ruble counterpart	-8,452	-7,497	-3,881	-3,545	-3,654	-4,492	-5,521	-6,585	-7,644
CBR net credit to local government and EBFs	-1,415	-1,163	-1,222	-1,086	-942	-630	-573	-795	-1,171
CBR net credit to local government	-701	-759	-864	-728	-583	-271	-214	-436	-812
CBR net credit to extrabudgetary funds	-714	-404	-359	-359	-359	-359	-359	-359	-359
Net credit to banks	6,512	2,289	54	-931	-985	170	1,053	1,382	2,028
Gross credit to banks	8,617	4,441	2,723	800	800	900	950	950	952
Gross liabilities to banks and deposits	-2,106	-2,152	-2,669	-1,731	-1,785	-730	103	432	1,076
Of which: correspondent account balances	-1,216	-1,594	-1,823	-1,693	-1,870	-2,064	-2,278	-2,515	-2,775
Other items (net) 2/	-7,736	-10,617	-7,142	-7,830	-8,860	-10,455	-11,124	-10,972	-11,060
Monetary survey									
Broad money	42,910	51,371	50,903	55,804	61,272	67,257	73,825	81,057	88,992
Ruble broad money	31,616	35,180	38,418	42,033	46,063	50,467	55,295	60,604	66,422
Currency in circulation	7,172	7,239	7,715	8,169	8,661	9,179	9,725	10,305	10,917
Ruble deposits	24,444	27,941	30,703	33,865	37,402	41,289	45,570	50,299	55,505
Forex deposits 1/	11,294	16,191	12,485	13,770	15,209	16,789	18,530	20,453	22,570
Net foreign assets 1/	24,610	32,900	27,443	29,177	30,297	31,548	32,533	33,490	34,455
NIR of monetary authorities	20,706	26,255	22,418	24,061	25,633	27,153	28,518	29,950	31,458
NFA of commercial banks	3,904	6,645	5,025	5,116	4,663	4,395	4,015	3,540	2,997
NFA of commercial banks (billions of U.S. dollars)	69	91	83	82	74	68	61	53	44
NDA	18,299	18,471	23,460	26,627	30,976	35,708	41,293	47,567	54,537
Domestic credit	39,642	46,131	48,459	52,598	58,027	64,410	70,724	76,914	84,046
Net credit to general government	-8,198	-5,720	-2,545	-1,160	77	778	867	211	-180
Credit to the economy	47,841	51,851	51,004	53,758	57,951	63,632	69,857	76,703	84,226
Other items (net)	-21,343	-27,660	-24,999	-25,971	-27,052	-28,702	-29,432	-29,347	-29,509
Memorandum items:									
Accounting exchange rate (ruble per U.S. dollar, eop)	56.3	72.9	60.7	...	...	...	...	...	...
Nominal GDP (billions of rubles)	79,200	83,233	86,044	92,277	97,152	102,598	108,220	114,186	120,452
CPI inflation (12-month change, eop)	11.4	12.9	5.4	4.0	4.0	4.0	4.0	4.0	4.0
Ruble broad money velocity (eop)	2.5	2.3	2.3	2.2	2.1	2.0	2.0	1.9	1.8
Ruble broad money velocity (eop, s.a.)	2.6	2.4	2.4	2.3	2.2	2.1	2.0	1.9	1.9
Annual change in velocity	9.9	-7.0	-1.2	-4.7	-3.9	-3.6	-3.7	-3.7	-3.8
Real ruble broad money (rel. to CPI, 12-month change)	-8.9	-1.4	3.6	5.2	5.4	5.3	5.4	5.4	5.4
Nominal ruble broad money (12-month change)	1.5	11.3	9.2	9.4	9.6	9.6	9.6	9.6	9.6
Base money (12-month change)	6.3	-4.3	3.8	6.3	6.4	6.4	6.4	6.4	6.4
Real credit to the economy (12-month change)	16.3	-4.0	-6.6	1.3	3.7	5.6	5.6	5.6	5.6
Ruble broad money multiplier	3.5	4.0	4.2	4.4	4.5	4.6	4.8	4.9	5.0

Sources: Russian authorities; and IMF staff estimates.

1/ Data calculated at accounting exchange rates.

2/ Inclusive of valuation gains and losses on holdings of government securities.

**Table 6. Russian Federation: Medium-Term Framework, 2014–22**

	2014	2015	2016	2017	2018	2019	2020	2021	2022
			Est.	Projection					
(Percent of GDP, unless otherwise indicated)									
<b>Macroeconomic framework</b>									
GDP growth at constant prices (percent)	0.7	-2.8	-0.2	1.4	1.4	1.5	1.5	1.5	1.5
Consumer prices (percent change, end of period)	11.4	12.9	5.4	4.0	4.0	4.0	4.0	4.0	4.0
Gross domestic investment	22.2	22.4	23.4	23.0	23.9	23.9	22.6	22.5	22.4
Private sector	18.5	18.5	19.6	19.3	20.4	20.5	19.2	19.2	19.1
Public sector	3.8	3.9	3.8	3.7	3.5	3.4	3.3	3.3	3.3
Gross national savings	25.0	27.4	25.3	26.0	27.0	27.4	26.4	26.4	26.4
Private sector	22.3	26.9	25.2	24.1	24.7	24.7	23.0	22.6	22.5
Public sector	2.7	0.5	0.2	1.8	2.3	2.7	3.4	3.8	3.9
External current account balance	2.8	5.0	1.9	2.9	3.2	3.5	3.8	3.9	4.0
<b>Fiscal Operations</b>									
<b>Federal government</b>									
Net lending/borrowing (overall balance)	-0.4	-2.3	-3.4	-1.7	-1.0	-0.3	0.0	0.0	0.0
Nonoil balance	-9.9	-9.5	-9.0	-7.5	-6.8	-5.9	-5.5	-5.4	-5.4
<b>General government</b>									
Net lending/borrowing (overall balance)	-1.1	-3.4	-3.7	-1.9	-1.2	-0.7	0.1	0.5	0.6
Revenue	33.8	31.8	32.8	32.6	31.9	31.7	31.9	32.2	32.3
Expenditure	34.9	35.2	36.4	34.5	33.1	32.3	31.8	31.7	31.7
Nonoil balance	-11.4	-11.4	-9.8	-8.4	-7.6	-6.9	-6.0	-5.5	-5.4
Primary balance	-0.4	-2.6	-2.6	-1.0	-0.2	0.3	1.1	1.5	1.7
Gross debt	15.6	15.9	15.6	17.4	17.8	18.3	18.3	18.1	18.0
(Billions of U.S. dollars; unless otherwise indicated)									
<b>Balance of payments</b>									
Current account	57.5	68.9	25.0	44.0	48.9	56.6	63.8	67.9	72.2
Trade balance	188.9	148.5	90.0	127.3	125.4	127.8	136.9	143.6	155.0
Exports (f.o.b)	496.8	341.5	281.7	330.4	339.1	349.7	366.3	385.2	412.6
Of which: energy	324.4	198.9	151.1	179.0	180.6	179.3	181.7	185.5	197.3
Imports (f.o.b)	-307.9	-193.0	-191.7	-203.1	-213.7	-221.9	-229.4	-241.6	-257.6
Services and transfers, net	-63.5	-42.6	-30.3	-27.3	-30.1	-31.6	-31.9	-33.7	-35.5
Capital and financial account	-173.1	-70.3	-13.9	-26.4	-31.7	-41.3	-49.5	-53.7	-59.0
Capital account	-42.0	-0.3	-0.8	0.0	0.0	0.0	0.0	0.0	0.0
Financial account	-131.0	-70.0	-13.1	-26.4	-31.7	-41.3	-49.5	-53.7	-59.0
Private sector capital	-158.8	-61.8	-17.3	-33.7	-35.3	-46.1	-52.9	-60.1	-63.4
Errors and omissions	8.0	3.1	-2.9	0.0	0.0	0.0	0.0	0.0	0.0
Overall balance	-107.5	1.7	8.2	17.6	17.3	15.3	14.3	14.2	13.2
<b>Memorandum items:</b>									
<b>Gross reserves (end of period)</b>									
Billions of U.S. dollars	385.5	368.4	377.7	395.3	412.6	427.9	442.1	456.4	469.6
Percent of short-term debt (residual maturity)	301.7	449.6	419.1	391.2	416.8	425.8	451.2	469.6	473.7
Months of prospective GNFS imports	10.8	15.7	17.0	16.8	16.7	16.7	16.7	16.3	15.8
Trade balance (percent of GDP)	9.2	10.9	7.0	8.5	8.1	8.0	8.2	8.3	8.7
Terms of trade (y-o-y change, percent)	-2.9	-18.1	-16.3	12.3	-2.1	-1.9	0.2	0.6	1.7
Excluding fuel	-2.2	7.1	-15.7	6.3	-3.3	-1.5	0.4	0.4	0.4
Export volume, goods (y-o-y change, percent)	-0.2	6.4	0.9	1.4	3.4	3.6	3.6	3.6	4.3
Import volume, goods (y-o-y change, percent)	-8.0	-25.2	1.6	2.8	3.8	2.4	2.4	4.4	5.6
Brent oil price (U.S. dollars per barrel)	98.9	52.4	44.0	52.9	53.1	52.8	53.0	53.8	55.0
Output gap	0.6	-1.6	-1.0	-0.4	0.0	0.0	0.0	0.0	0.0

Sources: Russian authorities; and IMF staff estimates.

**Table 7. Russian Federation: Financial Soundness Indicators, 2013–2017**

	(Percent)				
	2013	2014	2015	2016	2017
					April
<b>Financial Soundness Indicators</b>					
Capital adequacy					
Capital to risk-weighted assets	13.5	12.5	12.7	13.1	13.3
Core capital to risk-weighted assets	9.1	9.0	8.5	9.2	9.7
Credit risk					
NPLs to total loans	6.0	6.7	8.3	9.4	9.8
Loan loss provisions to total loans	5.9	6.5	7.8	8.5	8.5
Large credit risks to capital	204	246	254	220	211
Distribution of loans provided by credit institutions					
Agriculture, hunting and forestry	4.3	3.5	3.5	4.0	4.2
Mining	3.1	4.2	4.9	5.6	5.6
Manufacturing	13.6	15.5	17.1	15.4	15.7
Production and distribution of energy, gas and water	2.5	2.5	2.5	3.1	3.2
Construction	5.6	5.3	4.8	4.5	4.4
Wholesale and retail trade	13.7	13.3	11.3	10.9	10.3
Transport and communication	4.2	4.4	4.2	4.2	4.4
Other economic activities	21.1	21.2	24.1	23.1	22.9
Individuals	32.0	30.1	27.5	29.1	29.3
<i>Of which: mortgage loans</i>	8.5	9.4	10.1	12.1	12.4
Geographical distribution of interbank loans and deposits					
Russian Federation	39.7	53.6	54.0	68.8	63.3
United Kingdom	23.8	13.9	12.3	7.5	10.7
USA	6.8	4.9	4.5	3.2	3.0
Germany	0.6	0.4	0.8	0.3	1.4
Austria	7.3	7.3	4.9	1.1	1.4
France	1.9	1.8	1.8	1.4	2.1
Italy	0.1	0.0	0.0	2.0	1.9
Cyprus	4.7	4.9	9.2	5.3	5.2
Netherlands	1.5	1.3	0.8	0.5	0.7
Other	13.6	11.8	11.8	9.9	10.3
Liquidity					
Highly liquid assets to total assets	9.9	10.4	10.6	10.5	11.5
Liquid assets to total assets	20.5	22.0	24.6	21.8	23.0
Liquid assets to short-term liabilities	78.7	80.4	139.3	144.9	170.1
Ratio of client's funds to total loans	98.7	92.8	59.0	107.5	109.6
Return on assets	1.9	0.9	0.3	1.2	1.7
Return on equity	15.2	7.9	2.3	10.3	14.3
<b>Balance Sheet Structure, in percent of assets</b>					
Total asset growth rate	16.0	35.2	6.9	-3.5	-0.7
Asset side					
Accounts with CBR and other central banks	3.9	4.2	3.0	3.8	3.7
Interbank lending	8.9	8.9	10.4	11.4	11.6
Securities holdings	13.6	12.5	14.2	14.3	14.0
Liability side					
Funds from CBR	7.7	12.0	6.5	3.4	1.8
Interbank liabilities	8.4	8.5	8.5	10.7	10.1
Individual deposits	29.5	23.9	28.0	30.2	30.6

Sources: Central Bank of Russia; and IMF staff calculations.

**Table 8. Russian Federation: Public Sector Debt Sustainability Analysis (DSA) – Baseline Scenario**

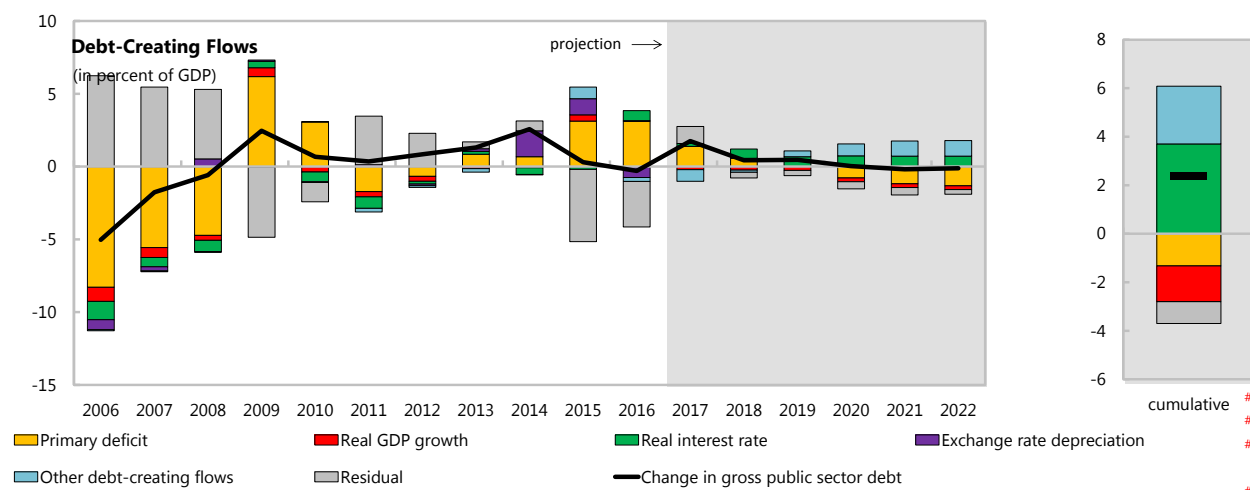
(in percent of GDP unless otherwise indicated)

**Debt, Economic and Market Indicators**<sup>1/</sup>

	Actual			Projections						As of May 31, 2017		
	2006-2014 <sup>2/</sup>	2015	2016	2017	2018	2019	2020	2021	2022			
Nominal gross public debt	10.8	15.9	15.6	17.4	17.8	18.3	18.3	18.1	18.0	Sovereign Spreads		
Of which: guarantees	1.2	3.1	3.0	4.7	4.6	4.7	4.6	4.6	4.6	EMBIG (bp) 3/ 161		
Public gross financing needs	0.8	7.4	6.5	3.6	2.7	2.1	0.8	0.2	0.4	5Y CDS (bp) 150		
Real GDP growth (in percent)	3.1	-2.8	-0.2	1.4	1.4	1.5	1.5	1.5	1.5	Ratings Foreign Local		
Inflation (GDP deflator, in percent)	11.4	8.2	3.6	5.7	3.8	4.0	3.9	3.9	4.0	Moody's Ba1 Ba1		
Nominal GDP growth (in percent)	15.0	5.1	3.4	7.2	5.3	5.6	5.5	5.4	5.6	S&Ps BB+ BBB-		
Effective interest rate (in percent) <sup>4/</sup>	6.7	6.6	8.1	7.2	7.8	8.1	8.2	8.1	8.3	Fitch BBB- BBB-		

**Contribution to Changes in Public Debt**

	Actual			Projections						cumulative	debt-stabilizing primary balance <sup>9/</sup>
	2006-2014	2015	2016	2017	2018	2019	2020	2021	2022		
Change in gross public sector debt	0.1	0.3	-0.3	1.8	0.4	0.5	0.0	-0.2	-0.1	2.4	1.5
Identified debt-creating flows	-1.8	5.3	2.8	0.6	0.8	0.8	0.5	0.3	0.2	3.3	
Primary deficit	-1.1	3.1	3.1	1.4	0.6	0.0	-0.8	-1.2	-1.3	-1.3	
Primary (noninterest) revenue and grants	34.5	31.3	32.3	32.2	31.6	31.3	31.5	31.8	32.0	190.4	
Primary (noninterest) expenditure	33.3	34.4	35.4	33.6	32.1	31.3	30.8	30.6	30.6	189.1	
Automatic debt dynamics <sup>5/</sup>	-0.6	1.3	0.0	0.0	0.4	0.4	0.5	0.5	0.5	2.2	
Interest rate/growth differential <sup>6/</sup>	-0.8	0.2	0.7	0.0	0.4	0.4	0.5	0.5	0.5	2.2	
Of which: real interest rate	-0.5	-0.2	0.7	0.2	0.6	0.7	0.7	0.7	0.7	3.7	
Of which: real GDP growth	-0.3	0.4	0.0	-0.2	-0.2	-0.3	-0.3	-0.3	-0.3	-1.5	
Exchange rate depreciation <sup>7/</sup>	0.2	1.1	-0.8	...	...	...	...	...	...	...	
Other identified debt-creating flows	-0.1	0.8	-0.3	-0.8	-0.2	0.4	0.8	1.0	1.1	2.4	
General Government: Net privatization Proceeds	-0.1	0.0	-0.5	-0.1	0.0	0.0	0.0	0.0	0.0	-0.2	
Change in cash balance of EBF	0.0	0.8	0.2	-0.1	-0.1	-0.3	0.0	0.2	0.3	-0.1	
Transfers to RF and NWF	0.0	0.0	0.0	-0.5	0.0	0.7	0.9	0.8	0.7	2.7	
Residual, including asset changes <sup>8/</sup>	1.9	-5.0	-3.1	1.2	-0.4	-0.4	-0.5	-0.5	-0.3	-0.9	



Source: IMF staff.

1/ Public sector is defined as general government and includes federal guarantees.

2/ Based on available data.

3/ EMBIG.

4/ Defined as interest payments divided by debt stock (excluding guarantees) at the end of previous year.

5/ Derived as  $[(r - \pi(1+g) - g + ae(1+r)] / (1+g+\pi+gr)$  times previous period debt ratio, with  $r$  = interest rate;  $\pi$  = growth rate of GDP deflator;  $g$  = real GDP growth rate;

$a$  = share of foreign-currency denominated debt; and  $e$  = nominal exchange rate depreciation (measured by increase in local currency value of U.S. dollar).

6/ The real interest rate contribution is derived from the numerator in footnote 5 as  $r - \pi(1+g)$  and the real growth contribution as  $-g$ .

7/ The exchange rate contribution is derived from the numerator in footnote 5 as  $ae(1+r)$ .

8/ Includes changes in the stock of guarantees, asset changes, and interest revenues (if any). For projections, includes exchange rate changes during the projection period.

9/ Assumes that key variables (real GDP growth, real interest rate, and other identified debt-creating flows) remain at the level of the last projection year.

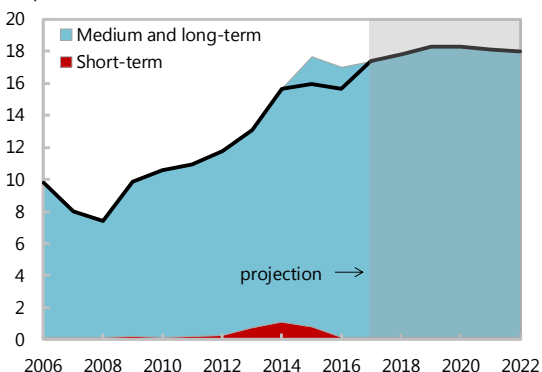


**Table 9. Russian Federation: Public DSA – Composition of Public Debt and Alternative Scenarios**

**Composition of Public Debt**

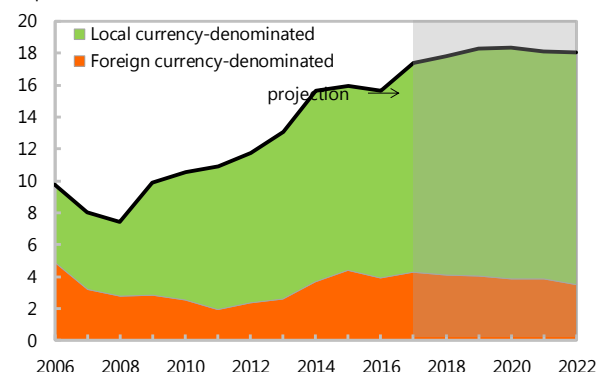
**By Maturity**

(in percent of GDP)



**By Currency**

(in percent of GDP)



**Alternative Scenarios**

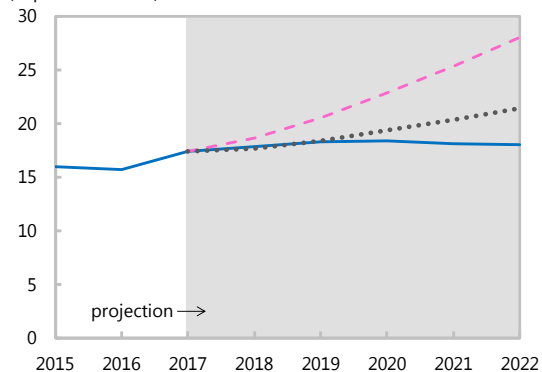
— Baseline

..... Historical

- - - Constant Primary Balance

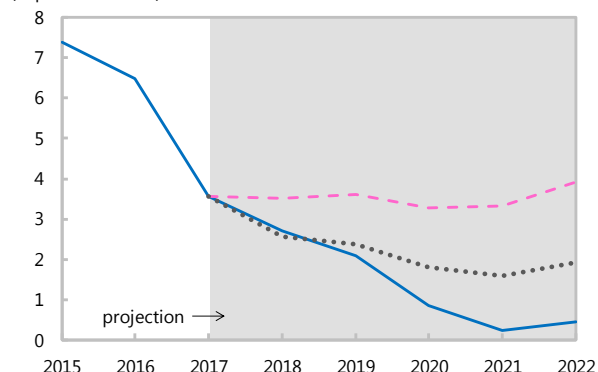
**Gross Nominal Public Debt**

(in percent of GDP)



**Public Gross Financing Needs**

(in percent of GDP)



**Underlying Assumptions**

(in percent)

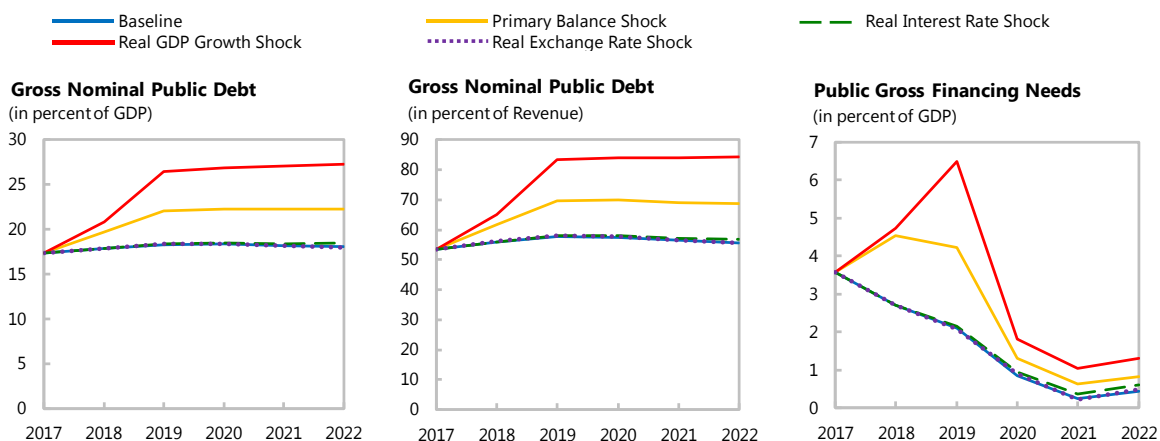
Baseline Scenario	2017	2018	2019	2020	2021	2022
Real GDP growth	1.4	1.4	1.5	1.5	1.5	1.5
Inflation	5.7	3.8	4.0	3.9	3.9	4.0
Primary Balance	-1.4	-0.6	0.0	0.8	1.2	1.3
Effective interest rate	7.2	7.8	8.1	8.2	8.1	8.3
<b>Constant Primary Balance Scenario</b>						
Real GDP growth	1.4	1.4	1.5	1.5	1.5	1.5
Inflation	5.7	3.8	4.0	3.9	3.9	4.0
Primary Balance	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4
Effective interest rate	7.2	7.8	8.2	8.2	8.1	7.8

Historical Scenario	2017	2018	2019	2020	2021	2022
Real GDP growth	1.4	1.7	1.7	1.7	1.7	1.7
Inflation	5.7	3.8	4.0	3.9	3.9	4.0
Primary Balance	-1.4	-0.4	-0.4	-0.4	-0.4	-0.4
Effective interest rate	7.2	7.8	7.0	6.1	5.2	4.5

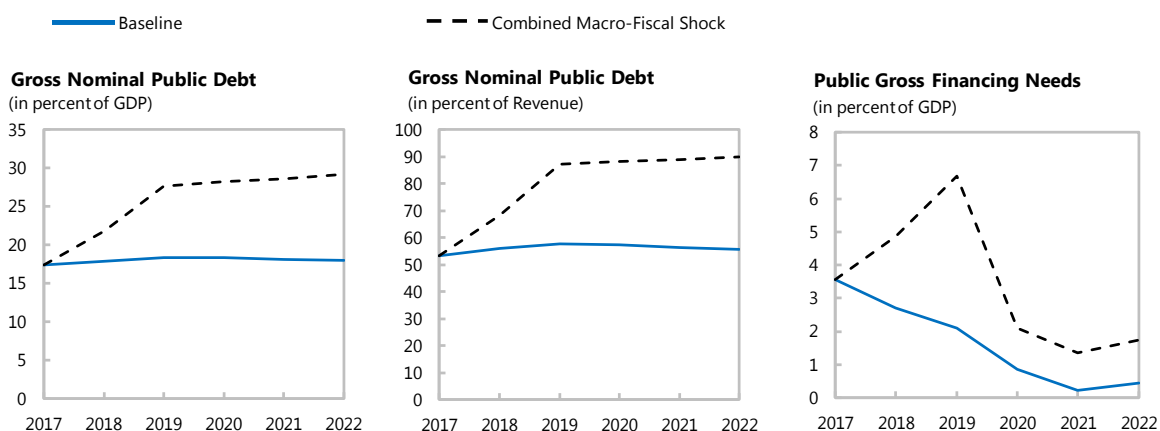
Source: IMF staff.

**Table 10. Russian Federation: Public DSA – Stress Tests**

**Macro-Fiscal Stress Tests**



**Additional Stress Tests**



**Underlying Assumptions**  
(in percent)

	2017	2018	2019	2020	2021	2022
<b>Primary Balance Shock</b>						
Real GDP growth	1.4	1.4	1.5	1.5	1.5	1.5
Inflation	5.7	3.8	4.0	3.9	3.9	4.0
Primary balance	-1.4	-2.4	-1.8	0.8	1.2	1.3
Effective interest rate	7.2	7.8	8.4	8.5	8.4	8.5
<b>Real Interest Rate Shock</b>						
Real GDP growth	1.4	1.4	1.5	1.5	1.5	1.5
Inflation	5.7	3.8	4.0	3.9	3.9	4.0
Primary balance	-1.4	-0.6	0.0	0.8	1.2	1.3
Effective interest rate	7.2	7.8	8.5	8.9	9.0	9.3
<b>Combined Shock</b>						
Real GDP growth	1.4	-3.2	-3.1	1.5	1.5	1.5
Inflation	5.7	2.6	2.9	3.9	3.9	4.0
Primary balance	-1.4	-2.5	-3.8	0.8	1.2	1.3
Effective interest rate	7.2	8.1	8.6	9.1	9.2	9.3
<b>Real GDP Growth Shock</b>						
Real GDP growth	1.4	-3.2	-3.1	1.5	1.5	1.5
Inflation	5.7	2.6	2.9	3.9	3.9	4.0
Primary balance	-1.4	-2.5	-3.8	0.8	1.2	1.3
Effective interest rate	7.2	7.8	8.4	8.6	8.5	8.5
<b>Real Exchange Rate Shock</b>						
Real GDP growth	1.4	1.4	1.5	1.5	1.5	1.5
Inflation	5.7	9.4	4.0	3.9	3.9	4.0
Primary balance	-1.4	-0.6	0.0	0.8	1.2	1.3
Effective interest rate	7.2	8.0	7.9	8.0	7.9	8.0

Source: IMF staff.

**Table 11. Russian Federation: External Debt Sustainability Framework, 2012–2022**

(In percent of GDP, unless otherwise indicated)

	Actual					Projections						Debt-stabilizing non-interest current account 6	
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022		
<b>Baseline: External debt</b>	29.3	32.7	29.1	38.0	40.0	<b>35.9</b>	<b>35.0</b>	<b>34.6</b>	<b>34.3</b>	<b>34.1</b>	<b>34.1</b>	<b>-0.9</b>	
Change in external debt	2.8	3.3	-3.6	8.9	2.0	-4.1	-1.0	-0.3	-0.3	-0.2	0.1	0.0	
Identified external debt-creating flows (4+8+9)	-3.6	-1.4	-1.6	7.6	2.6	-2.1	-2.5	-2.3	-2.2	-2.4	-2.5	0.0	
Current account deficit, excluding interest payments	-2.5	-0.7	-2.2	-4.3	-1.1	-2.0	-2.1	-2.2	-2.3	-2.3	-2.4	0.9	
Deficit in balance of goods and services	-47.7	-47.6	-48.0	-49.4	-46.6	-44.8	-44.8	-44.9	-45.1	-45.6	-47.1		
Exports	27.2	26.5	27.3	28.8	25.9	25.9	25.7	25.7	26.0	26.2	27.1		
Imports	-20.5	-21.1	-20.8	-20.6	-20.7	-18.8	-19.1	-19.2	-19.2	-19.4	-20.0		
Net non-debt creating capital inflows (negative)	0.0	-0.4	-1.1	-0.7	0.9	-0.5	-0.9	-0.8	-1.0	-1.2	-1.2	-1.2	
Automatic debt dynamics 1/	-1.2	-0.2	1.6	12.6	2.7	0.4	0.5	0.8	1.1	1.1	1.1	0.3	
Contribution from nominal interest rate	0.8	0.8	0.6	0.7	0.9	0.9	1.0	1.3	1.6	1.6	1.6	1.6	
Contribution from real GDP growth	-0.9	-0.4	-0.3	1.2	0.1	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	
Contribution from price and exchange rate changes 2/	-1.1	-0.7	1.3	10.7	1.8	...	...	...	...	...	...	-0.8	
Residual, incl. change in gross foreign assets (2-3) 3/	6.4	4.7	-2.0	1.4	-0.5	-1.9	1.5	2.0	1.9	2.2	2.6	0.0	
External debt-to-exports ratio (in percent)	107.9	123.1	106.6	132.0	154.6	138.5	136.0	134.9	132.1	130.0	125.7		
<b>Gross external financing need (in billions of US dollars) 4/</b>	109.2	203.9	169.4	78.2	78.9	73.5	83.6	83.6	88.8	85.4	82.4		
in percent of GDP	5.0	9.1	8.2	5.7	6.1	10-Year	10-Year	4.9	5.4	5.2	5.3	4.9	4.6
<b>Scenario with key variables at their historical averages 5/</b>						<b>35.9</b>	<b>35.4</b>	<b>35.1</b>	<b>34.8</b>	<b>35.0</b>	<b>35.4</b>	<b>-0.2</b>	
<b>Key Macroeconomic Assumptions Underlying Baseline</b>						Historical Average	Standard Deviation					For debt stabilization	
Real GDP growth (in percent)	3.5	1.3	0.7	-2.8	-0.2	1.7	4.6	1.4	1.4	1.5	1.5	1.5	1.5
GDP deflator in US dollars (change in percent)	3.2	1.5	-8.2	-31.9	-5.8	2.0	18.7	15.1	2.1	1.8	2.1	2.6	1.8
Nominal external interest rate (in percent)	3.3	2.9	1.6	1.6	2.1	3.7	1.7	2.7	2.9	3.8	4.7	4.9	4.9
Growth of exports (US dollar terms, in percent)	2.8	0.4	-5.0	-30.1	-15.5	2.8	24.6	17.0	2.7	3.1	4.7	5.1	7.1
Growth of imports (US dollar terms, in percent)	8.4	5.6	-8.7	-34.3	-5.5	5.5	25.6	5.9	5.2	3.8	3.4	5.4	6.6
Current account balance, excluding interest payments	2.5	0.7	2.2	4.3	1.1	2.8	1.3	2.0	2.1	2.2	2.3	2.3	2.4
Net non-debt creating capital inflows	0.0	0.4	1.1	0.7	-0.9	0.1	0.9	0.5	0.9	0.8	1.0	1.2	1.2

1/ Derived as  $[r - g - r(1+g) + ea(1+r)] / (1+g+r+gr)$  times previous period debt stock, with  $r$  = nominal effective interest rate on external debt;  $r$  = change in domestic GDP deflator in US dollar terms,  $g$  = real GDP growth rate,

$e$  = nominal appreciation (increase in dollar value of domestic currency), and  $a$  = share of domestic-currency denominated debt in total external debt.

2/ The contribution from price and exchange rate changes is defined as  $[-r(1+g) + ea(1+r)] / (1+g+r+gr)$  times previous period debt stock.  $r$  increases with an appreciating domestic currency ( $e > 0$ ) and rising inflation (based on GDP deflator).

3/ For projection, line includes the impact of price and exchange rate changes.

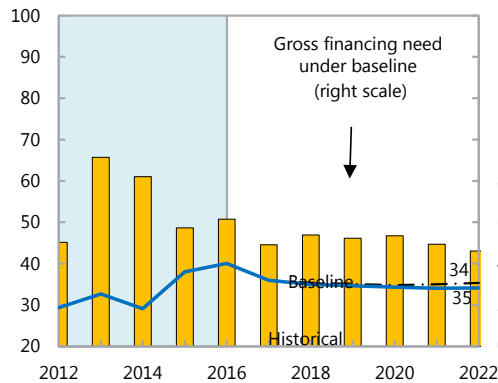
4/ Defined as current account deficit, plus amortization on medium- and long-term debt, plus short-term debt at end of previous period.

5/ The key variables include real GDP growth; nominal interest rate; dollar deflator growth; and both non-interest current account and non-debt inflows in percent of GDP.

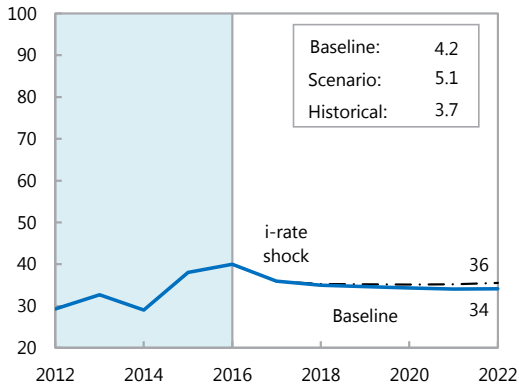
6/ Long-run, constant balance that stabilizes the debt ratio assuming that key variables (real GDP growth, nominal interest rate, dollar deflator growth, and non-debt inflows in percent of GDP) remain at their levels of the last projection year.

**Table 12. Russian Federation: External Debt Sustainability: Bound Tests 1/ 2/**

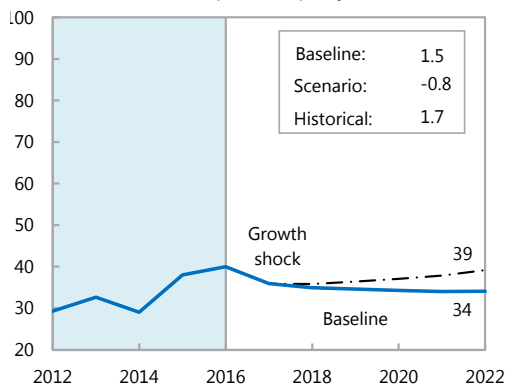
**Baseline and historical scenarios**



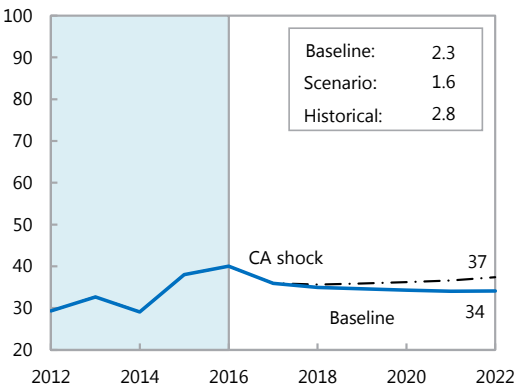
**Interest rate shock (in percent)**



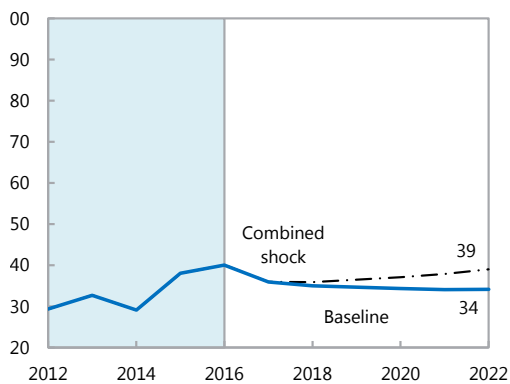
**Growth shock (in percent per year)**



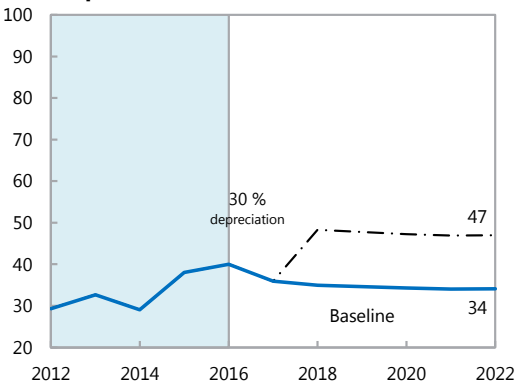
**Non-interest current account shock (in percent of GDP)**



**Combined shock 3/**



**Real depreciation shock 4/**



Sources: International Monetary Fund, Country desk data, and staff estimates.  
 1/ Shaded areas represent actual data. Individual shocks are permanent one-half standard deviation shocks. Figures in the boxes represent average projections for the respective variables in the baseline and scenario being presented. Ten-year historical average for the variable is also shown.  
 2/ For historical scenarios, the historical averages are calculated over the ten-year period, and the information is used to project debt dynamics five years ahead.  
 3/ Permanent 1/4 standard deviation shocks applied to real interest rate, growth rate, and current account balance.  
 4/ One-time real depreciation of 30 percent occurs in 2010.

## Annex I. Implementation of Past IMF Recommendations

During the 2016 Article IV consultation, Directors observed that the authorities' flexible and effective policy response has cushioned the economy from the dual shocks of lower oil prices and sanctions. They encouraged the authorities to undertake the necessary fiscal adjustment anchored on a credible medium-term plan and commended them for implementing policies that were helpful in bringing down inflation. Directors welcomed the authorities' success in stabilizing the financial system and stressed that structural reforms will be essential to leverage the more competitive exchange rate to boost long-term potential growth.

### Key recommendations

#### ***Fiscal Policy***

Medium-term fiscal consolidation is required to adjust to lower oil prices and rebuild buffers.

The fiscal adjustment should be smooth and based on quality and permanent measures while safeguarding growth-enhancing expenditures.

A parametric pension reform has become urgent to help support the fiscal adjustment in a timely manner.

The reinstatement of the fiscal rule will help anchor the fiscal adjustment over the medium-term.

#### ***Monetary Policy***

Monetary policy normalization could resume cautiously as inflation is on a declining path and inflation expectations continue to fall.

#### ***Financial Sector Policy***

Enhanced stress tests and an Asset Quality Review (AQR) would be important steps towards putting the banking system on a sounder footing.

### Implemented policies

The three-year budgeting framework was reintroduced with measures of about 1 percent of GDP per year over 2017-2019 to adjust to lower oil prices.

The three-year budget assumes a balanced adjustment path and is predicated on a nominal freeze of most categories of spending, irrespective of their contributions to growth, while relying on some. The current debate over pension reform has yet to lead to a roadmap of measures.

The new mechanism to save oil revenues helps improve the predictability of fiscal policy by ensuring that excess oil revenues are saved rather than spent. The authorities plan to introduce a new fiscal rule that would be effective in 2019.

Policy rates were decreased gradually, first in the summer of 2016 by a cumulative 100bps, and then in March-April 2017 by a cumulative 75bps, bringing the key rate to 9.25 percent.

Stress tests of banks have led to supervisory actions with some banks. A Risk Assessment Department was created to focus on asset quality review, supported by a new system-wide database on corporate credit and collaterals and

The authorities should prepare an action plan to address deficiencies in supervision.

Improvements in the bank resolution framework are critical to minimize the use of public funds.

***Structural Policies***

Reduce unwarranted administrative pressures while strengthening contract enforcement and property rights, increase mobility and reduce skills mismatches, support innovation for higher value added sectors, and reduce the footprint of the state in the economy.

Regulations on supervision are being amended with draft laws to improve CBR interaction with external auditors and requirements for CBR approval for major acquisition of financial companies.

The authorities introduced a new resolution framework that would provide solvency support in open bank resolution by purchasing bank shares at above fair price value.

The authorities have successfully privatized a 19.5 percent stake in Rosneft together with other, mostly small, divestures from SOEs. Various support programs for SMEs are being implemented to foster competition in the domestic market, improve quality of production and facilitate the increase of localization of manufacturing. Trade integration initiatives are continuing.

	Russia	Overall Assessment
<b>Foreign asset and liability position and trajectory</b>	<p><b>Background.</b> The net international investment position (NIIP) at end-September 2016 was at 18 percent GDP (up from 10 percent in 2013), with gross assets of 96 percent of GDP and liabilities of 78 percent of GDP. Total external debt was at 41.6 percent of GDP at end-2016. There are no obvious maturity mismatches between the gross asset and liability position. Historically, the NIIP position has not kept pace with the CA surpluses due to unfavorable valuation changes and the treatment of “disguised” capital outflows. 1/</p> <p><b>Assessment.</b> The projected current account surpluses suggest that Russia will continue to maintain a positive IIP, which minimizes risks to external stability. Moreover, reserve assets should increase further, as accumulation of fiscal savings in the oil funds is resuming. External deleveraging by the private sector since 2014 reduces risks further.</p>	<p><b>Overall Assessment:</b> <i>The external position in 2016 was moderately weaker than suggested by medium-term fundamentals and desirable policy settings.</i></p> <p>Since 2016 the REER has appreciated, sharply as oil prices bottomed out, economic uncertainty declined, and appetite for Russian assets resumed. The structural implications of sanctions create exceptional uncertainty when assessing the external position, although on balance they would suggest the equilibrium REER should be lower.</p> <p><b>Potential policy responses:</b> The weaker external position calls for greater diversification. The non-oil fiscal deficit remains significantly higher than its long-term desirable level and needs to adjust to facilitate a rebalancing from public to private activity, and a re-allocation of government expenditure from current to capital spending. This rebalancing—coupled with a renewed emphasis on structural reforms to invigorate the private sector—would help increase on a net basis savings, and yet create some room for somewhat higher private and public sector investment over the medium-term.</p>
<b>Current account</b>	<p><b>Background.</b> From 2000 to 2013, the current account (CA) surplus fell from 16 to 1.5 percent of GDP, despite rising oil prices, as consumption increased rapidly. The 2014 oil price shock triggered a brief correction: the CA rose to 5 percent of GDP in 2015, as reduced oil export revenues (approximately 7 percent of GDP) were more than offset by falling absorption. However, in 2016, as the decline in absorption stopped amid still-falling energy export revenues, the CA surplus shrunk to 1.7 percent of GDP, although the non-oil current account deficit remained stable. In the medium-term, the projected increase in oil prices and authorities’ fiscal consolidation plans should support a gradual improvement in the CA.</p> <p><b>Assessment.</b> The EBA CA model yields a norm for 2016 of 6.3 percent of GDP, compared to a cyclically adjusted CA surplus of 4.2 of GDP, thus yielding a CA gap of -2 percent of GDP. There are particular uncertainties with the external assessment when oil plays such a dominant role in the economy and oil price movements have been very large, which are compounded by the uncertain long-term impact of sanctions on saving-investment decisions and therefore the normative external position. Staff assesses the 2016 CA gap to have been between -2 to 0 percent of GDP, and therefore somewhat less than the EBA CA model. 2/ The identified fiscal gap accounts for almost all of the CA gap. Thus, in the medium term, fiscal policy should be tightened to rebuild buffers and save more of the oil wealth for future generations.</p>	
<b>Real exchange rate</b>	<p><b>Background.</b> The sustained oil price boom and related expansion of domestic demand led to a strong real effective exchange rate (REER) appreciation between 2000 and 2013. Following the dual shocks of oil prices and sanctions, and the floating of the ruble in November 2014, the REER has depreciated over 35 percent between mid-2014 and February 2016. In 2016, the average REER remained largely unchanged compared to 2015. However, from the fourth quarter of 2016, the exchange rate has sustained a significant appreciation, and as of February 2017 the REER was 26.2 percent above the 2016 average due largely to oil price increases.</p> <p><b>Assessment.</b> Consistent with the CA assessment, staff assess that the 2016 REER was between 0 and 10 percent, above its equilibrium, and therefore moderately overvalued. 3/</p>	
<b>Capital and financial accounts: flows and policy measures</b>	<p><b>Background.</b> Net private capital outflows continued in 2016 though the pace has significantly slowed relative to 2014 and 2015, as confidence has resumed. Private sector external deleveraging has continued in the face of limited access to international capital markets. Nonetheless, volatile oil prices will continue to weigh on the outlook. Over the medium term, structural outflows are expected to decline if Russia improves its investment climate.</p> <p><b>Assessment.</b> While Russia is exposed to risks of accelerated capital outflows because of the uncertain geopolitical context, the floating exchange rate regime and large international reserves provide substantial buffers to help absorb these potential shocks.</p>	
<b>FX intervention and reserves level</b>	<p><b>Background.</b> Since adopting a free floating exchange rate regime in November 2014, FX interventions have been limited. International reserves rose to US\$378 billion in 2016, up from US\$368 billion in 2015, due mostly to valuation effects.</p> <p><b>Assessment.</b> International reserves at end-2016 were equivalent to 235 percent of the Fund’s basic reserve adequacy metric, considerably above the adequacy range of 100–150 percent. However, taking into account Russia’s</p>	

	<p>vulnerability to commodity shocks, the adjusted adequacy metric falls to 206 percent of the metric, still above the adequacy level. Small regular purchases to replenish reserves could be justified by the high level of uncertainty related to sanctions and oil prices. Large FX interventions should be limited to episodes of market distress.</p>	
<p><b>Technical Background Notes</b></p>	<p>1/ Unfavorable valuation changes arise because the Russian stock market has performed very well in the last 15 years as the oil price soared, boosting the valuation of foreign-owned assets. “Disguised” capital outflows include transactions such as pre-payments on import contracts where the goods are not delivered, repeated large transfers abroad that deviate from standard remittances behavior, or securities transactions at inflated prices. The CBR includes estimates of “disguised” capital outflows in the financial account but not in the foreign asset position of the reported NIIP. Hence, the actual NIIP position could be higher than the reported level and this treatment of “disguised” outflows may explain part of the discrepancy between accumulated CA surpluses and the reported NIIP position.</p> <p>2/ The high EBA estimated CA norm of 6.3 percent of GDP reflects the need to save out of income from non-renewable oil exports. Staff’s assessment shares this basic logic, but acknowledges that not all of such saving (i.e., refraining from consumption) would necessarily have to take a financial form and could in part take the form of productive investment spending. This justifies a somewhat lower CA surplus (by about one percent of GDP) than the EBA-estimated norm. Sanctions and geopolitical tensions have introduced an additional level of complexity in the external assessment.</p> <p>3/ The EBA Level REER model suggests an <i>undervaluation</i> of 18.1 percent, and the EBA Index REER regression model an undervaluation of 23.6 percent. For commodities exporters, the fit of the REER models tends to be relatively poor, however, hence staff puts more weight on the results implied by the CA model</p>	



## Annex III. Risk Assessment Matrix (RAM) 1/

Sources of Risks	Overall Level of Concern		Recommended Policy Response
	Relative Likelihood	Expected Impact if Materialized	
<p><b>Financial conditions:</b></p> <p><b>Significant further strengthening of the US dollar and/or higher rates.</b> As investors reassess policy fundamentals, as term premia decompress, or if there is a more rapid Fed normalization, leveraged firms, lower-rated sovereigns and those with un-hedged dollar exposures could come under stress. Could also result in capital account pressures for some economies.</p>	High	Low	Enhance confidence and resilience by strengthening core institutions and policy frameworks and improve the investment climate. Tighten monetary policy if balance of payment pressures emerges, while allowing the exchange rate to adjust, and intervening only to counter disorderly market conditions.
<p><b>Policy and geo-political uncertainties:</b> Regional tension flare-ups or intensification could depress business confidence and heighten risk aversion.</p>	Medium	Medium	The floating exchange rate remains key to cushion the shock. Disorderly market conditions can be countered with foreign exchange intervention. An interest rate increase could be considered. Fiscal policy tightening could be postponed.
<p><b>Weaker banking system for longer.</b> If undercapitalized banks identified by the FSAP are unable to improve their capital position, credit growth will be even lower with negative implications on growth.</p>	Medium	Medium	Weak banks should be required to submit time bound plans for recapitalization while bringing their capitalization closer to regulatory minima under an adverse stress scenario. In the case of weak viable government related banks, the government may want to consider precautionary capital injections.
<p><b>Sharper-than-expected global growth slowdown:</b></p> <p><b>Significant China slowdown.</b> Key near-term risks are disruptive drying up of liquidity for weaker borrowers in the interbank market and increasing pressure on the Renminbi, which could lead to overcorrection. Weak domestic demand further suppresses commodity prices, roils global financial markets, and reduces global growth.</p>	Low/Medium	Medium	The exchange rate should be allowed to adjust. Disorderly market conditions can be countered with foreign exchange intervention. Fiscal policy tightening could be temporarily postponed and structural reforms should be advanced to enhance economic efficiency and diversification.
<p><b>Continued drop in domestic investment.</b> Authorities pursue inward-looking policies. Lack of structural reform could lead to a decline in investment and TFP.</p>	Medium	Medium	Focus on structural and governance reforms to improve the investment climate. Avoid distortive measures and leverage the real exchange rate depreciation while increasing trade openness.

1/ The RAM shows events that could materially alter the baseline path discussed in this report (which is the scenario most likely to materialize in the view of the staff). The relative likelihood of risks listed is the staff's subjective assessment of the risks surrounding this baseline. The RAM reflects staff's views on the source of risks and overall level of concerns as of the time of discussions with the authorities.

## Annex IV. Implementation of FSAP Recommendations

Recommendations	Timing	Progress
<b>Banking Stability</b>		
Conduct an asset quality review (AQR) to ensure adequate bank capitalization (CBR).	ST/MT	<b>In progress.</b> The authorities expect to complete an asset quality review of the entire banking system by end-2018. Stress tests of banks make supervisory adjustments for assets and capital for certain banks.
Enhance stress testing practices, including on a consolidated basis and by currency (CBR).	ST/MT	<b>In progress.</b> CBR is developing methodologies for stress testing on a consolidated basis, with the help of an external consultant, and by currency, for individual banks.
<b>Liquidity Management</b>		
Review FX repo framework, and formalize lender of last resort (CBR).	ST	<b>Done.</b> The FX repo framework takes account of banks' access to FX funding from the interbank market. The CBR strengthened its framework for emergency liquidity assistance (ELA) during 2016 and is in the process of receiving IMF TA in this area.
Re-establish T-bill program and coordinate sterilization of excess liquidity (Ministry of Finance—MoF, CBR).	ST	<b>Not done.</b>
<b>Financial Sector Oversight and Regulation</b>		
Require prior approval for banks' domestic investments in nonbank institutions (CBR).	ST	<b>In progress.</b> A draft law requires banks to coordinate with the CBR on acquisition of shares representing more than 10 percent ownership in nonbank credit institutions. The draft law has passed public discussion and is at the stage of inter-agency examination.
Issue specific requirements for management of banks' country and transfer risks (CBR).	ST	<b>In progress.</b> Under review.
Upgrade framework for relations with and use of banks' external auditors (CBR).	ST	<b>In progress.</b> A draft law allows the CBR to regulate and supervise audit activities. The draft is being prepared for a second reading in parliament.
Strengthen further the legal framework applicable to related parties (CBR).	ST	<b>Done.</b> Effective from January 2017, the definition of related parties has been

		broadened and a limit set on such exposure at 20 percent of a bank's equity capital.
Upgrade framework for prudential oversight of banks' operational risk (CBR).	ST	<b>In progress.</b>
Bring securities and insurance regulation and supervision in line with international standards (CBR).	MT	<b>In progress.</b> The CBR is preparing a road map to bring legislation in line with the Core Principles, Standards, Guidance and Assessment Methodology of the International Association of Insurance Supervisors and IOSCO Objectives and Principles of Securities Regulation.
Ensure the effective implementation of the AML/CFT framework (CBR, MoF monitoring).	ST	<b>In progress.</b> Work is at an early stage.
<b>Macprudential Policy</b>		
Adopt legal changes to provide a comprehensive policy toolkit (CBR, MoF).	ST/MT	<b>In progress.</b> The CBR is drafting a regulation to consolidate existing macroprudential tools. The authorities have taken measures to reduce dollarization by requiring higher capital risk weights on banks' FX lending not matched by FX earnings.
<b>Crisis Management and Resolution</b>		
Review the framework for the use of public funds to finance the DIA for resolution purposes to be provided by the federal government. If necessary to use CBR funds, the federal government should provide an indemnity (CBR, MoF).	MT	<b>Not done.</b> The authorities have identified a new mechanism to finance the costs of banking resolution but it does not explicitly provide for use of public funds.
Establish a funding mechanism for recovery of the costs of providing temporary public financing through levies on the financial industry (CBR, MoF).	MT	<b>Not done.</b> The resolution mechanism does not envisage levies on banks other than the premia already collected by the DIA.
Introduce the full range of resolution powers and safeguards recommended by the FSB Key Attributes, including by implementing legal and operational changes needed to make purchase and assumption (P&A) an effective resolution tool (CBR, MoF).	ST	<b>In progress.</b> The authorities have introduced a new resolution mechanism. However, there is no provision as yet for asset transfer at market prices to an acquiring institution as part of a P&A transaction.
<b>Banking Sector Development</b>		
Promote legal reforms to increase state-owned commercial banks (SOB's) Board effectiveness (MoF, CBR).	MT	<b>Not done.</b>
Continue gradual privatization of SOBs (MoF, CBR) as conditions permit.	MT	<b>Not done.</b>
<sup>1/</sup> "ST-short term" is within one year; "MT-medium term" is one to three years.		



# RUSSIAN FEDERATION

## STAFF REPORT FOR THE 2017 ARTICLE IV CONSULTATION—INFORMATIONAL ANNEX

June 15, 2017

Prepared By

The European Department (In Consultation with Other  
Departments and the World Bank).

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## FUND RELATIONS<sup>1</sup>

(As of March 31, 2017)

**Membership Status:** Joined June 1, 1992; Article VIII.

<b>General Resources Account</b>	<b>SDR Million</b>	<b>Percent Quota</b>
Quota	12,903.70	100.00
Fund holdings of currency	11,425.27	88.54
Reserve Position	1,478.45	11.46
Lending to the Fund	750.66	
New Arrangements to Borrow		

<b>SDR Department</b>	<b>SDR Million</b>	<b>Percent Allocation</b>
Net cumulative allocation	5,671.80	100.00
Holdings	4,823.48	85.04

**Outstanding Purchases and Loans:** None

### Latest Financial Arrangements

<b>Type</b>	<b>Approval Date</b>	<b>Expiration Date</b>	<b>Amount Approved (SDR million)</b>	<b>Amount Drawn (SDR million)</b>
Stand-by	07/28/99	12/27/00	3,300.00	471.43
EFF	03/26/96	03/26/99	13,206.57	5,779.71
Of which SRF	07/20/98	03/26/99	3,992.47	675.02
Stand-by	04/11/95	03/26/96	4,313.10	4,313.10

### Projected Obligations to Fund

(SDR Million; based on existing use of resources and present holdings of SDRs):

	<b>Forthcoming</b>				
	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>
Principal					
Charges/Interest	2.70	3.68	3.68	3.68	3.68
<b>Total</b>	2.70	3.68	3.68	3.68	3.68

**Implementation of HIPC Initiative:** Not Applicable

<sup>1</sup> <http://www.imf.org/external/np/fin/tad/exfin2.aspx?memberkey1=819&date1Key=2999-12>

**Implementation of MDRI Assistance:** Not Applicable

**Exchange Arrangements:** Effective November 10, 2014, the CBR eliminated its exchange rate corridor and canceled regular FX interventions, adopting a *de jure* and *de facto* floating exchange rate regime, with FX interventions conducted only to safeguard financial stability. The Russian Federation accepted the obligations of Article VIII, Sections 2, 3, and 4 of the IMF Articles of Agreement with effect from June 1, 1996, *and maintains an exchange system free of restrictions on the making of payments and transfers for current international transactions.*

**Article IV Consultation:** Russia is on the standard 12-month consultation cycle. The last consultation was concluded on June 29, 2016.

**FSAP Participation, FTE and ROSCs:** Russia participated in the Financial Sector Assessment Program during 2016, and the FSSA report will be discussed by the Board at the time as the 2016 Article IV discussion. An FSAP update took place in the fall of 2007, and the FSSA report was discussed by the Board in August 2008, at the time of the 2008 Article IV discussion. An FSAP financial stability assessment took place during April 2011, and the FSSA report was discussed by the Board in September 2011, at the time of 2011 Article IV Consultation.

A recent pilot of the IMF's new Fiscal Transparency Evaluation (FTE) was undertaken in October 2013 and published in May 2014. It assessed the Russian government's fiscal reporting, forecasting, and risk management practices against the IMF's revised Fiscal Transparency Code

**Resident Representative:** Mr. Gabriel Di Bella, Resident Representative since July 15, 2015.

## WORLD BANK GROUP RELATIONS<sup>2</sup>

### A. International Bank for Reconstruction and Development

**The Russian Federation joined the World Bank (IBRD and IDA) in 1992.** The Bank has provided financing for 70 projects in different sectors totaling slightly over US\$10.5 billion in IBRD loans.

**IBRD's current portfolio of projects** amounts to US\$636 million in the areas of public sector management, judicial reform, financial literacy, statistics, municipal infrastructure, cultural heritage preservation, hydro-meteorology and forestry. The undisbursed balance is US\$195 million as of May 2017. All of the Bank's financing in the portfolio is in the form of investment project financing.

**The Bank also has a program of Advisory Services and Analytics (ASA),** including reimbursable advisory services (RASs). The ASA program is organized around the priorities identified in the recently completed Systematic Country Diagnostic (SCD), along the following two broad areas: 1.

<sup>2</sup> Prepared by the World Bank.

Growth and Competitiveness (e.g. labor informality and mobility, investment climate, transport connectivity and digital economy) and 2. Human Capital, Poverty and Shared Prosperity (e.g. education quality and equity, skills, integrative health, spatial equity, pensions, and demographic change). In FY17, along with two regular Russia Economic Reports and the SCD, the World Bank is planning to finalize work on transport connectivity, the spatial dimensions of inequality and education.

## B. International Finance Corporation

**Russia became an IFC member in 1993.** Since then, IFC's long-term investments in Russia totaled US\$10 billion, of which US\$3.5 billion were mobilized from partners, across 263 projects.<sup>3</sup> As of April 2017, IFC's committed investment portfolio in Russia stood at US\$800 million of which US\$750 million was disbursed.

## C. Multilateral Guarantee Agency

**MIGA's gross exposure in Russia was US\$376 million as of May 2017.** MIGA is involved in two projects in the finance and manufacturing sectors. In dollar terms, MIGA's exposure is concentrated in Russia's financial sector (some 85 percent of MIGA's gross exposure), supporting the investment of a French financial institution in its Russian subsidiary. MIGA's exposure in the manufacturing sector is located in the greater Moscow area.

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<sup>3</sup> Previously IFC reported the total volume of investments, including short-term and long-term. Due to changes in accounting of short-term instruments, they are no longer included in the total investment volume.

## STATISTICAL ISSUES

(As of June 2, 2017)

<b>I. Assessment of Data Adequacy for Surveillance</b>
<p><b>General:</b> Data provision is broadly adequate for surveillance. However, in the context of emerging data demands for assessing external vulnerabilities, the scope for further data improvements exists.</p>
<p><b>National Accounts:</b> Data are broadly adequate for surveillance, but there have been concerns about the reliability and consistency of quarterly GDP estimates among a wide range of users, including Fund staff. The Federal State Statistics Service (Rosstat) started a national accounts development plan for 2011–17, which will expedite compilation of quarterly GDP estimates consistent with the annual GDP estimates. In April 2016, Rosstat released GDP estimates compiled according to the 2008 SNA; however, the data are only available from 2014. In addition, the data for 2011 to 2013 have been revised, but are compiled according to the 1993 SNA. The main changes introduced in the latter revised series include improvements in the estimation of the imputed rental services of owner-occupied dwellings and the use of the market value of assets to estimate consumption of fixed capital. The Central Bank of Russia compiles quarterly sectoral financial accounts and financial balance sheets; however, data are only available on the agency’s website up to the first quarter of 2016.</p>
<p><b>Price Statistics:</b> Monthly CPI and PPI, both compiled using the Two-Stage (Modified) Laspeyres (2000=100), cover all regions of the Russian Federation. The weights reflect expenditures in the 12 months ended the previous September. Aggregate price indices are compiled for each good and service item for the 89 regions, seven federal regions, and the Russian Federation as a whole. However, population weights, as opposed to expenditure shares are applied to the individual regional indices possibly biasing the CPI downwards if price increases are higher in regions with higher per capita expenditures. Detailed data on total annual sales, which are used to develop weights for the PPI, are published by economic activity on the Rosstat website. The detailed weights are available only on the Russian version of the website, making it less accessible to some users. Further efforts to improve the treatment of seasonal items in the core inflation index and a new household budget survey—which has been under consideration for some time—could significantly strengthen data quality.</p>
<p><b>Government Finance Statistics:</b> The authorities compile comprehensive set of the general government accounts based on the <i>Government Finance Statistics Manual 2001 (GFSM 2001)</i> on annual basis. These data comprise the statement of sources and uses of cash as well as the accrual based government operations (revenue, expenditure and transactions in assets and liabilities), complete balance sheet (including non-financial assets), holding gains and losses and other changes in volume of assets and liabilities, and outlays by functions of government (COFOG). Monthly statement of sources of uses of cash based on <i>GFSM 2001</i> is also compiled for the whole general government sector. In addition, the authorities have recently started reporting quarterly accrual based general government operation statement as well as financial balance sheet. Some gaps remain. To name a few, the lack of historical quarterly data, unexplained data breaks (for instance the reclassification of some wage expenses from the budgetary central government accounts to the regional government accounts (following 2011 reforms ), unavailability of monthly</p>



data on ruble guarantees prior to 2011, no integrated debt monitoring and reporting system, and the lack of reconciliation between different datasets of fiscal reporting (budget execution, cash flow statement, economic versus functional classification, fiscal statistics data).

**Monetary and Financial Statistics:** In the context of the recent global turmoil, analysis of balance sheet effects has been hindered by the lack of comparable data on the currency and maturity breakdown of banking-sector assets and liabilities. Adoption of data reporting in the full detail of the framework for Standardized Report Forms (SRFs), as recommended by an STA mission in 2007 (and re-affirmed by the ROSC mission in 2010), would provide comprehensive information on the currency and instrument breakdowns of the assets and liabilities of the central bank, other depository corporations, and other financial corporations. Since March 2011, the Banking System Survey (which is equivalent to the Depository Corporations/Broad Money Survey) published by the Central Bank of Russia (CBR) has included a breakdown of positions by national and foreign currency. Publication of a similar breakdown of positions by national and foreign currency in the central bank and other depository corporations surveys in the SRF format would be useful for analysis.

**External sector statistics:** Balance of payments data are broadly adequate for surveillance, and significant improvements have been made to enhance data quality. The CBR has recently published the gross capital flow data for the private sector, which would facilitate the analysis of relatively complex flows. Starting from 2012, the balance of payments is compiled according to the framework of the *Fund's Balance of Payments and International Investment Position Manual*, sixth edition (BPM6) and the CBR has revised historical data (going back to 1998Q1 for BOP, and to 2004Q1 for IIP), consistent with BPM6. Partial data from a variety of sources are supplemented by the use of estimates and adjustments to improve data coverage. In particular, the CBR makes adjustments to merchandise import data published by the Federal Customs Service to account for "shuttle trade," smuggling, and undervaluation. Statistical techniques are also used to estimate transactions and positions of foreign-owned enterprises with production sharing agreements, and these techniques are continuously being improved. At the same time, Russian compilers are seeking to reconcile their data with those of partner countries. Improvements have been made in the coverage and quality of surveys on direct investment, and the CBR is participating in the Fund's Coordinated Direct Investment Survey (CDIS) and Coordinated Portfolio Investment Survey (CPIS).

**Financial sector surveillance:** Russia reports all 12 core financial soundness indicators (FSIs) and 9 of the 13 encouraged FSIs for deposit takers on a quarterly basis except for FSIs on earnings and profitability that are reported on an annual basis. Also, 2 FSIs for households and 3 FSIs for real estate markets are reported on a quarterly basis. Data are reported for posting on the IMF's FSI website with more than one quarter lag.

## II. Data Standards and Quality

Russia is an SDDS subscriber since 2005.

Russia participates in the G-20 Data Gap Initiative.

Russia reports data for the Fund's statistical publications.

Data ROSC was published in 2011.

## Russian Federation: Table of Common Indicators Required for Surveillance

(As of May, 2017)

	Date of latest observation	Date received	Frequency of Data <sup>7</sup>	Frequency of Reporting <sup>7</sup>	Frequency of Publication <sup>7</sup>	Memo Items: <sup>8</sup>	
						Data Quality – Methodological soundness <sup>9</sup>	Data Quality – Accuracy and reliability <sup>10</sup>
Exchange Rates	April 2017	5/13/2017	D	D	D		
International Reserve Assets and Reserve Liabilities of the Monetary Authorities <sup>1</sup>	April 2017	5/13/2017	M	M	M		
Reserve/Base Money	March 2017	5/15/2017	D	W	W	O, O, LO, LO	O, O, O, O, O
Broad Money	March 2017	5/15/2017	D	M	M	O,O,LO,LO	O,O,O,O,O
Central Bank Balance Sheet	March 2017	5/15/2017	M	M	M	O,O,LO,LO	O,O,O,O,O
Consolidated Balance Sheet of the Banking System	March 2017	5/15/2017	M	M	M	O,O,LO,LO	O,O,O,O,O
Interest Rates <sup>2</sup>	April 2017	5/15/2017	M	M	M	O,O,LO,LO	O,O,O,O,O
Consumer Price Index	February 2017	4/12/2017	M	M	M		
Revenue, Expenditure, Balance and Composition of Financing <sup>3</sup> – General Government <sup>4</sup>	May 2017	5/18/2017	M	M	M	O, LO, LNO, O	O, O, O, O, O
Revenue, Expenditure, Balance and Composition of Financing <sup>3</sup> – Central Government	May 2017	5/18/2017	M	M	M	LO, LNO, LO, O	O, O, LO, O, NA
Stocks of Central Government and Central Government-Guaranteed Debt <sup>5</sup>	May 2017	5/18/2017	M	M	M		
External Current Account Balance	2017Q1	4/05/2017	M	M	M		
Exports and Imports of Goods and Services	2017Q1	4/05/2017	Q	Q	Q	O, O, O,LO	LO, O, O, O, O
GDP/GNP	2016Q4	5/13/2017	Q	Q	Q		
Gross External Debt	2017Q1	5/14/2017	Q	Q	Q	O, O, O, O	O, O,LO, O, LO
International Investment Position <sup>6</sup>	2017Q1	5/10/2017	Q	Q	Q		

<sup>1</sup> Any reserve assets that are pledged or otherwise encumbered should be specified separately. Also, data should comprise short-term liabilities linked to a foreign currency but settled by other means as well as the notional values of financial derivatives to pay and to receive foreign currency, including those linked to a foreign currency but settled by other means.

<sup>2</sup> Both market-based and officially-determined, including discount rates, money market rates, rates on treasury bills, notes and bonds.

<sup>3</sup> Foreign, domestic bank, and domestic nonbank financing.

<sup>4</sup> The general government consists of the central government (budgetary funds, extra budgetary funds, and social security funds) and state and local governments.

<sup>5</sup> Including currency and maturity composition.

<sup>6</sup> Includes external gross financial asset and liability positions vis-à-vis nonresidents.

<sup>7</sup> Daily (D); weekly (W); monthly (M); quarterly (Q); annually (A); irregular (I); and not available (NA).

<sup>8</sup> These columns should only be included for countries for which Data ROSC (or a Substantive Update) has been published.

<sup>9</sup> This reflects the assessment provided in the data ROSC or the Substantive Update (published on ..., and based on the findings of the mission that took place during...) for the dataset corresponding to the variable in each row. The assessment indicates whether international standards concerning concepts and definitions, scope, classification/sectorization, and basis for recording are fully observed (O); largely observed (LO); largely not observed (LNO); not observed (NO); and not available (NA).

<sup>10</sup> Same as footnote 7, except referring to international standards concerning (respectively) source data, assessment of source data, statistical techniques, assessment and validation of intermediate data and statistical outputs, and revision studies.



# RUSSIAN FEDERATION

## SELECTED ISSUES

July 2017

This Selected Issues paper on the Russian Federation was prepared by a staff team of the International Monetary Fund as background documentation for the periodic consultation with the member country. It is based on the information available at the time it was completed on June 19, 2017.

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# RUSSIAN FEDERATION

## SELECTED ISSUES

June 19, 2017

Approved By  
**European Department**

Prepared by Alexander Culiuc, Gabriel Di Bella, Oksana Dynnikova, Zoltan Jakab, Annette Kyobe, and Marzie Taheri Sanjani.

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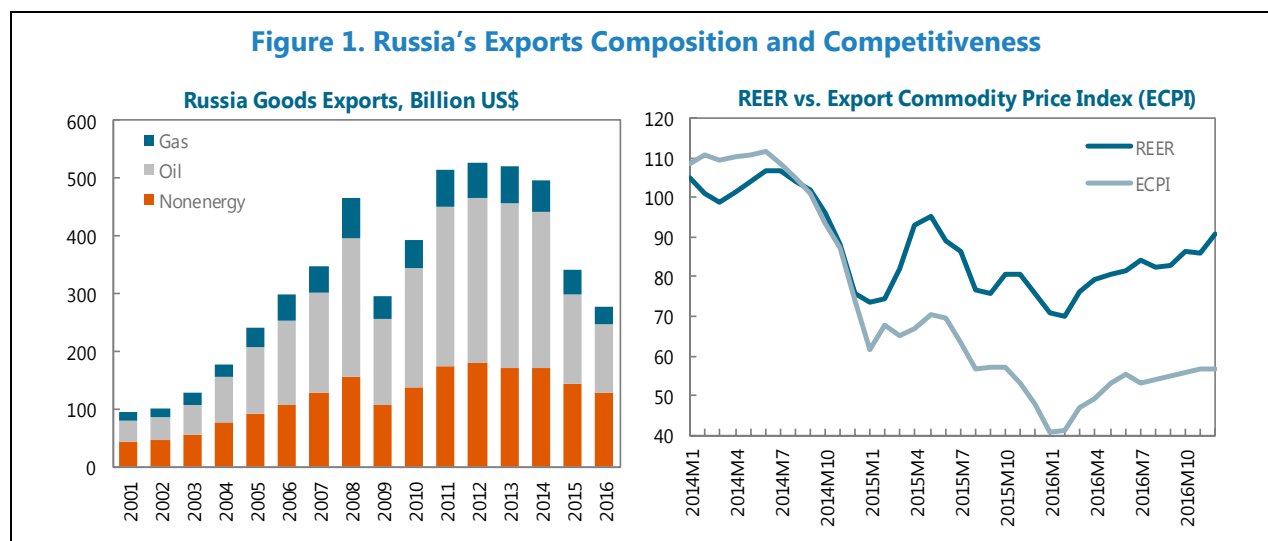
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# RUSSIA'S NON-COMMODITY EXPORTS: WHY THE MUTED RESPONSE TO THE RECENT DEVALUATION?<sup>1</sup>

## A. Introduction and Summary

1. An often-cited silver lining of lower commodity prices is the ensuing real depreciation and potential to unwind the Dutch disease that commodity exporters experienced during the preceding commodity booms. While there is anecdotal evidence supporting the recovery of select tradable sectors in Russia, it has yet to manifest itself in a meaningful way in macro-level data. (Figure 1).



2. A [Selected Issue Paper](#) accompanying the 2016 Russia Article IV staff report argued that structural weaknesses attenuated the economy's ability to reallocate resources across sectors in response to relative price changes. The study drew in part on Culiuc and Kyobe (2017), who link lower REER export elasticities to structural weaknesses. As many of these weaknesses are present in Russia, the 2016 Article IV concluded that structural reforms in key areas should be conducive to a larger/faster response of the tradable sector to the recent depreciation. The present study argues the task may be more complicated when the adjustment in relative prices is driven by a negative terms-of-trade (ToT) shock. Two sets of factors are explored: (i) disruptiveness of sudden terms-of-trade driven devaluations and (ii) issues related to external demand and access to external markets.

3. First, sudden depreciations like those triggered by an export commodity price drop put the economy under stress, and may not be conducive to a large reallocation of resources across sectors.

<sup>1</sup> Prepared by Alexander Culiuc.

Section B confirms this empirically, and links the finding to the uncertainty associated with the REER correction, the irreversibility of the Dutch disease, and the stress of the banking sector.

4. Sections C and D document the impact of global demand and market access on the Russia's ability to take advantage of the recently improved price competitiveness. It is well established that episodes of commodity busts—especially for oil—are generally associated with (and driven by) a softer global demand, and this relationship normally blunts the effect of improved competitiveness of non-commodity exporters in commodity-dependent economies. However, the most recent oil price collapse was primarily driven by supply factors, which means that global demand was not the culprit and remained reasonably strong in the last two years. But, Russia's main trading partners economies (CIS) performed relatively poorly, where Russia has a high concentration of non-commodity exports.

5. Section E briefly considers the structural transformation to date achieved by Russian exporters. Results are mixed: generally positive long-term trends in diversification have stalled and have not been accompanied to a move into more sophisticated products.

6. Section F concludes with a set of policy recommendations pertaining to (i) efforts to insulate the non-commodity sector from oil price volatility, (ii) structural reforms to support reallocation of resources across sectors, (iii) initiatives to improve penetration of global markets, and (iv) measures to ensure that the financial system can support reallocation of resources even during periods of stress.

## B. Export Elasticities During Terms-of-Trade Driven Depreciations

7. The argument that a reduction in commodity prices will unwind the Dutch disease assumes symmetry: since increasing commodity prices drove resources out of the non-commodity tradable sector (via an appreciated real exchange rate), decreasing commodity prices and ensuing real depreciation should bring resources back into the non-tradable sector. Effectively, this implies that the magnitude of the elasticity of non-commodity exports to the real effective exchange rate (REER) is equal regardless of the direction of the REER movement, and is not affected by the phase of the commodity cycle. We test whether this symmetry holds in the data, by estimating this elasticity separately for periods of rising and falling commodity prices.

8. Elasticities of exports with respect to the REER and trading partner growth are estimated using a standard panel regression setup<sup>2</sup>:

$$\Delta \log X_{it} = \beta_1 \Delta \log PartnerGDP_{it} + \beta_2 \Delta \log REER_{it-1} + \omega_i + \eta_t + \varepsilon_{it} \quad (1)$$

where  $X$  is manufacturing exports (data from World Bank's World Development Indicators),  $\omega$  is a country dummy and  $\eta$  is a time dummy.  $\beta_1$  and  $\beta_2$  represent, respectively, the estimated export elasticities with respect to export trading partners GDP growth and REER. The analysis uses data averaged over three year periods, which means that estimates are best interpreted as medium-term

<sup>2</sup> See, for example, Eichengreen and Gupta (2013).



elasticities. The REER is lagged one period to alleviate endogeneity concerns.<sup>3</sup> This baseline setup is augmented with the export commodity price index (ECPI) data from the Gruss (2014) as follows.<sup>4</sup>

$$\Delta \log X_{it} = \beta_1 \Delta \log \text{PartnerGDP}_{it} + \beta_1 \Delta \log \text{REER}_{it-1} * \text{ECPI}_{up} + \\ + \beta_1 \Delta \log \text{REER}_{it-1} * \text{ECPI}_{down} + \omega_i + \eta_t + \varepsilon_{it} \quad (2)$$

$\text{ECPI}_{down}$  and  $\text{ECPI}_{up}$  are dummy variables indicating the direction in which the ECPI is changing. Interacting these dummies with the  $\Delta \log \text{REER}_{it-1}$  allows to estimate the elasticity of manufactured exports w.r.t. REER separately for periods of ECPI rises and falls.<sup>5</sup>

**Table 1. Panel Estimations of Elasticities of Manufactured Exports with Respect to the REER**

	Non-LICs			Commodity exporters		
	(1)	(2)	(3)	(4)	(5)	(6)
Trading partner growth	2.726*** (0.963)	2.729*** (0.969)	2.574** (1.168)	1.587 (1.689)	1.574 (1.729)	0.0368 (2.319)
Lagged $\Delta \ln$ REER	-0.191*** (0.0653)			-0.545** (0.204)		
Lagged $\Delta \ln$ REER ( $\Delta \text{ECPI} < 0\%$ )		-0.182 (0.111)			-0.387 (0.273)	
Lagged $\Delta \ln$ REER ( $\Delta \text{ECPI} > 0\%$ )		-0.196** (0.0851)			-0.581** (0.232)	
Lagged $\Delta \ln$ REER ( $\Delta \text{ECPI} < -2.5\%$ )			-0.0702 (0.185)			-0.276 (0.354)
Lagged $\Delta \ln$ REER ( $\Delta \text{ECPI} > 2.5\%$ )			-0.214*** (0.0757)			-0.627** (0.241)
Country fixed effects	YES	YES	YES	YES	YES	YES
Time fixed effects	YES	YES	YES	YES	YES	YES
R <sup>2</sup>	0.332	0.332	0.419	0.238	0.240	0.242
Observations	628	628	439	196	196	151
Countries	61	61	61	21	21	21

Note: Dependent variable is the first difference in log manufactured exports. Standard errors in parentheses are clustered by country. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

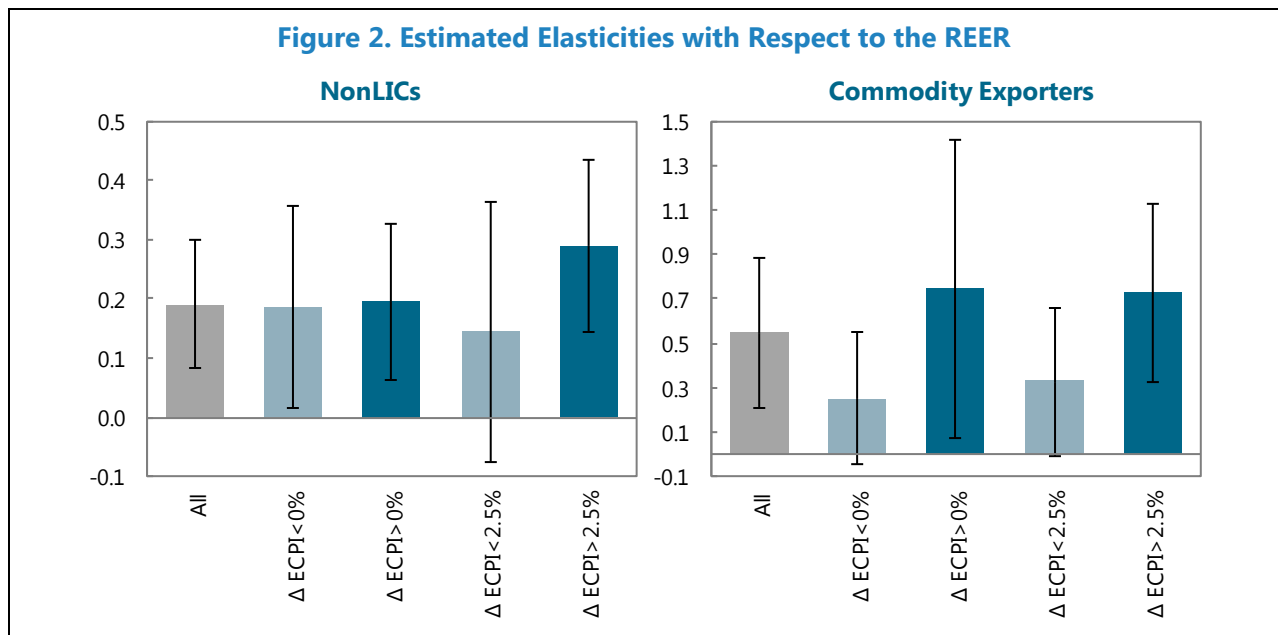
9. Results are presented in Table 1 and summarized in Figure 2. Baseline results in column 1 for a set of 61 advanced and emerging markets (both net exporters and importers of commodities) are

<sup>3</sup> The focus on manufacturing exports alone also reduce concerns about reverse causality as manufacturing exports represent relatively small shares of total current account flows, especially in commodity-exporting countries.

<sup>4</sup> The dataset offers country-specific price indices of commodities.

<sup>5</sup> Note that the dummy is not introduced separately on the right-hand side, and neither is the level or change in the ECPI. While manufactured exports are affected by export commodity prices, we are only interested in measuring its impact as revealed via the elasticity, which is the standard measure for assessing the response to a price competitiveness improvement.

as expected: REER elasticity is negative and external demand elasticity is positive, both significant at the 1 percent level. Column 2 estimates the elasticity w.r.t. REER separately for periods of rising and falling export commodity prices, and in column 3 the focus is on periods when annualized swings in ECPI exceeding 2.5 percent (which corresponds to the 90<sup>th</sup> percentile in the three-year change in ECPI). The findings indicate that the elasticity of manufacturing exports w.r.t. REER is close to zero when the country is emerging from a period of falling prices for its commodity exports. Columns 4 through 6 repeat the exercise restricting the sample to commodity exporting countries.<sup>6</sup> The differences between periods of commodity price upswings and downswings become even more dramatic here: the elasticity is nearly twice as large when commodity prices are on the rise than when they are on the decline (and the latter elasticity is not statistically significant from zero).



The literature provides several potential explanations for this asymmetric elasticity, which is particularly pronounced in the case of commodity exporters.

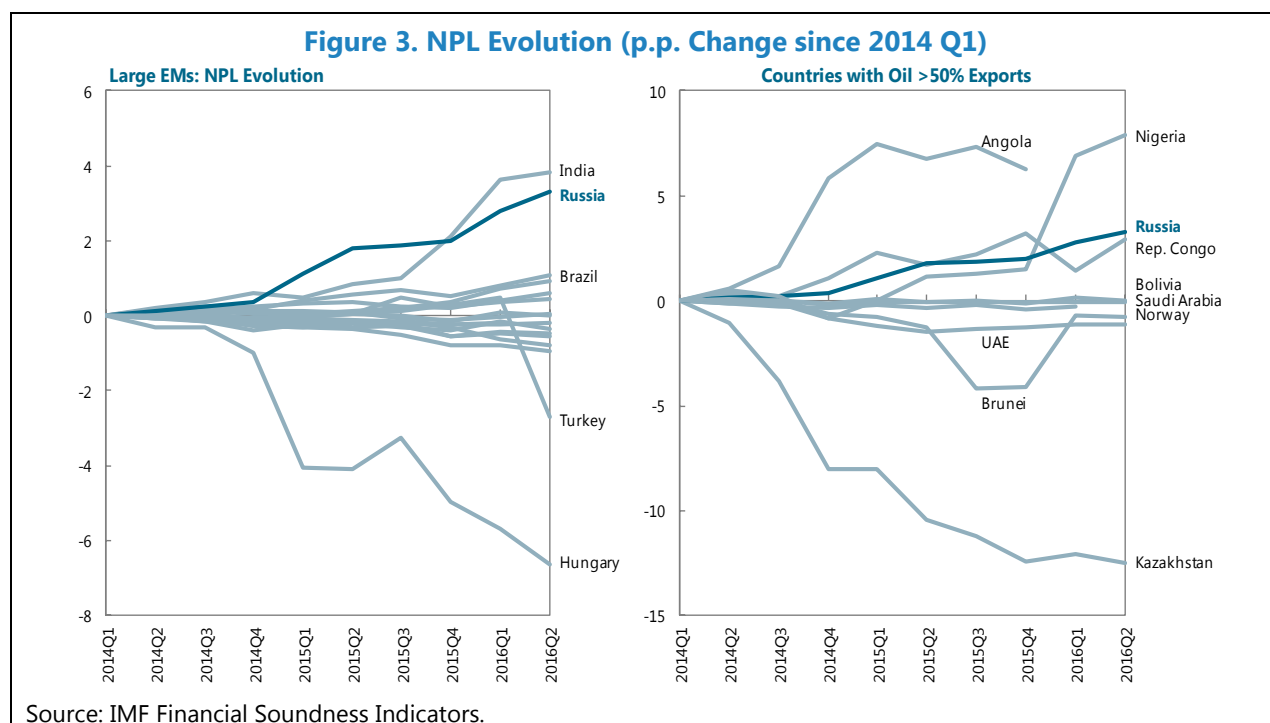
**10.** Krugman (1987) discussed asymmetric response of non-commodity exports to movements in the REER in the presence of learning by doing externalities in the tradable sector. During commodity booms, the marginal tradable industries are driven out of the market. As this happens, foreign competitors gain an advantage on the back of learning-by-doing externalities. Even if the real exchange rate reverses back to the original level, the domestic manufacturers of tradable products lost during the over-appreciation period can no longer compete.

**11.** Krugman (1989) formalized the concept of hysteresis (i.e., a more prolonged *J*-curve) of exports to large and volatile REER movement attributable to the sunk cost of exporting. He argues that the uncertainty about the future exchange rate leads to delaying the decision to incur fixed costs associated with exporting. Krugman's original argument dealt with REER uncertainty associated with volatile capital flows in the context of the US in the 1980s. However, the argument is

<sup>6</sup> Commodity exports represent over 20 percent of all export or over 10 percent of GDP.

easily extendable to uncertainty related to commodity prices, which is the main driver of Russia's exchange rate. Indeed, in light of the recent rebound of Russia's exchange rate, the 2015–16 depreciation might be viewed by investors as a temporary overshooting.

**12.** Finally, deep linkages between the commodity and non-commodity sectors can prevent the non-commodity tradable sector from taking advantage of the depreciation caused by a commodity price shock because such a depreciation puts under stress the entire economy. The financial sector is the most obvious transmission mechanism. During the commodity boom, the financial system of a commodity exporter becomes concentrated on the commodity sector and on the non-tradable sector (e.g., construction, retail) that prosper during periods of appreciated currency. As the commodity and non-tradable sectors turn sour, the balance sheets of financial institutions come under stress. Fiscal adjustment in the face of the shock can also increase NPLs of companies dependent on public contracts (Alesina et al. 2008). Figure 3 provides some stylized evidence from the most recent oil shock. While few of the 20 largest EMs showed an increase in NPLs of the scale experienced by Russian banks, a few countries with equally large oil-to-exports ratios have shown a similar deterioration in asset quality.<sup>7</sup>



**13.** In short, lending becomes restricted and expensive at the very moment when non-commodity tradable industries need to invest in order to take advantage of the depreciated real exchange rate. While established manufacturers may be able to finance expansions internally

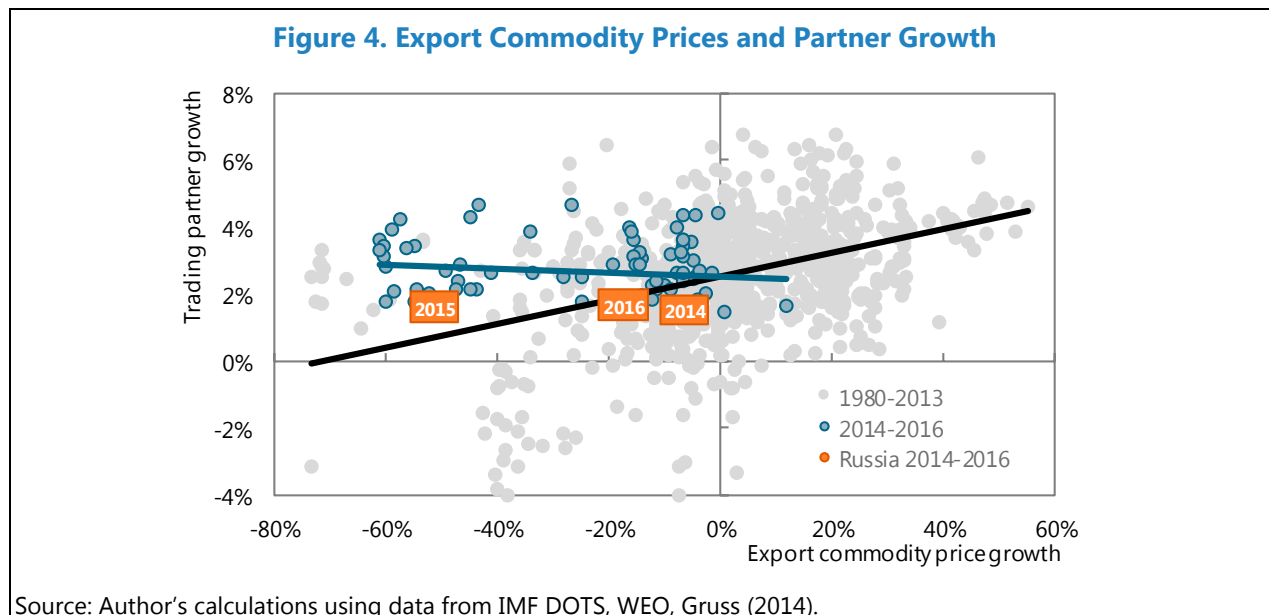
<sup>7</sup> There may be some bias in the data. Russia and India were both involved in large scale cleanups of their banking system, so the increase also reflects more stringent supervision. In some oil-rich countries, the deterioration of bank assets may be partially obscured by loan restructurings (evergreening).

(especially as they see profits rise on the back of improved price competitiveness), tight credit may prevent entry into the sector.

**14.** Recent empirical studies support the commodity-banking channel. Kinda et al. (2016) show that negative shocks to commodity prices tend to weaken the financial sectors of commodity exporting emerging and developing markets, with larger shocks having more pronounced impacts. More specifically, negative commodity price shocks are associated with higher non-performing loans, bank costs and banking crises, while they reduce bank profits, liquidity, and provisions to nonperforming loans. A bank-level analysis of 46 commodity-dependent LICs by Agarwal et al. (2016) shows a reduction of commodity prices reduces bank lending by domestic bank in commodity-dependent countries on the back of deteriorated bank capitalization.

### C. Trading Partner Growth

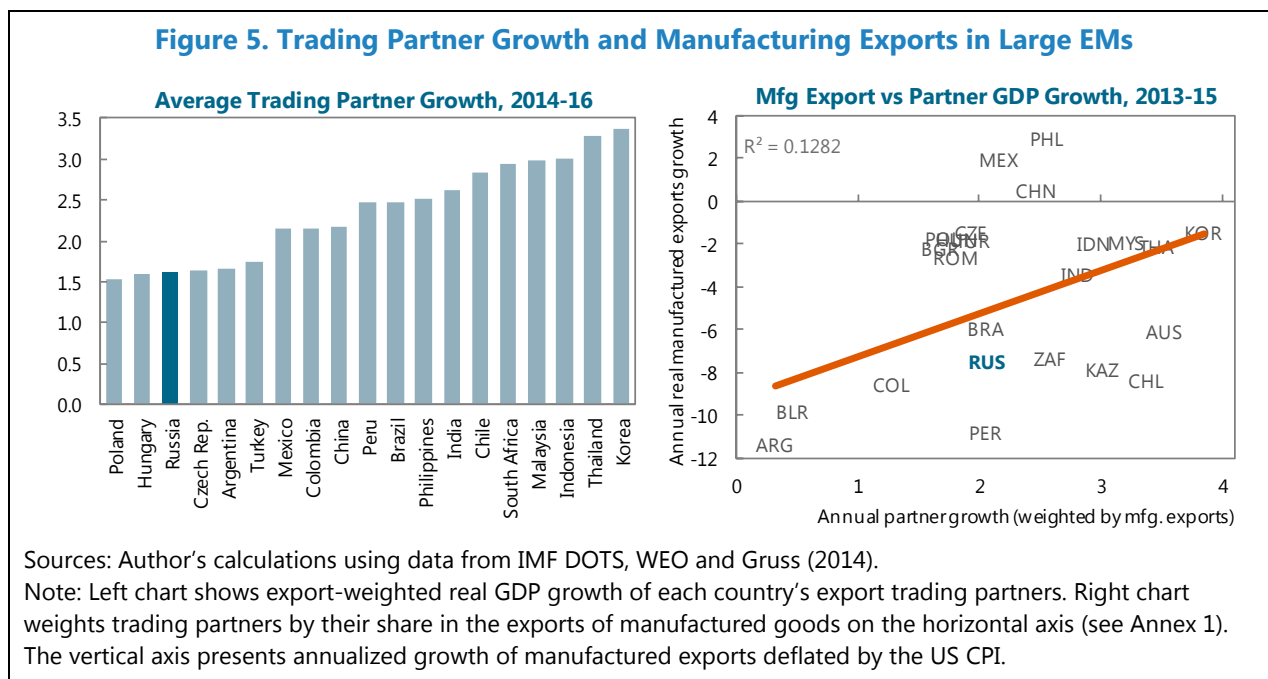
**15.** Changes in commodity prices don't happen in a vacuum. An important driver is global demand; the same global demand that drives non-commodity exports directly. Figure 4 shows that this correlation is significant at the country level—trading partner growth is positively and statistically significantly correlated with the export commodity price index for a group of 29 commodity-exporting countries.



**16.** The recent drop in oil prices has been linked primarily to supply factors, suggesting that depressed demand should not have prevented countries from taking advantage of improved price competitiveness. Indeed, there is little correlation between trading partner growth and commodity prices when focusing on the 2014–16 period (the 2014–16 regression line in virtually flat in Figure 4)—trading partner growth stayed roughly at the level of long-time averages.

**17.** However, Russia's experience in the latest oil price decline did not fit the same pattern, as its trading partner have performed significantly worse than those of the average commodity exporter (Figure 4 shows Russia's data points for 2014–16 lie some 1–1½ percentage point below the

corresponding regression line). In fact, Russia’s trading partners performed roughly in line with what the longer-term correlation would suggest. The low growth of Russia’s export markets is also apparent when comparing it to trading partners of other major EMs (Figure 5, left panel). Russia is at the bottom of the distribution along with a few European EMs, despite being much less dependent on EU’s slowly-recovering economy. It is therefore not surprising that Russia’s manufacturing exports performed relatively poorly in the same timeframe, as shown in the right panel of Figure 5.<sup>8</sup> It is notable that all EM commodity exporters are well below the regression line, which provides further support to the main result in section B—non-commodity tradable industries of commodity exporters generally face an uphill battle during periods of commodity price collapses, even when controlling for trading partner growth.

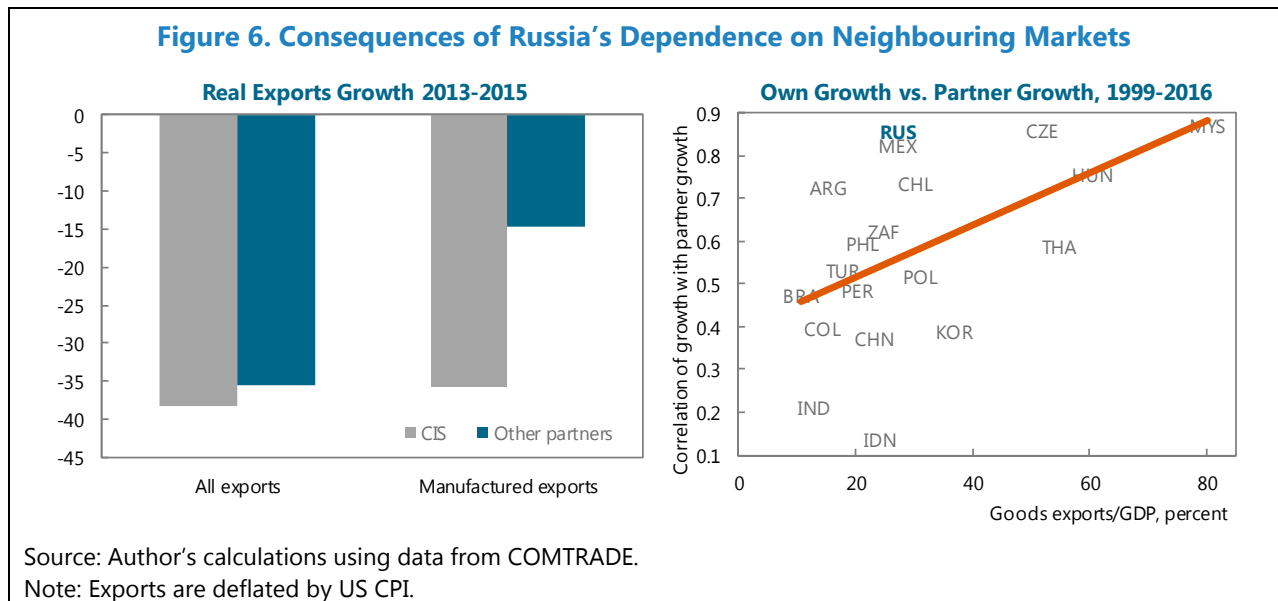


**18.** Russia’s low trading partner growth relates in part to the geographical distribution of its exports, which are highly concentrated on its neighbors. While CIS markets account for just over ½ percent of global GDP, they absorbed 12 percent of Russia exports in 2013 (on the eve of the crisis), and some 28 percent of manufacturing exports. Growth in these countries is strongly correlated with that of Russia, either because the countries are also commodity exporters, or because they are themselves highly dependent on exports to or remittances from Russia. It is therefore not surprising that Russia’s manufacturing exports registered particularly large drops on CIS markets (left chart in figure 6).<sup>9</sup> The strong dependence on neighboring markets explains a longer-term peculiarity of

<sup>8</sup> Here and below manufactured exports are defined in accordance with Annex 1.

<sup>9</sup> Excluding from the analysis exports to Ukraine, to which exports decreased due to geopolitical tensions, does not change the overall results: manufactured exports to other CIS members has decreased by over 30 percent, more than twice the drop registered on non-CIS markets.

Russia's macroeconomic performance—its growth is much more correlated with that of its export partners than its trade openness would suggest (right chart in figure 6).



## D. Market Access

**19.** One reason for Russia's excessive concentration of exports on neighboring markets is the fact that Russia has no free trade agreements beyond them. This section investigates whether limited preferential market access—especially when compared to other major emerging markets—may be an additional impediment dampening the non-commodity export industries' response to the real depreciation.

**20.** The private sector and commentators have mentioned limited preferential access to global goods as a drag on export potential. Comparisons to other EMs are often brought into the discussion. For example, Mexico's car manufacturing industry benefited greatly from tariff-free access to its northern neighbors thanks to NAFTA and a free trade agreement with the EU. Russia's tariff-free trade is restricted to the much smaller markets of the Eurasian Economic Union (EAEU). This makes Russia a poor choice for setting up export-oriented operations, as higher tariff and non-tariff barriers faced for final exports puts Russian-based operations at a disadvantage. On top of that, import trade restrictions raise costs of firms operating global value chains, most of which extend well beyond Russia's immediate neighborhood.

**21.** Russia currently has regional trade agreements (RTAs) only with other EAEU members and Serbia.<sup>10</sup> The EAEU has de facto replaced 2011 CIS Free Trade Agreement, which Russia has terminated in 2016.<sup>11</sup> Back in the early nineties, most emerging markets were in a similar situation:

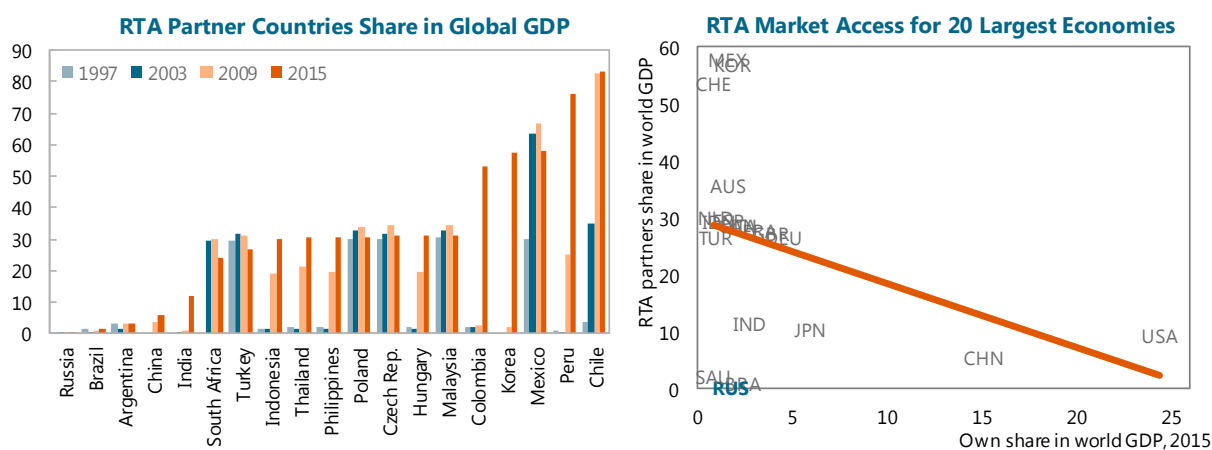
<sup>10</sup> The Eurasian Economic Union (EAEU) includes Armenia, Belarus, Kazakhstan, Kyrgyz Republic and the Russian Federation. It provides for free movement of goods, services, capital and labor, as well as coordinated, agreed or common policy in different areas. The bilateral agreement with Serbia applies to select goods only.

<sup>11</sup> The 1994 CIS free trade agreement was never ratified by Russia.

according to the WTO database, none of the large EMs had RTAs with countries representing more than 1 percent of global GDP. The situation has changed dramatically since the mid-nineties with the establishment and enlargement of major regional agreements (NAFTA, APEC, EU).

22. Figure 7 below shows the explosive growth in the participation on most large EMs in regional trading agreements, with several comparator countries participating in RTAs comprising over half of the global GDP. Russia is a rare exception, with virtually no preferential access to major markets, and no meaningful change over nearly three decades. It could be argued that Russia’s large domestic market affords the country to have fewer RTAs. Indeed, large countries generally have less expansive RTA networks (figure 7, right chart). However, Russia is an outlier even by the standards of large economies, as it is last among the twenty top economies on this metric. Carrying through ongoing efforts to establish bilateral agreements (e.g., with India and Vietnam), as well as plans for other RTAs included in announced development strategies could support Russian exporters, as well multinationals contemplating including Russia into their global value chains.

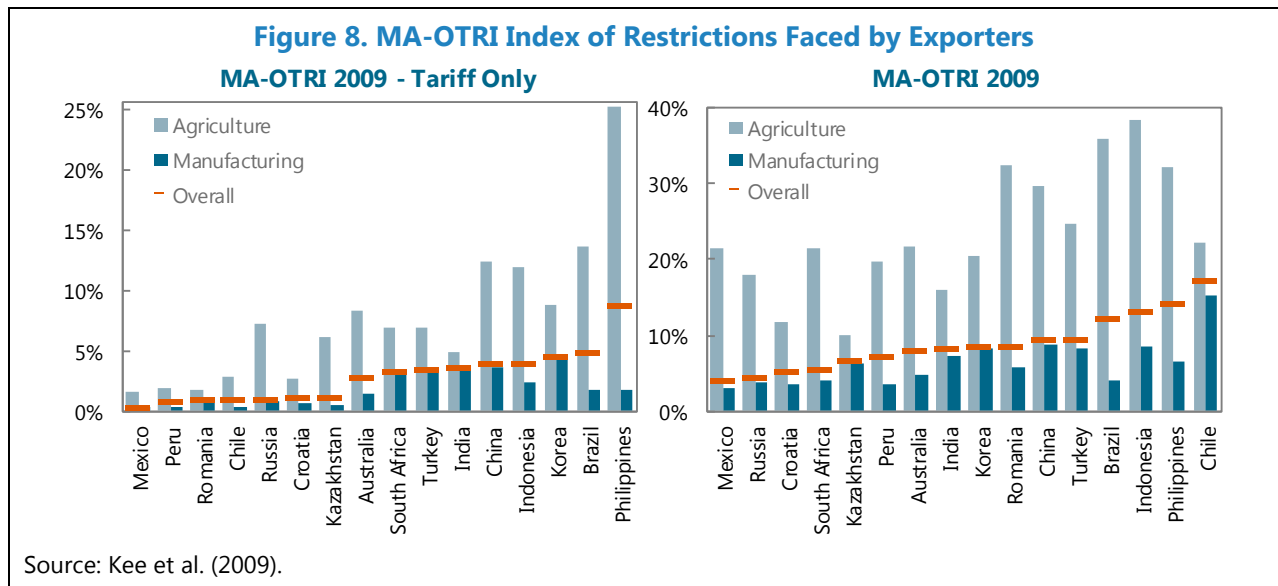
**Figure 7. Regional Trade Agreements: Russia Against other EMs and other Large Economies**



Sources: Author’s calculations using data from IMF WEO, WTO, CEPI.

23. Nevertheless, it should be noted that on its existing markets, Russian exporters face relatively low trade barriers. Building on the seminal work of Anderson and Neary<sup>12</sup>, Kee et al. (2009) construct MA-OTRI (Market Access Overall Trade Restrictiveness Index)—an index of trade restrictions faced by exporters on their markets. Importantly, it covers both tariff and non-tariff trade barriers. Figure 8 shows that Russia in fact faces relatively low tariff and overall trade restrictions on their external markets. However, the index appears to suffer from selection bias, as it is affected by the markets to which countries export and basket of goods it exports, which are endogenous variables, driven in part by trade barriers. For example, the estimated low barriers faced by Russian manufacturers may be due in part to relatively high share of manufactured exports to EUEA discussed above.

<sup>12</sup> Their work on the subject starts in 1992; a comprehensive overview can be found in Anderson and Neary (2005).



## E. Quantifying Structural Transformation

**24.** Sections B and C analyzed aggregate performance of exports in the wake of a ToT shock. This section provides a brief overview of the changing structure of Russia's exports using two analytical tools that operate with disaggregated trade data: export growth decomposition and export sophistication evaluation using the EXPY index.

**25.** Export growth decomposition computes the contribution of the extensive and intensive margins of growth in real exports (denominated in U.S. CPI-deflated US\$). The intensive margin refers to exporting more of the old products to old markets (destinations). The extensive margin refers to growth associate with exporting new products and/or exporting to new destinations. The methodology, based on Zahler (2007), and detailed results are covered in Annex 2.

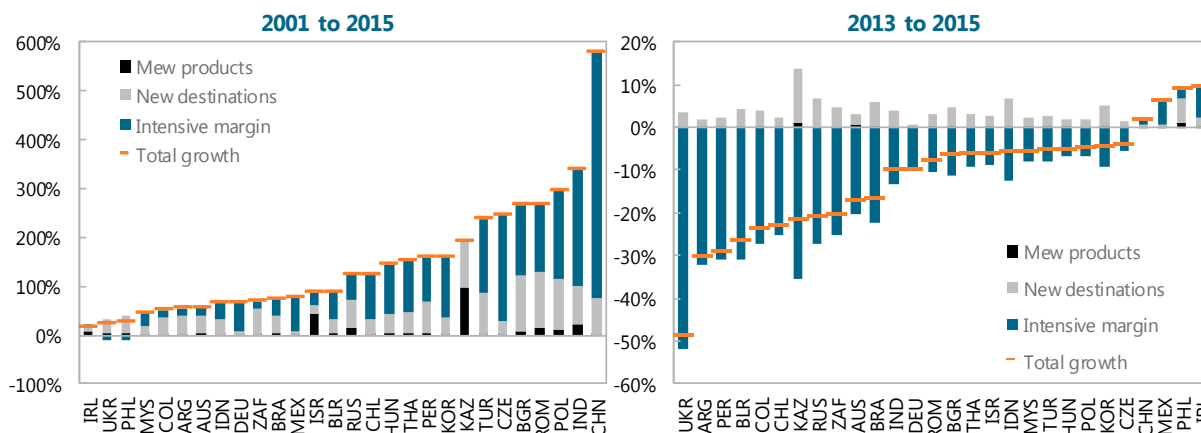
**26.** Over the medium term, Russia's manufacturing exports grew in a balanced way (Figure 9). New products contributed to 14 percent of total exports growth, which places Russia in the top quintile of analyzed countries.<sup>13</sup> Despite its market access handicap, Russia also managed to grow its exports considerably by introducing its products to new markets. However, the period associated with falling oil prices (right chart in figure 9), shows that commodity price-driven ToT shocks are not conducive to a structural change in the export basket: neither Russia, nor other commodity exporters managed to introduce new products, and few have made significant gains on external markets.<sup>14</sup>

<sup>13</sup> Comparator group includes most large EMs, as well as five advanced economies as benchmarks: two large exporters (Germany and Korea), two hi-tech small open economies (Ireland and Israel) and one commodity exporter (Australia).

<sup>14</sup> The results for Kazakhstan are explained in part by the low base; manufactured exports account for less than a quarter of the country's exports.



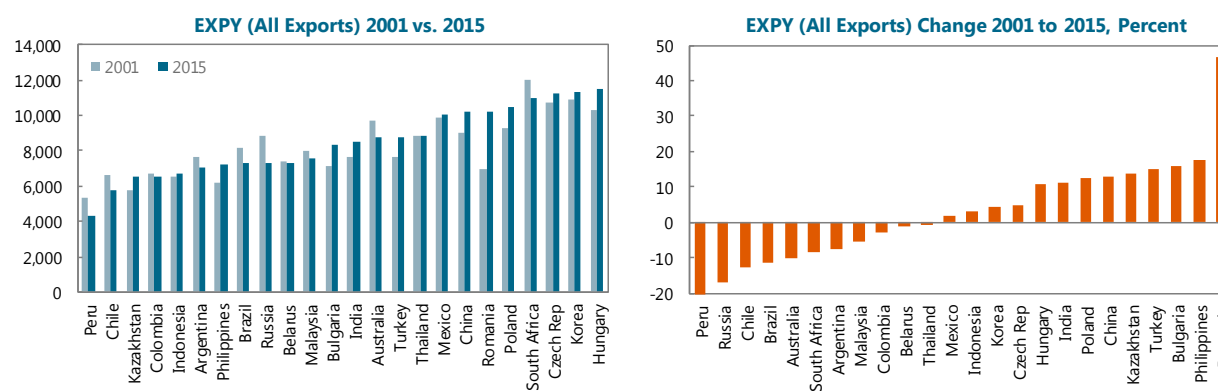
**Figure 9. Manufactured Exports Growth Decomposition**



Source: Author's calculations based on Zahler (2007) methodology and data from COMTRADE.

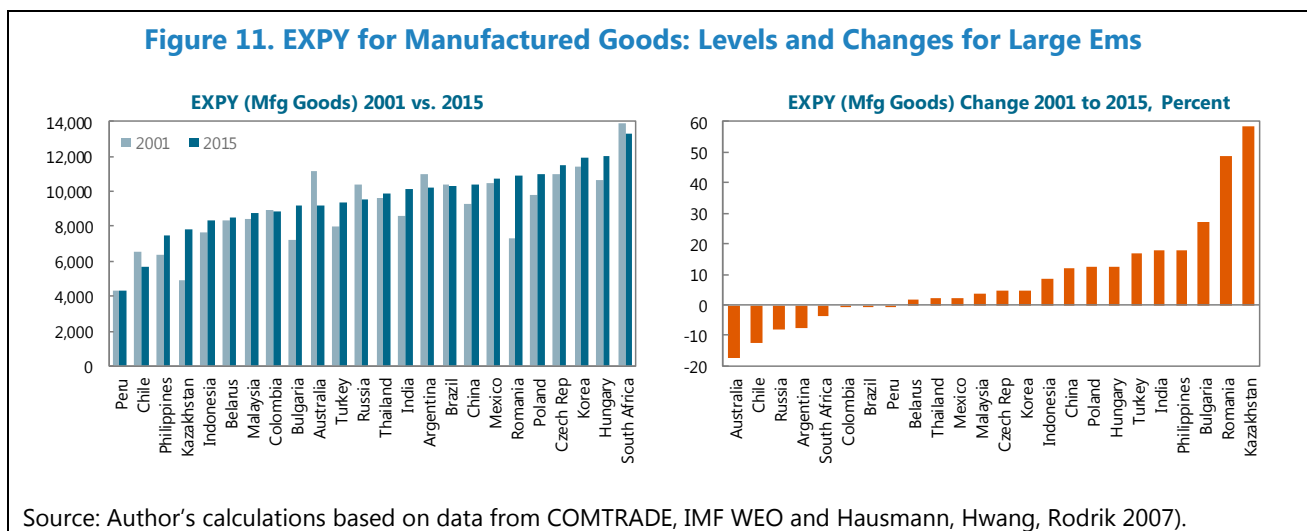
**27.** Sophistication of exports can be measured using the EXPY index, introduced by Hausmann et al. (2007). It is a useful tool for tracking structural transformation of tradables and a good predictor of future growth. The index is based on the observation that rich and poor countries export different goods (e.g., nuclear reactors vs. cotton). A country that manages to export a basket of products that is characteristic for a richer country can be regarded as having achieved relatively high level of sophistication. The index is constructed in two stages. First, an intermediate index PRODY is computed for each product as the weighted average of per-capita GDPs, where the weights correspond to the revealed comparative advantage of each country in the particular good. EXPY for a country is then computed as the weighted average of the PRODY for that country, where the weights are simply the value shares of the products in the country's total exports. Figure 10 shows that Russia's EXPY has decreased significantly between 2001 and 2015, along with that of most other commodity exporters.

**Figure 10. EXPY Levels and Changes for Large EMs**



Source: Author's calculations based on data from COMTRADE, IMF WEO and Hausmann, Hwang, Rodrik 2007).

**28.** However, one issue with EXPY and related indices is that weights are based on dollar amounts, and hence terms of trade shocks change the EXPY even if volumes remain constant. Therefore, evaluating evolution of the overall EXPY during periods of rising/falling commodity prices automatically result in the mechanical decrease/increase of the index (as oil and most other commodities have low PRODYs). Results in figure 10—which places most commodity exporters in the bottom half of the range—could therefore be driven by the increase in the share of commodities on the back of rising real commodity prices between 2001 and 2015. To get around this issue, Figure 11 presents EXPY recomputed for manufactured exports only.<sup>15</sup> The overall picture remains unchanged: Russia, along with most commodity exporters, has registered a negative evolution in the sophistication of the manufactured exports basket. In other words, in line with Krugman (1987), structural transformation in commodity-exporting countries is an uphill battle.



## F. Outlook and Policy Implications

**29.** This work qualifies the results and conclusions of last year's SIP. Structural reforms will facilitate resource reallocation to other sectors in response to a negative REER shock. However, when the REER shock is the result of an unfavorable commodity price shock, several factors further blunt the competitiveness effect:

- The stress the economy is under due to worsened ToT impedes reallocation of resources to the non-commodity tradable sector; uncertainty and banking sector weaknesses are two channels.
- Episodes of ToT-driven depreciation usually coincide with reduced trading partner growth, which reduces demand for non-commodity exports.
- Low trading partner growth reduces incentives for experimenting with the introduction of new products, which limits opportunities for large structural transformation.

<sup>15</sup> Computing EXPY for a subset of the basket is more straightforward than undertaking a similar exercise for the more recent Index of Economic Complexity, introduced by Hausmann and Hidalgo (2009). This in part explains the reliance on EXPY in this section.

**30.** These results paint a somewhat subdued picture: the non-commodity tradable sector suffers from an overvalued exchange rate during commodity booms, but busts are not conducive to a rapid reversal of the process. The policy recommendations are therefore for Russia to compensate for this handicap by doing even more on the structural front:

- Attenuate the effects of commodity price effects on the non-commodity sector through highly counter-cyclical fiscal policy – the new mechanism introduced by the Ministry of Finance is a welcome step in this direction.
- Ensure that product and labor market regulations are conducive to reallocating resources in response to price signals (2016 Article IV Selected Issues Paper). This may need to be accompanied by the strengthening of the social safety net.
- Strengthen regional and multilateral trade relations to allow for greater penetration of foreign markets by Russian entities and to facilitate Russia’s integration into global value chains.
- Ensure financial system is healthy enough to shift credit to new sectors even during periods of external stress.

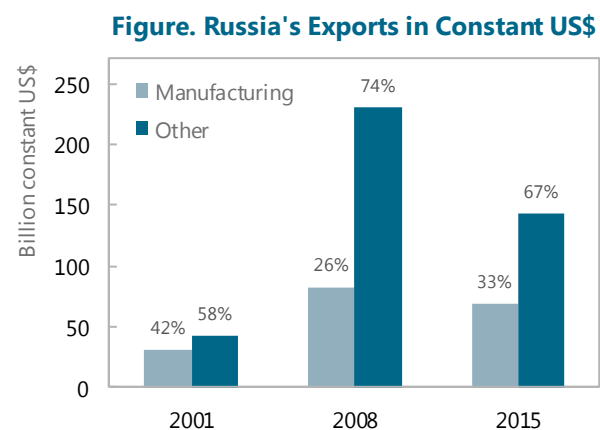
## Annex I. Defining Manufactured Exports

The analysis uses disaggregated trade data from COMTRADE, with goods classified according to the 1996 version of the Harmonized System (HS). There is no single “correct” way to extract manufactured exports only from HS data, in part because what constitutes a manufactured good is subject to interpretation (how much processing should a raw material be subject to before it becomes a manufactured product?). However, classifications of economic activities—ISIC (UN), NAICS (NAFTA countries) and NACE (Eurostat)—do separate manufacturing. Matching one of these classifications (all of them compatible among each other, at least at the 2-digit level) with HS 1996 codes would allow to isolate manufactured exports in a consistent and replicable way for all countries used in the analysis.

We rely on Pierce and Schott (2009), who provide a concordance table between HS 1996 and NAICS 2007 codes. In the first step, HS codes corresponding to NAICS codes 31 through 33 are labeled as manufactured goods. This eliminates most raw materials within broad HS categories (e.g., excludes raw furs, but not leather products; excludes wood logs, but not sawn wood). In the second step, we eliminate two broad sets of HS codes (even if they are classified as manufacturing under NAICS): agricultural products, including processed foods (HS 2-digit codes 01 through 24), and mineral commodities and their derivatives (codes 25 through 28).

While the elimination of mineral products is self-explanatory, the blanket elimination of all agricultural and food products deserves an explanation. One of the objectives of the study is to understand the impact of price competitiveness on non-commodity imports. However, when it comes to agricultural products and processed food, export performance is subject to factors that are outside the scope of this study. Two of them are universal: weather (affects the harvest) and global prices for agricultural commodities. The third one is unique to Russia: counter-sanctions—introduced soon after the devaluation—have predominantly affected processed foods, and have been quoted as an important contributor to flourishing import substitution in respective sectors. To the extent that import substitution spills over into exports (e.g., thanks to learning-by-doing externalities accumulated on the domestic market), it is difficult to separate the exports response to price devaluation from that to counter-sanctions.

The figure shows the broad evolution (in constant US\$ terms) of Russia’s exports separated into two main categories: manufacturing vs. the rest.

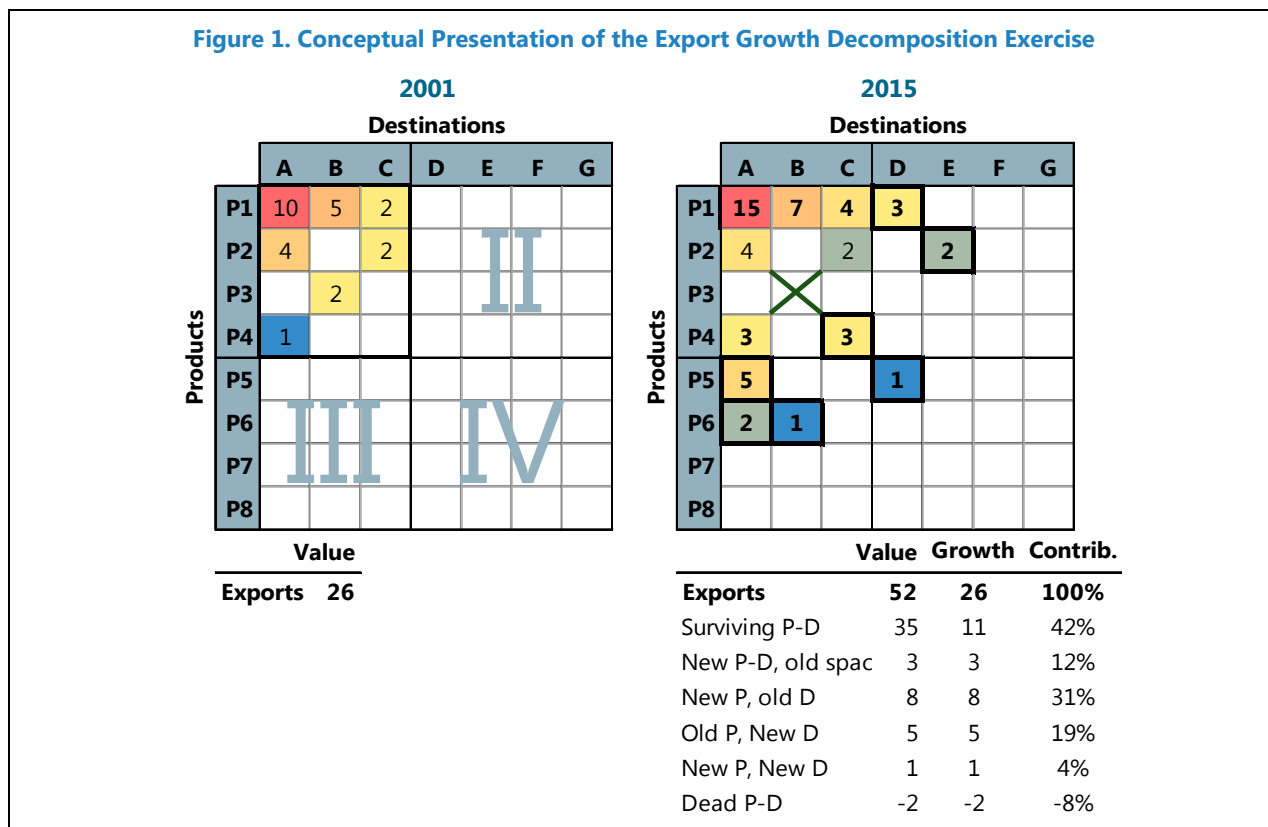


## Annex II. Export Growth Decomposition: Methodology and Extended Results

An export growth decomposition analyzes export growth along the intensive and extensive margins, where the intensive margin reflects growth due to exporting “more of the same”, while the extensive margin has both a product and market dimension (exporting new products and exporting to new destinations).<sup>16</sup>

### Stylized Example

The methodology is best illustrated with the following stylized example (see Figure). The full set of possible product-destination (PD) combinations can be visualized as a matrix with some 200 columns (countries) and some 5000 rows (products in the Harmonized System).



Suppose a country filled in 2001 only 7 cells of this product-country matrix, by exporting 4 products (P1 through P4) to 3 countries (A through C). The numbers within cells represent the value of exports of each product-destination (PD) combination, which sum up to 26. Note that only P1 is exported to all three countries. The 3-by-4 PD subset in which all exports are located is called the

<sup>16</sup> Based on Zahler (2007) methodology.

*potential PD space* (outlined with bold line), and defines quadrant I. Assume exports doubled to 52 in value by 2015. Forty two percent of this growth was on account of old goods to old destinations (*surviving PD*). Filling cells within the old potential PD space (P4 to C) accounts for 12 percent of growth. Sending old goods to new destinations (quadrant II) accounts for 19 percent of growth; new goods to old destinations (quadrant III) account for 31 percent of growth; and new products to new destinations (quadrant IV) account for 4 percent. Finally, the death of old PD combinations (P3 no longer exported to B) has a negative contribution of 8 percent.

### **Interpretation of Results**

The sum of surviving PDs and extinct PDs represents the intensive margin of export growth, whereas the rest are part of the extensive margin of growth (along the product and destination dimensions). The relative importance of these five margins (surviving PDs, new PD in the old space, new P old D, new D old P, new P and D, extinct PDs) can shed light on the degree of experimentation that a country's exporting sectors are involved with, and therefore their ability to capture new business and, more generally, successfully engage in a structural transformation of the economy.

The exercise can only be undertaken between two points in time. Naturally, the shorter the interval between the two extremes, the larger is the contribution of surviving PDs (intensive margin), as only a very small number of products is introduced each year, and only a few new markets are captured. Over longer periods of time, extensive growth will play a more prominent role (because it incorporates all the new PDs added in all intervening years, and growth registered by each new PD in the interim).

### **Detailed Results**

Figure 2 presents full decompositions for Russia, focusing on different periods (e.g., pre-GFC boom vs. the post GFC), and different basis of the analysis (all exports vs. manufacturing exports only). The charts in panel figure 3 compare Russia to other large EMs and a small sample of advanced economies.

Figure 2. Export Growth Decomposition for Russia

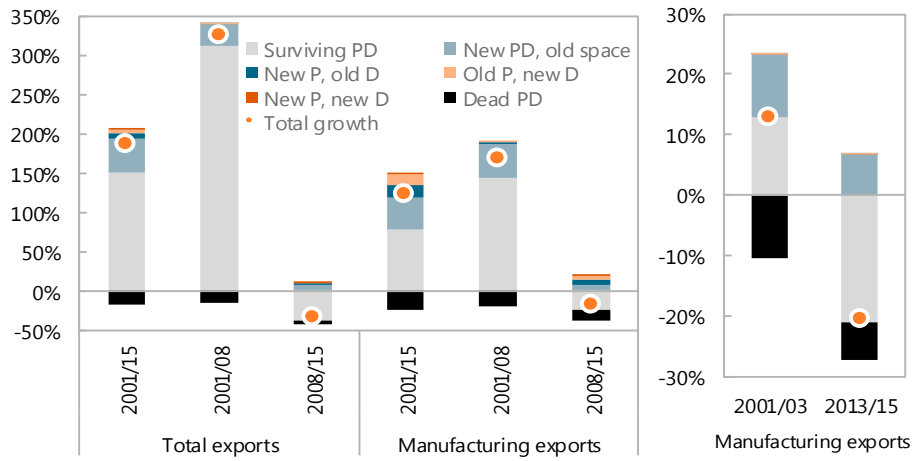
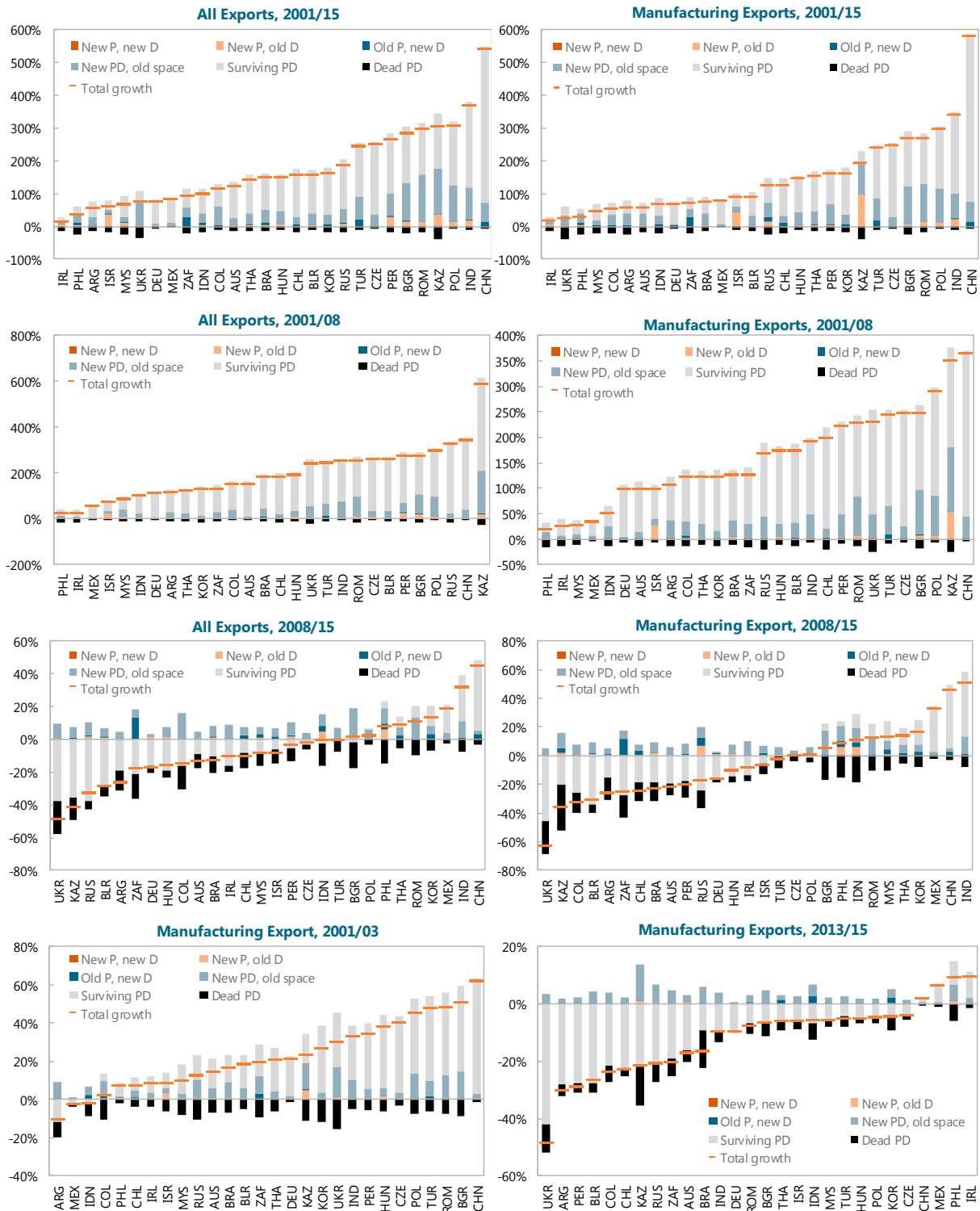


Figure 3. Export Growth Decomposition for Select Countries





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# EVALUATING FISCAL RULES?<sup>1</sup>

## A. Introduction

**1. A fiscal rule for Russia should shield the budget from volatile oil prices, replenish the reserve fund and save for future generations.** An appropriate rule must delink public expenditure from volatile oil prices to reduce fiscal procyclicality and mitigate the effect of oil on the real exchange rate (REER) preserving the competitiveness of the economy. In the short-term, increasing fiscal policy buffers and replenishing the nearly-depleted reserve fund, are a priority to protect against volatile oil prices. In preparation for the period after the depletion of oil reserves, the fiscal target should account for inter-generational equity; i.e. how much current and future generations benefit from resource wealth and consider long-term budget pressures from a rapidly aging population.

**2. This paper assesses the authorities' proposal for a new fiscal rule.** The IMF Flexible System of Global Models (FSGM) is used to simulate fiscal and macroeconomic outcomes under three alternative rules—the authorities' proposal for a new rule; the old rule suspended in 2015; and staff's proposal that modifies the old rule—and different oil price shocks. The simulation shows that the authorities' proposed new rule appropriately builds up the nearly depleted reserve fund under a scenario where oil prices are as in staff's baseline and in the scenario where oil prices are persistently higher than the US\$40pb benchmark. However, should oil prices be persistently lower than the US\$40pb benchmark, the new rule results in lower savings compared to Staff's proposed rule. Simulations illustrate that savings can be achieved through a more stringent fiscal target as in Staff's proposal, a more credible option, instead of an inflexible conservative benchmark that risks the fiscal rule being abandoned should oil prices be persistently below or above the benchmark price. Moreover, both staff and authorities' proposed rules perform equally well in shielding the economy from volatile oil prices, with no discernible difference among the rules in their impact on growth and the real effective exchange rate. Finally, the simulation validates the reason for abandoning the old rule—maintaining the old rule would have led to the lowest savings and highest spending in the period of high oil prices and to a large fiscal stimulus in the face of persistent low oil prices, quickly depleting reserve buffers and increasing debt.

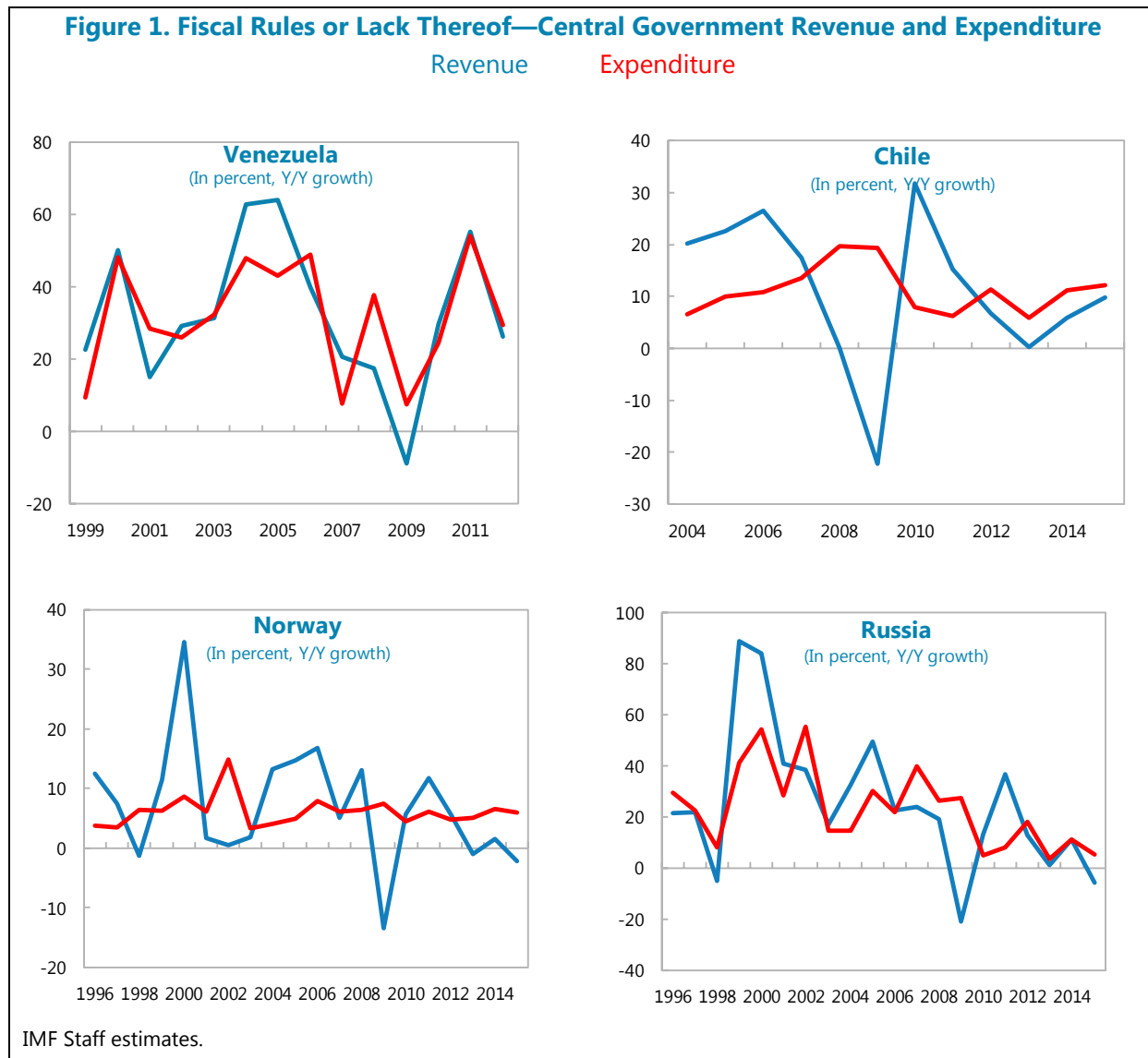
## B. Russia's Fiscal Rules

### Considerations for a Fiscal Rule

**3. Fiscal outcomes are better in countries with fiscal rules.** Fiscal rules encourage counter-cyclical fiscal policy to mitigate revenue volatility. For example, expenditure growth is de-linked from revenues countries with well-developed fiscal rule frameworks as in Norway and

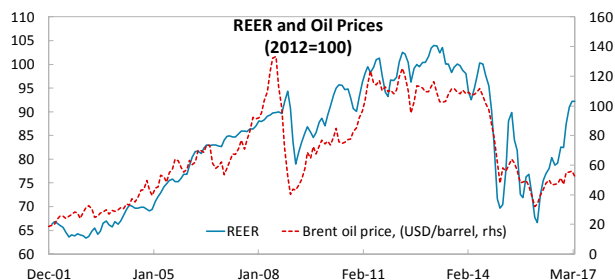
<sup>1</sup> Prepared by Gabriel Di Bella, Oksana Dynnikova, Zoltan Jakab and Annette Kyobe.

Chile, to a lesser extent in Russia and highly correlated in Venezuela, a country with no fiscal rule (see Figure 1).



**4. An important objective for a fiscal rule in Russia is to delink government expenditures**

**from oil prices.** The energy sector accounts for around one-fifth of GDP, two-thirds of exports, and around one third of general government revenues. Since energy revenues are so large, fluctuations in oil and gas prices generate fluctuations in budget revenues that are passed onto expenditures, in turn resulting in fluctuations in the REER, inflation, and output volatility. Moreover, in the past, high oil prices led to an appreciated exchange rate resulting in an even less diversified economy over time.



**5. An appropriate fiscal target should consider long term fiscal sustainability.** Establishing a fiscal target should account for long-term fiscal liabilities, demographic trends and consider intergenerational equity. Russia's current and projected non-oil primary deficits are larger than the long-term fiscal benchmarks consistent with intergenerational equity (in the range of 3–4.5 percent of GDP, see SIP, 2015). Moreover, Russia has long-term fiscal risks to consider including off-balance sheet liabilities deriving from implicit liabilities to the pension and health systems, transfers to SOEs, the banking sector, and subnational governments.<sup>2</sup> An additional consideration in Russia are investment needs, thus long-term sustainability benchmarks could be established based on a modified permanent income hypothesis (MPIH) rule that allows front-loading of capital expenditure or a Fiscal Sustainability Framework that explicitly accounts for the expected impact of higher investment on growth and non-resource revenues.<sup>3</sup>

**6. Considerations for a fiscal rule should account for the interaction between federal and regional budgets.** About 40 percent of consolidated general government spending is executed in regions and extra budgetary funds (EBFs). Consolidated federal transfers (through the budget or federal extra budgetary funds, EBFs) to the regions (including territorial EBFs) represented 3.5 percent of GDP in 2016 (about 65 percent of federal oil and gas revenues). Transfers finance a large share of regional fiscal spending. These earmarked transfers decrease federal spending flexibility, creating challenges for the design and coverage of a fiscal rule.

### Russia's Fiscal Rules: Past and Present

**7. Shortcomings in previous frameworks led to procyclical fiscal policies and insufficient savings.** In the early 2000s, fiscal policy focused on the overall balance, rather than the non-oil balance, leading to procyclical fiscal policies which amplified the oil price boom and put appreciation pressures on the currency. As part of a reform of the fiscal framework, a formal fiscal rule was introduced in 2008 followed by a second rule in 2013. Despite sound theoretical underpinnings, both rules suffered from unsustainable parametrization and proved untenable in the face of large shocks (Box 1). The first rule was suspended to allow for a fiscal package to stimulate the economy during the global financial crisis. The second rule was abandoned in the face of the dual shock of lower oil prices and sanctions, as it led to an overly generous spending envelope in light of persistently low prices. Furthermore, resources in the oil funds appeared insufficient for supporting expenditures at levels prescribed by the rule.

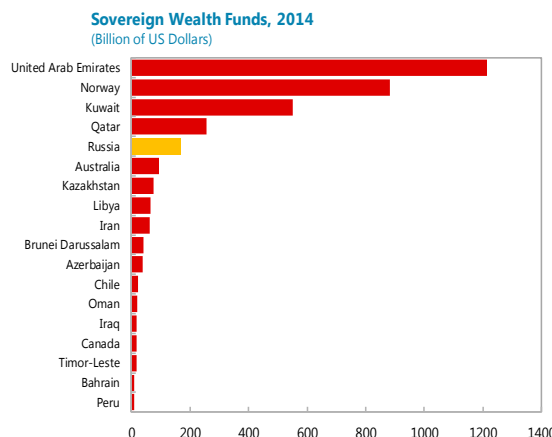
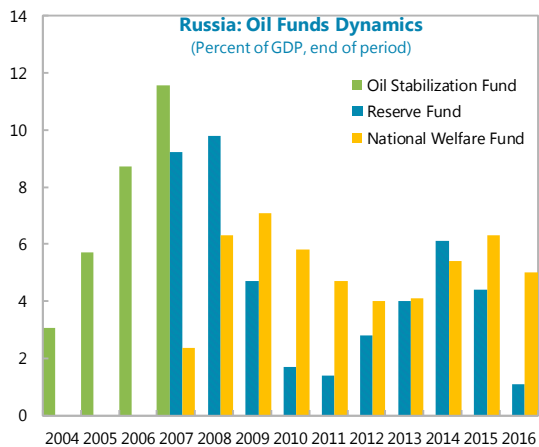
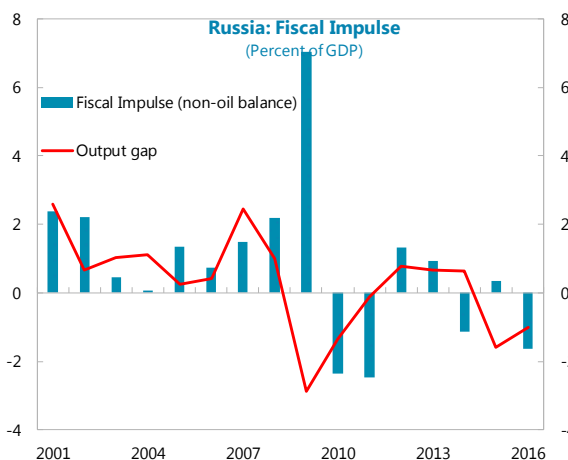
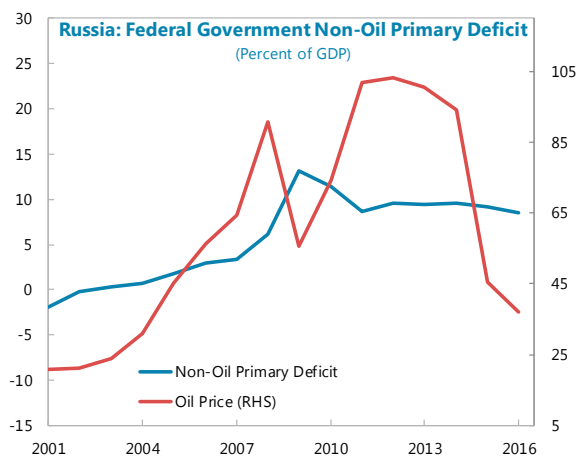
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<sup>2</sup> The net present value of the increase in pension costs is estimated at 98 percent of GDP, and healthcare costs at 37 percent of GDP. This represents the cost of the expected increase in pension spending as a share of GDP from its current level, which is driven largely by expected increases in life expectancy, relatively early retirement ages for women and men, and continued low fertility rates, see [Fiscal Transparency Report](#).

<sup>3</sup> Modified PIH deviates from PIH by allowing a scaling up of investment over the medium term, but followed by a scaling down of spending after the "scaling up" period to preserve net financial wealth at the PIH level. It does not consider the growth impact associated with additional investments. Unlike the FSF which aims to stabilize net resource wealth (over the longer term) at a level lower than the PIH, or MPIH, while allowing scaling up of expenditures—lower financial wealth will be compensated by higher non-resource revenues, see [Macroeconomic Policy Frameworks for Resource-Rich Developing Countries](#).

**8. The authorities’ are proposing a new fiscal rule to shield the budget from oil price fluctuations and replenish the reserve fund.** The new fiscal rule, likely to be reinstated in 2019, will target a primary balance calculated at a benchmark oil price. The benchmark oil price is fixed at US\$40pb (in real US\$ 2016 terms) with a proposed annual adjustment of the oil price benchmark by US CPI inflation—implicitly assuming the relative price of oil with respect to the CPI basket remains constant. The US\$40 benchmark price equates to a 50-year fixed (1965–2015) long-term average oil price. For dealing with persistent drops in oil prices, the authorities are considering capping decreases in fiscal buffers whenever they reach a threshold of 5 percent of GDP.

**Figure 2. Procyclical Fiscal Policies and Insufficient Savings**



Sources: Institutional Investor; national authorities; Sovereign Wealth Center; Sovereign Wealth Fund Institute; IMF staff reports and IMF staff estimates.

**9. The authorities' proposed new fiscal rule is broadly appropriate.**<sup>4</sup> Though not fully consistent with intergenerational equity, the rule appropriately includes a fiscal anchor, which is a “quasi-structural” primary balance (defined as the primary balance excluding the cyclical component of resource revenues). In addition, the use of a fixed oil-price benchmark appropriately delinks expenditures from externally-driven volatility in commodity prices. Finally, the rule provides a simple framework for saving (drawing down) oil resources when the actual oil price is higher (lower) than the oil price benchmark. The oil price benchmark of US\$40, notwithstanding that it is fixed and assuming it can be credibly implemented (i.e. resisting pressures to spend windfall oil revenues if oil prices are significantly higher than US\$40) may be prudent. Not only does it increase savings, compared to benchmarks established under previous fiscal rules, it is apt, given the time series properties of oil prices and macro-economic conditions (the economy has adjusted to an oil price of around US\$40 pb and the REER is no longer considerably overvalued).

#### Box 1. Russia's Previous Fiscal Frameworks

Russia established an Oil Stabilization Fund (OSF) in 2004, but it was not supported by a full-fledged fiscal rule. In the context of rising oil prices the Fund was established to save windfall oil revenues—export duties and the mineral extraction tax—and shield the budget from oil price fluctuations. Oil revenues above a cut-off price (US\$20 pb in 2004–05; US\$27pb in 2006–07) would be accumulated in the OSF. OSF balances above US\$20 billion would be freely usable. Despite heavy use, the OSF reached US\$157 billion at end-2007. Given the lack of a fiscal rule—no targets were set for the fiscal balance, or limits established for new borrowings—the OSF did not prevent fiscal policy from being pro-cyclical. Fiscal policy was loose and the non-oil and gas federal deficit increased from 2.9 percent of GDP in 2002 to 5.1 percent in 2007, and to 6.5 percent in 2008. As part of the reform of the fiscal framework in 2008, the OSF was abolished and two new Funds were created. The Reserve Fund (initial balance of US\$25 billion) would be used to smooth public spending against oil price fluctuations; and, the National Welfare Fund (initial balance of US\$32 billion) would finance long-term liabilities of the pension system. Oil revenue windfalls would be saved in the RF until it reached 7 percent of GDP; 50 percent of the excess would then accrue to the NWF, and the remaining portion would finance infrastructure and other priority budgetary projects. After more than a decade of record-high oil prices, resources in Russia's NWF stand at US\$73 billion, while the Reserve Fund (RF) is nearly depleted—declining from US\$125 billion in early 2008, to US\$16 billion as end-2016 (See Figure)

A formal fiscal rule was introduced in 2008 but suspended during the global financial crisis. The rule targeted a long-term non-oil fiscal deficit of 4.7 percent of GDP to be achieved by 2011, beginning at a deficit of 6.6 percent of GDP in 2008. This target was consistent with a POIM approach and kept government spending constant in real terms in the long run, supporting intergenerational equity and fiscal sustainability. The rule was suspended to allow for a fiscal package to stimulate the economy during the global financial crisis. It was abolished in 2012.

<sup>4</sup> The authorities proposal is incomplete and subject to change. We evaluate elements of the intended fiscal rule outlined in budget guidelines for 2017–19, with the caveat that aspects of the final rule may change.

### Box 1. Russia's Previous Fiscal Frameworks (concluded)

A redesigned fiscal rule was implemented in 2013 and abandoned in 2015 following the sharp decrease in oil prices. The previous budget balance rule was replaced by an expenditure rule that was first, more intuitive to explain to the public (low headline deficits had masked urgent needs in sizable budget consolidation) and second the thinking was setting limits on expenditures would be clearer than setting limits on non-oil deficit and thus more sustainable. The rule set a ceiling on federal expenditures equivalent to the sum of oil revenues measured at a benchmark oil price, plus non-oil revenues, plus a net borrowing limit of 1 percent of GDP. The benchmark was set as the minimum of a backward-looking moving average of up to ten years of Urals oil price—a proxy for the long-term price of oil; and (ii) a three-year backward looking average, to protect the budget from excessive deficits in the event of a sustained fall in oil prices. The rule did not ensure a fast-enough adjustment of benchmark oil prices and its continued implementation would have resulted in unwarrantedly large non-oil fiscal deficits. Even the 3-year moving average escape clause resulted in a benchmark price of about US\$85pb versus an actual oil price of US\$42pb in 2016.

### Modifications to Strengthen the Proposed New Rule

**10. The oil-price benchmark could adjust to perceived changes in the long-term price of oil.** The fixed US\$40 pb in the oil rule formula may not prove credible should oil prices be persistently and significantly higher than this benchmark. The choice of a benchmark formula represents a tradeoff between smoothing expenditures and adjusting to changes in oil prices. In principle, fiscal policy should adjust to permanent/persistent oil price shocks and smooth-out short-term fluctuations. Hence, a higher pace of adjustment of the oil-price benchmark is desirable if an oil price shock is permanent or persistent, which is only known ex-poste. One possibility to the make oil-price rule more flexible is to include futures oil prices in the benchmark calculation. The caveat is that future oil prices (in levels) are strongly correlated with observed oil prices and may not give a good indication of the “structural” price of oil (Box 2). Thus, while the benchmark will adjust more rapidly to changing trends they can also result in greater expenditure volatility and possibly pro-cyclical fiscal policy.

**11. The fiscal rule could target a surplus, informed by long-term fiscal considerations.**<sup>5</sup> Rather than targeting a balance, the fiscal anchor should be a surplus that considers inter-generational equity. With the primary balance of zero, non-oil primary deficits are each year around 1 percentage point higher than the long-term fiscal benchmarks consistent with inter-generational equity.<sup>6</sup> Saving more through the fiscal target may be a more credible option than through accumulating savings through the reserve fund by assuming an artificially low oil price

<sup>5</sup>Using the intertemporal budget constraint criterion for fiscal sustainability under normal dynamic efficiency conditions ( $r-g > 0$ , which should be the case in any well-defined steady state) the government's intertemporal budget constraint demands that existing debt be equal to the NPV of future surpluses (that is existing government debt must be backed by future surpluses). The NPV of zero being zero, the proposed rule violates any well-defined intertemporal budget constraint, see [A Practical Guide to Public Debt Dynamics, Fiscal Sustainability, and Cyclical Adjustment of Budgetary Aggregates](#).

<sup>6</sup> [Selected Issues Paper 2015](#)

in the benchmark calculation. Finally, the choice of a primary balance target compared to overall balance is questionable, since should assumptions on interest rates or growth be incorrect, it may set debt on unsustainable path—either to zero or infinity.

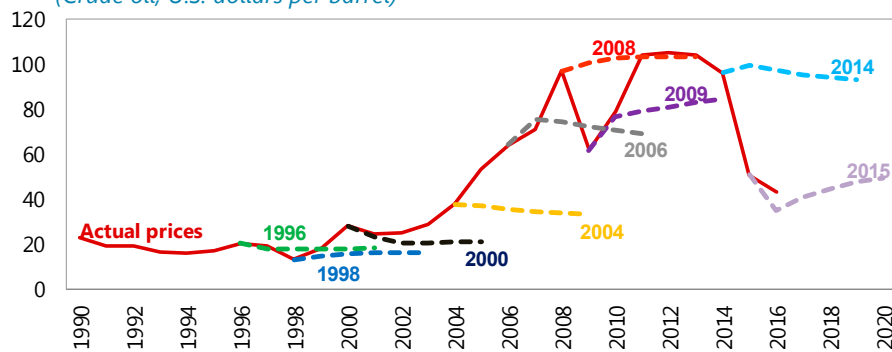
**12. An additional target on spending could help avoid pro-cyclicality.** Including a rule by which primary expenditures do not grow by more than the (estimated) long-term growth rate in real terms would address residual procyclicality inherent in a non-cyclically adjusted primary balance fiscal rule. Though a fixed-oil price benchmark eliminates the main element causing pro-cyclicality in the previous fiscal rules, i.e. volatile oil prices, the rule is not as good as a structural balance rule that would exclude the cyclical component of output beyond oil prices. Excluding the cyclical component of oil revenues by using a benchmark price (assuming this captures the “structural” price of oil) is a good approximation of a structural balance rule, if the if the oil price gap (“structural” price minus actual) is well correlated with the output gap. However, if demand shocks are unrelated to the oil price gap, then the authorities’ primary balance rule would be procyclical.

### Box 2. Determining a Benchmark Oil Price

Forecasting oil prices has become increasingly difficult as prices have become highly volatile. Establishing an oil price benchmark is further complicated by the less than obvious time series properties of oil prices. This complicates the task of separating observed oil price fluctuations into permanent and temporary components. Introducing future oil prices (as predictor of actual future oil prices) though helpful in allowing the budget to adjust to the new oil prices, may not be useful in anchoring long-term benchmark oil prices. Future oil prices (in levels) are strongly correlated with observed oil prices and thus, their gives more weight to current oil prices. If the current oil price is off its long-term equilibrium, the use of oil price futures to anchor the budget benchmark may not be optimal.

#### A Poor Record of Forecasting Oil Prices

(Crude oil, U.S. dollars per barrel)



Sources: IMF staff estimates and market projections. 2015 represents an estimate based on actual data for part of the year and future contracts.

Note: The solid line represents actual crude oil average prices for the year. 2015 represents an estimate based on actual data for part of the year and future contracts. The dashed lines are based on market projections for prices (future contracts).



**Box 2. Determining a Benchmark Oil Price (concluded)**

The proposed US\$40 pb, a 50-year average, is an improvement compared to benchmarks in previous rules. An observation of the series suggests that large changes in the oil prices, whether positive or negative, tend to be persistent (Annex 2). Using 3, 5 and even 10 year averages (as in previous rules) as a proxy for long-term oil prices could result in a persistent overvaluation or undervaluation of the real effective exchange rate as the level of fiscal expenditures is tied to an oil price that is above or below the long-term oil price. Moreover, the shorter the period used to calculate the moving average, the more the benchmark oil price fluctuates—an undesirable property if the authorities' policy objective is macroeconomic stability.

An independent committee to establish the benchmark price of oil to include in the budget could be considered. An informed panel of experts would likely have a better guess on the persistent component of oil prices using different methodologies than applying a mechanistic formula, or using the current proposal of a fixed benchmark. The committee could put the oil price formula for review periodically or should oil prices move significantly, independently of the Ministry of Finance that could have political economy considerations in changing a benchmark.

**13. The design of escape clauses should be strengthened to allow adjustment of the rule to persistently low oil prices.** In the absence of an oil price rule that adjusts to persistently lower oil prices, escape clauses that cap withdrawals from the reserve fund are important for dealing with persistent drops in oil prices. Whenever escape clauses are triggered, expenditure should adjust down. This mechanism would be an automatic stabilizer if long term or structural oil prices turn out to be lower than the US\$40 pb benchmark. Escape clauses should be complemented with borrowing constraints to insure permanent drops in oil prices are internalized in the budget process.

**14. As an alternative, targeting a structural non-oil balance should be considered, once additional data is available.** A structural primary non-oil balance (adjusting for the economic and commodity cycle) as a share of potential non-oil GDP, would reduce the pro-cyclicality currently embedded in the proposed rule i.e. a high (low) forecast of nominal GDP growth (especially non-oil GDP) would translate into higher (lower) cap on spending through higher non-oil revenues, regardless of Russia's economic cycle. Adjusting for the economic cycle is, however, complicated and subject to uncertainty, and cyclically adjusted balances are often revised ex-poste due to revisions to potential GDP. Notwithstanding the difficulties described in estimation, Russia should compile data on non-oil GDP to calculate a non-oil structural fiscal balance. Other sources of potential fluctuations in oil revenues—long-term projections on oil production and revenues—should be monitored. Profits from oil and gas producing companies should be excluded from non-oil revenues and included in oil revenues. The final objective should be to establish a rule that ensures a constant flow of oil revenues to the budget, as in Norway (See Table A1 that summarizes the design of fiscal rules in Chile and Norway).

## C. Simulations of Fiscal Rules

### 15. In this section, we evaluate the authorities proposed fiscal rule against alternative fiscal rules:

- The authorities old rule, suspended in 2015 after the sharp fall in oil prices. Under the rule, the oil-price benchmark is set as the minimum of (i) a backward-looking moving average of up to ten years of Urals oil prices; and (ii) a three-year backward looking average. Federal expenditures were capped ex ante at the sum of projected non-oil revenues, oil revenues at a benchmark price (in US\$) converted to ruble, and net financing of one percent of GDP.
- Staff's proposed rule that modifies two parameters of the old rule: i) it uses future prices to establish a benchmark oil price—the oil price rule is a 5-year average for the past and 5 years ahead futures prices (instead of the backward moving average)—to allow for a faster adjustment in fiscal policy in response to oil-price developments ii) it increases the target to a surplus of 1 percent of GDP (instead of a deficit of 1 percent of GDP) to generate more savings.

**16. The IMF Flexible System of Global Models (FSGM) is used to illustrate fiscal and macroeconomic outcomes under alternative rules and different oil price shocks.** First we conduct a counterfactual simulation between 2010–16, the time interval includes a period of high oil prices and the large negative oil price shock of 2014/15. The counterfactual has the advantage of accurately depicting the state of the economic cycle and the evolution of oil prices. In a second simulation, we assess rules under both temporary and persistent positive and negative oil supply shocks. Rules are assessed on their ability to build savings and their broader impact on the economy i.e. their effect on the real effective exchange rate and growth.

**17. The impact of adjustment under a fiscal rule on the economy is determined by several assumptions in the model simulation (Annex I).** As a first step, we calculate the non-resource primary deficits that would have prevailed had each of the three fiscal rules been in place. The fiscal adjustment needed to comply with the rule is measured by change in the non-oil primary deficit. We assume it is met by an equal cut to government transfers and government consumption.<sup>7</sup> Financing for the deviation of the fiscal path under the fiscal rules from the baseline is provided in the first instance by holdings in the reserve fund, with any residual financed by domestic borrowing. Consolidation does not have a large negative impact on growth it is achieved through cuts to transfers and government consumption, rather than investment which has a large fiscal multiplier.<sup>8</sup>

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<sup>7</sup> Recently federal government spending cuts have been in the form of a nominal freeze of total spending. Previous rules did not define how spending would be cut across different expenditure categories. Other laws, however, prevent discretionary changes in categories of social spending and include a list of protected items i.e. wages, payment of court rulings, transfers to support poor regions' budgets, debt service, contributions to international organizations, and some other intra-budgetary transfers.

<sup>8</sup> The conventional assumption that capital spending has a higher fiscal multiplier than current spending may not hold in Russia. Current spending includes education and health spending, important for human capital accumulation,

In addition, monetary policy is supportive, whereby lower policy rates result in a more depreciated exchange rate—thus higher exports and GDP growth—offsetting any short term negative impact of consolidation on growth. Lower policy rates result from the expectation that debt will be lower in the future. Agents expect a credible debt reduction that leaves room for a future cut in distortionary government spending resulting in lower long term rates. There is a small negative impact of fiscal consolidation on potential output through the accumulation of capital, as real investment drops in the short run as a reaction to lower government consumption and the associated weaker demand outlook.

## The Counterfactual

**18. In a counterfactual simulation, we illustrate the economy would have been on sounder footing had fiscal rules been consistently implemented (Panel 1).** The table shows the key parameter, the non-oil primary deficit under the counterfactual. All rules would have made fiscal policy more countercyclical—lower non-resource primary deficits in the first part of the sample (when oil prices are high) allowing for a looser fiscal stance after 2014 (when oil prices are low) (See table). Savings would be higher, with lower overall deficit and debt to GDP ratios. Russia would have more assets than liabilities under all fiscal rules, 16 percent on average, compared to actual liabilities of 4 percent at end-2014. Consolidations early in the sample, in tandem with a supportive monetary policy (policy rates are lower under the expectation of lower future debt) result in a more depreciated exchange rate and hence higher growth, offsetting any negative impact of consolidations on growth.<sup>9</sup> Hence growth and inflation dynamics are not compromised and remain close to actual under all fiscal rule scenarios (Figure 2).

	2010	2011	2012	2013	2014	2015	2016
<b>Projected non-resource primary deficits</b>							
1. Old rule	7.4	6.6	7.3	7.5	8.8	12.3	11.4
2. New rule (benchmark@40)	3.8	3.5	3.7	3.6	4.0	5.6	5.3
3. Proposed rule	7.1	6.8	6.3	5.7	6.1	7.3	5.0
Baseline	11.2	8.4	9.4	9.3	9.5	9.0	8.9

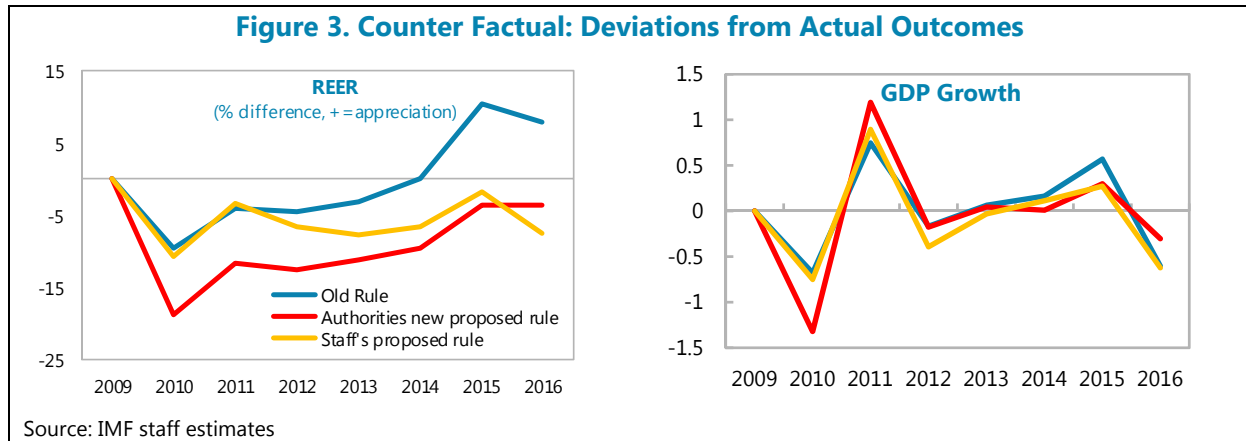
IMF staff estimates

**19. Comparing across rules, the simulation validates the reason for abandoning the old rule.** Not only did the old rule result in the lowest savings and the highest spending (oil revenues at a benchmark price of US\$79, almost equal to spot plus non-oil revenues) during high oil prices but it also results in the least competitive economy. Higher spending results in higher inflation which is moderated by raising short-term policy rates which puts upward pressure on the exchange rate. Furthermore, it would have led to a massive fiscal stimulus in the face of persistent drops in oil prices. This would have quickly depleted buffers, running down the RF to 3 percent of GDP and

while public capital spending includes military spending, an item that might have a lower impact on growth than investment in infrastructure.

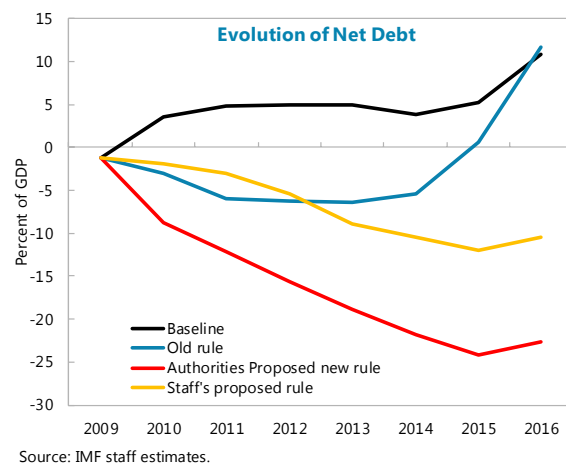
<sup>9</sup> In Russia, the main channel through which the budget negatively affects growth in the long term is by providing persistence to unwarrantedly appreciated or depreciated ruble and the associated volatility in real domestic interest rates.

ratcheting up gross debt to 15 percent of GDP by end-2016, leaving the economy no better off than actual outcomes, despite much higher initial buffers from savings when oil prices were high.



**20. The authorities’ proposed new rule would have built more buffers, but staff’s rule is more countercyclical.**

The simulation illustrates the tradeoff between countercyclical and building buffers when designing fiscal rules. The new rule saves the most in the reserve fund through a conservative US\$40 pb benchmark oil price (average actual oil prices are US\$83 pb) and compared to an average benchmark of US\$76 pb under the proposed rule. The proposed rule also results in substantial savings but rather through a more stringent fiscal target. The proposed rule, however allows a more countercyclical response to the large negative shock to oil prices. Output losses (in growth and levels) across the rules are similar and the differences in the debt trajectory derive from the extent of adjustment rather than growth differentials across rules. A caveat of the exercise is that we assume no reaction in Russia’s country risk premium.



**Simulation under Oil Price Shocks**

**21. In a second simulation, we illustrate how alternative rules will perform under shocks to oil prices.**

The scenarios assume, positive and negative shocks to oil prices (temporary and persistent) are a result of changes in the supply of

Oil Price Scenarios	2018	2019	2020	2021	2022
Baseline	55.4	55.2	55.5	56.1	59.3
Persistent Low Oil	30.0	38.7	40.3	42.8	46.8
Temporary Low Oil	30.0	42.9	48.5	56.6	57.6
Persistent High Oil	80.0	71.8	71.8	70.6	72.9
Temporary High Oil	80.0	67.5	62.3	55.5	60.8

non-Russian oil producers (table). The simulations are calculated as deviations from the baseline projections for Russia included in the 2017 staff report. Under the baseline scenario, spending is

frozen per the authorities' medium-term budget plan and revenues are calculated at baseline oil prices. Implementation of the fiscal rules starts in 2018. As in the counterfactual we calculate three fiscal rule adjustment scenarios on projected non-resource primary deficits under the baseline oil prices and four shocks to oil prices (Table).

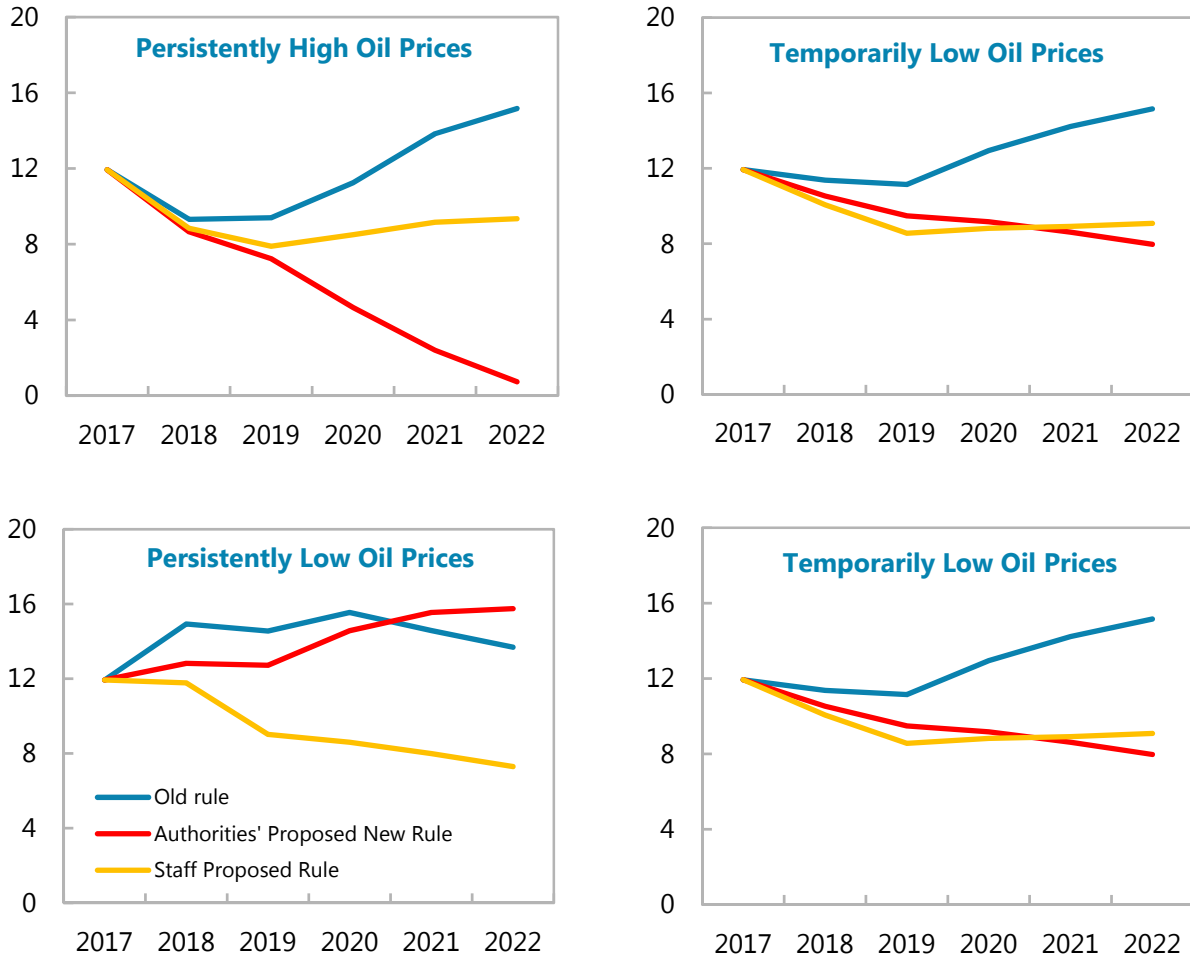
	2018	2019	2020	2021	2022	2023	2024
<b>Projected non-resource primary deficits (Baseline)</b>							
1. Old rule	5.6	5.5	5.8	5.6	5.5	5.4	5.4
2. New rule (benchmark@40)	4.7	4.7	4.6	4.5	4.5	4.4	4.4
3. Proposed rule	4.2	4.1	4.0	4.0	4.1	4.1	4.1
Baseline	6.5	5.6	4.8	4.8	4.9	4.6	4.6

IMF staff estimates

## 22. Staff's proposed rule is preferred given the shocks that are considered (Figure 4).

- Under persistently high oil prices, the new rule results in the highest savings—net debt falls to zero, compared to 8 percentage points under the proposed rule. Should high oil prices prove to be temporary, however, the proposed rule begins to have higher overall savings. This is because although there is less savings generated by the oil-price rule, there is also less debt generated (the proposed rule targets a surplus, rather than a primary balance as in the new rule). When oil prices are high, the impact on the broader economy is similar under the new and proposed rules (Panel 3 and 4). Compared to the baseline, neither rule has a large negative impact on growth and both rules result in better outcomes on potential GDP. Inflation is contained and policy rates are low resulting in a more depreciated exchange rate, increased competitiveness and an improved current account.
- The persistent low price oil scenario illustrates the dangers of the authorities' new rule of getting the benchmark price wrong. Although the shock is persistent, the new rule doesn't adjust, spending at a benchmark price of US\$40 despite permanently lower prices. This results in a rapid depletion of the RF and increasing debt dynamics with debt ratios that are around 2 percentage points higher every year throughout the projection horizon. The proposed rule adjusts quickest to the new reality of low oil prices, with net debt decreasing to 8 percent. However, should the negative shock be transitory, the proposed rule is tight and forces adjustment, when ex-post it was not necessary. Nonetheless, the impact of a tighter fiscal policy under the proposed rule to a temporary shock does not result in a significantly lower growth path compared to the new rule as looser monetary policy and the accompanied depreciated exchange rate offset the drag from a tighter fiscal policy (Panel 5 and 6).

**Figure 4. Evolution of Net Debt: Oil Shock Scenarios**  
(In Percent of GDP)

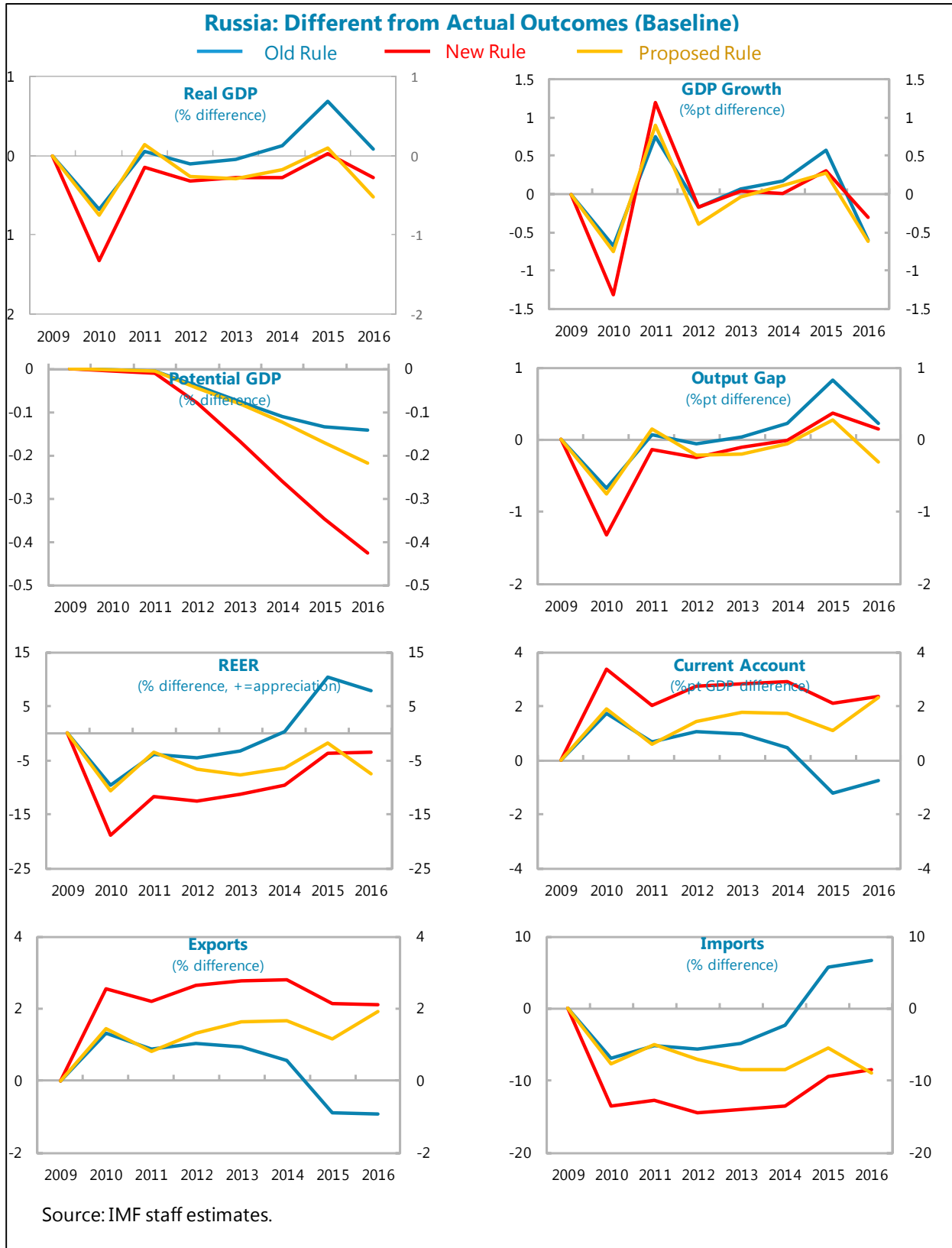


Sources: IMF staff estimates

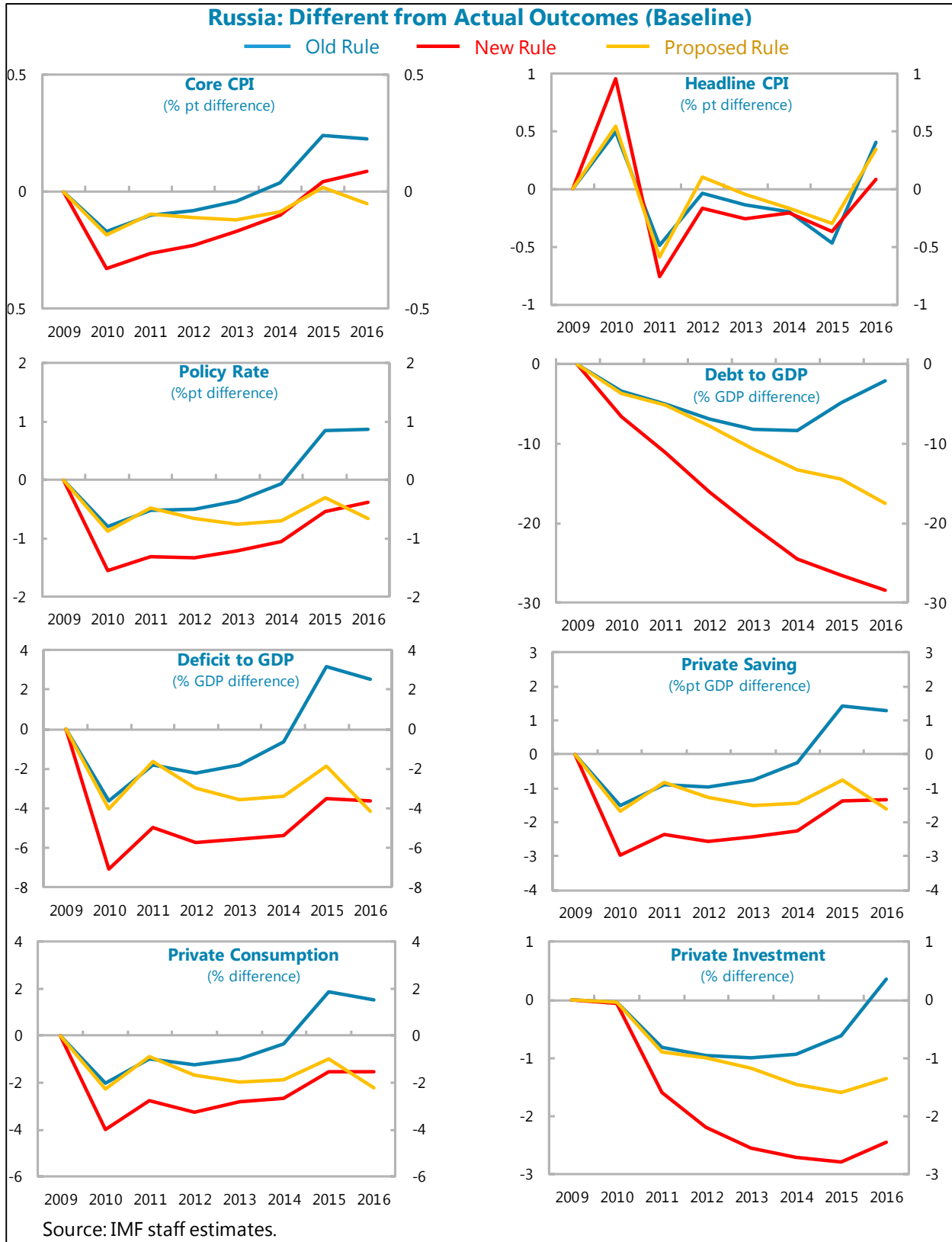
**Table A1: Parameters of Russian Fiscal Rule: Experience of Chile and Norway**

	Chile	Norway
<b>Benchmark Price</b>	Panel of independent experts establish long term price of copper for the budget. No guidelines published to choose price. This price fluctuates less than current prices, to which it adjusts with a lag.	The use of a benchmark oil price in the budget is completely excluded. Norway's Government Pension Fund Global (GPFG) increases by oil revenues and decrease by the transfers from the GPFG (capped at 4 percent of the value of the fund) back to the budget.
<b>Fiscal Target</b>	The target is the structural balance of the federal budget.	The target sets the structural non-oil deficit to be equal to structural oil revenues, calculated to be equal to the annual value of the GPFG.
<b>Cyclical Adjustment</b>	The rule requires computation of cyclically adjusted aggregates. Output Gap assessed through a structural methodology (production function approach corrected for utilization of factors); long-term growth and output gaps are calculated for the non-copper GDP	The rule requires accounting for business cycle of non-oil GDP. Objective is to ensure appropriate capacity utilization and low unemployment. Forecasts are made three times a year and fed into the budget process. Models used emphasize need to maintain long-term profitability of tradable sector.
<b>Intergenerational Equity</b>	No references to intergenerational equity. Target surplus to address specific explicit and contingent liabilities (Central Bank quasi-fiscal deficit and contingent pension liabilities). No provision ensuring the budget receiving transfers from fiscal buffers after mineral resources are exhausted.	Best practice in terms of intergenerational equity. Transfers from the GPFG are targeted to be about equivalent to the permanent return from the underlying GPFS assets ensuring transfers to the budget even after oil resources are exhausted.
<b>Sustainability of the Rule in view of contingent fiscal events</b>	Earlier vintages established a 1 percent structural surplus to repay CBCH quasi-fiscal deficit and basic pension benefits. Target defined with no reference to any present value calculation.	Extractions from GPFS appear higher than warranted given expected pension and health costs, and have continuously increased as percentage of non-oil GDP, appreciating the RER and compromising competitiveness.
<b>Long-term Debt Sustainability</b>	The rule first targeted a structural balance of 1 percent of GDP. It was later reduced to 0.5 percent of GDP and then to zero. The positive structural primary balance ensures long-term debt sustainability.	The adoption of the rule in 2001 resulted in the accumulation of fiscal assets equivalent to 200 percent of mainland (non-oil) GDP. Despite issues related with contingent pension and health future off-balance sheet liabilities, Norway's rule ensures long-term debt sustainability.
<b>Escape Clauses</b>	The rule allows changes in the structural overall balance in exceptional circumstances. The structural surplus was decreased twice during the global financial crisis in order to stimulate the economy. It has been kept at zero thereafter.	The rule allows increasing/decreasing transfers to the budget from the GPFS to help stabilize the economy. The MoF appointed a commission to analyze the workings of the FR during 2002-15 to make recommendations to improve the rule.
<b>Exchange Rate</b>	Chile uses a projection for the current exchange rate to express copper-related revenues in Chilean pesos.	Norway uses a projection for the current exchange rate to express oil-related revenues in Norwegian Krone.

Source: IMF staff reports.

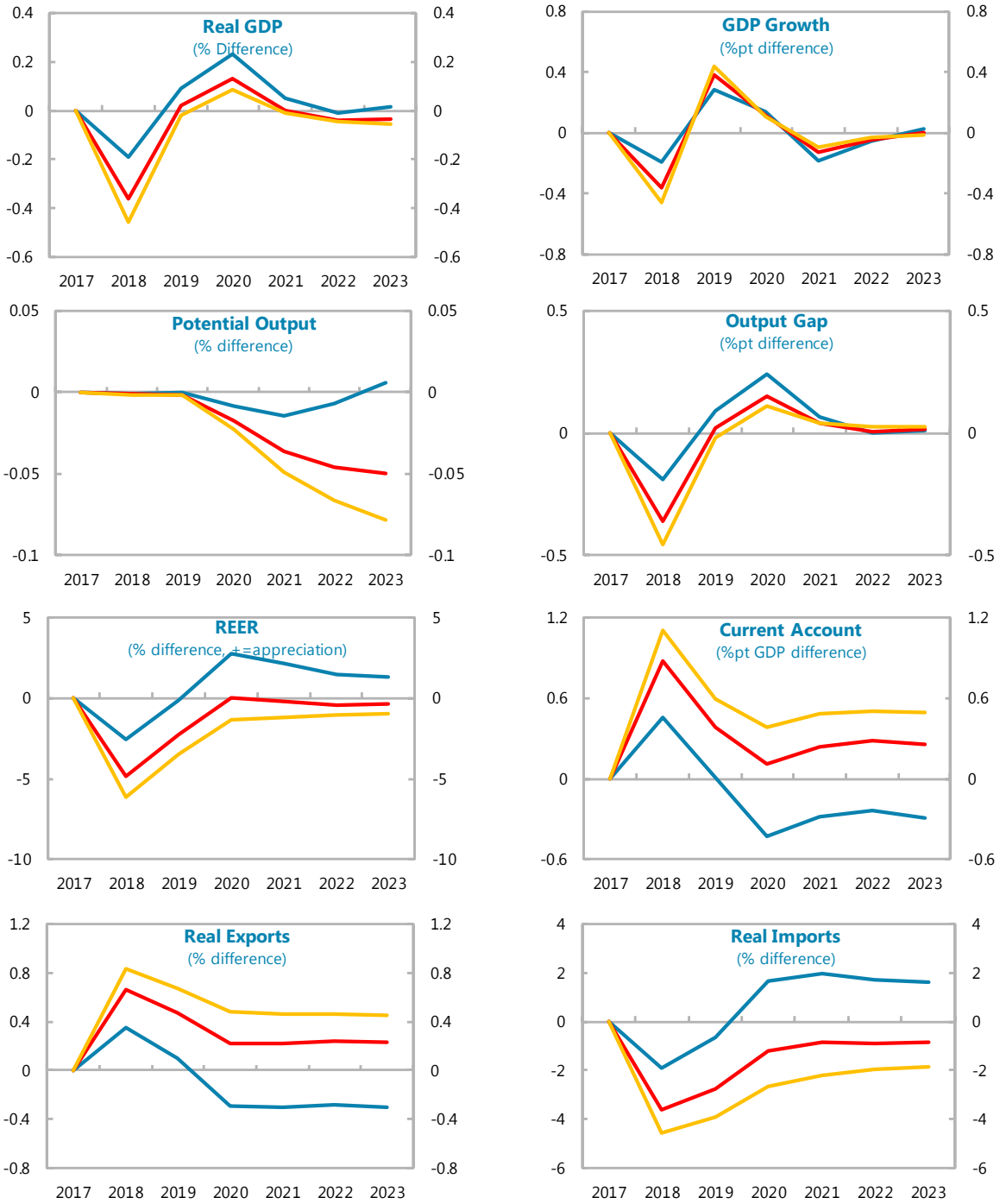




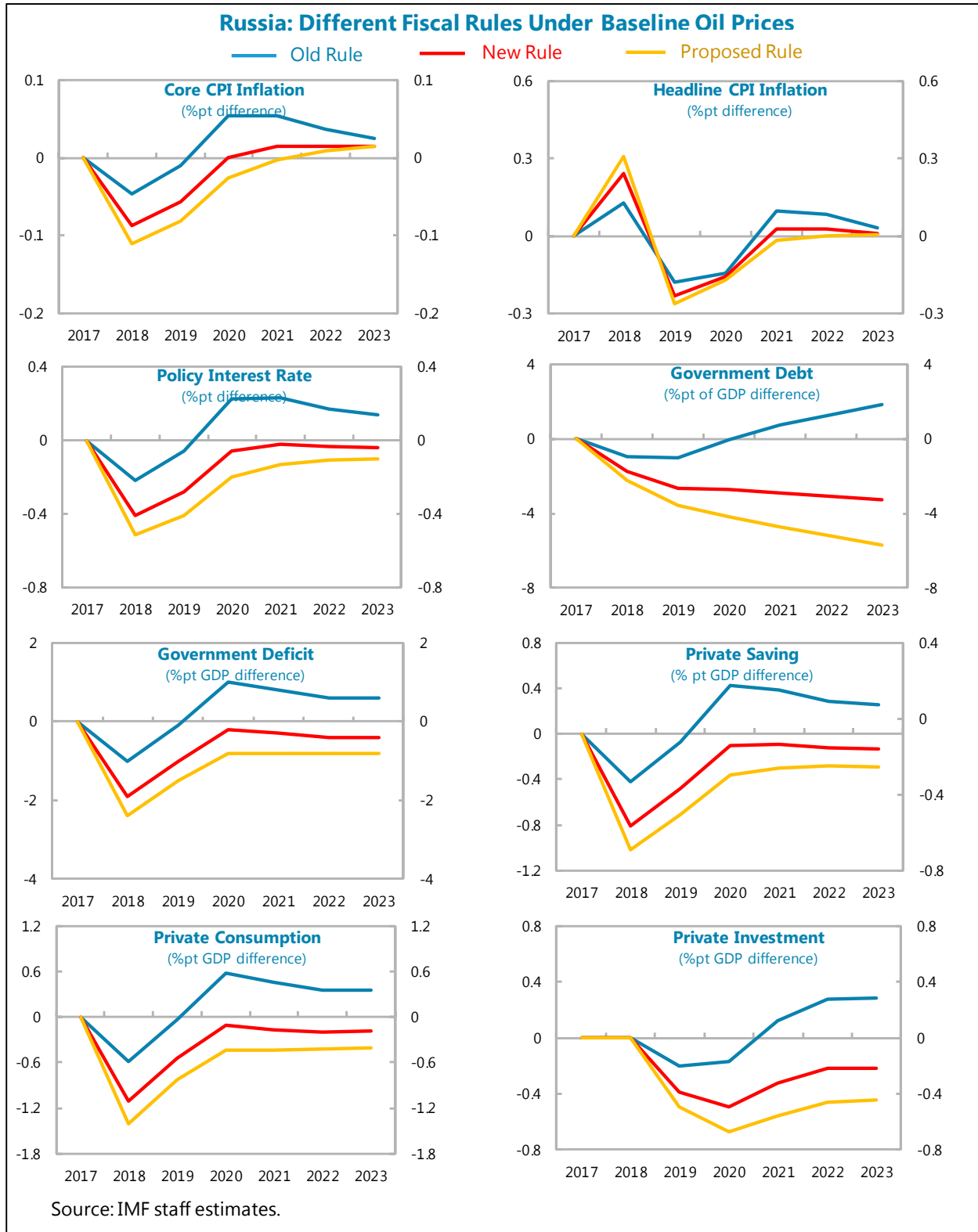


Russia: Different Fiscal Rules Under Baseline Oil Prices

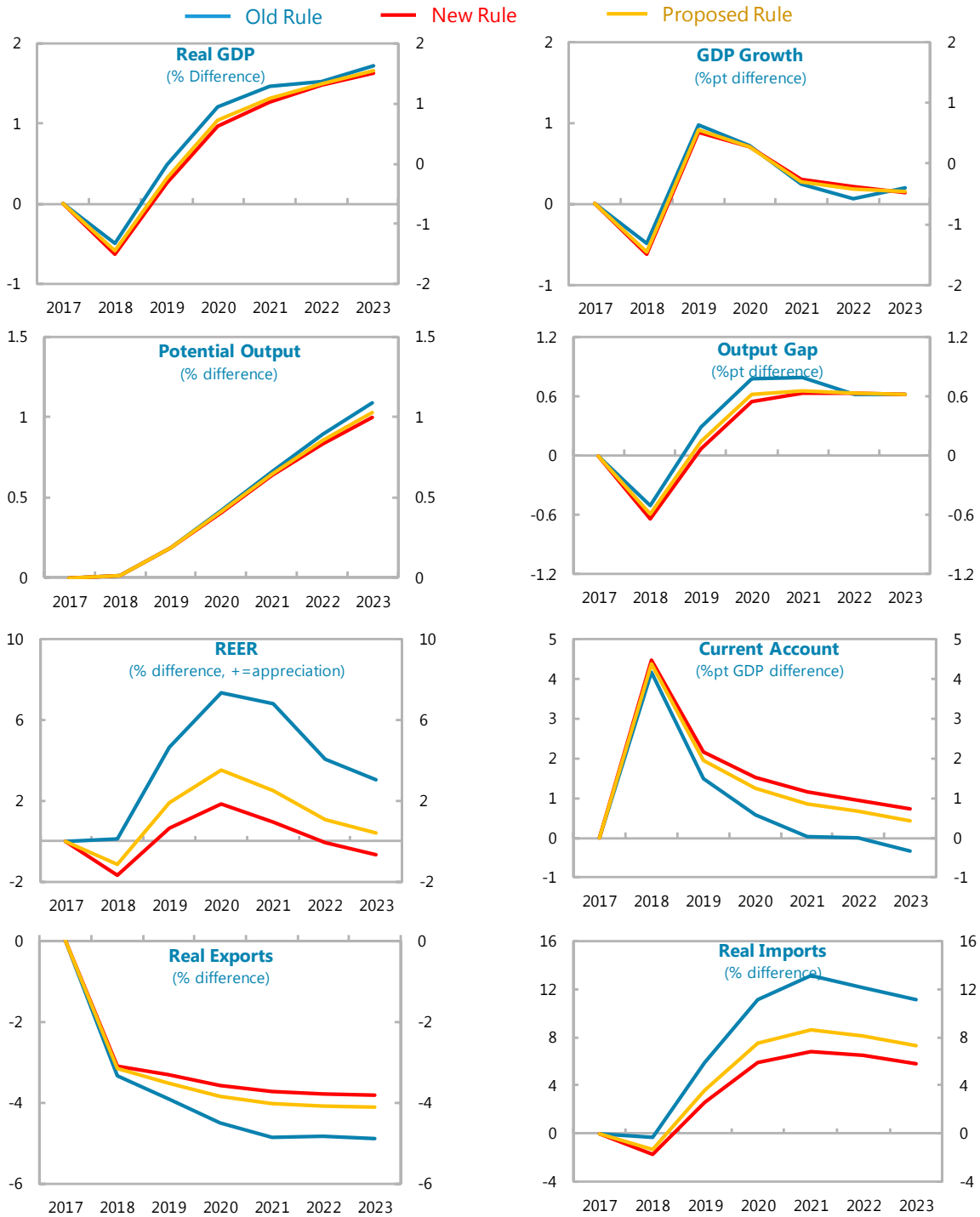
— Old Rule — New Rule — Proposed Rule



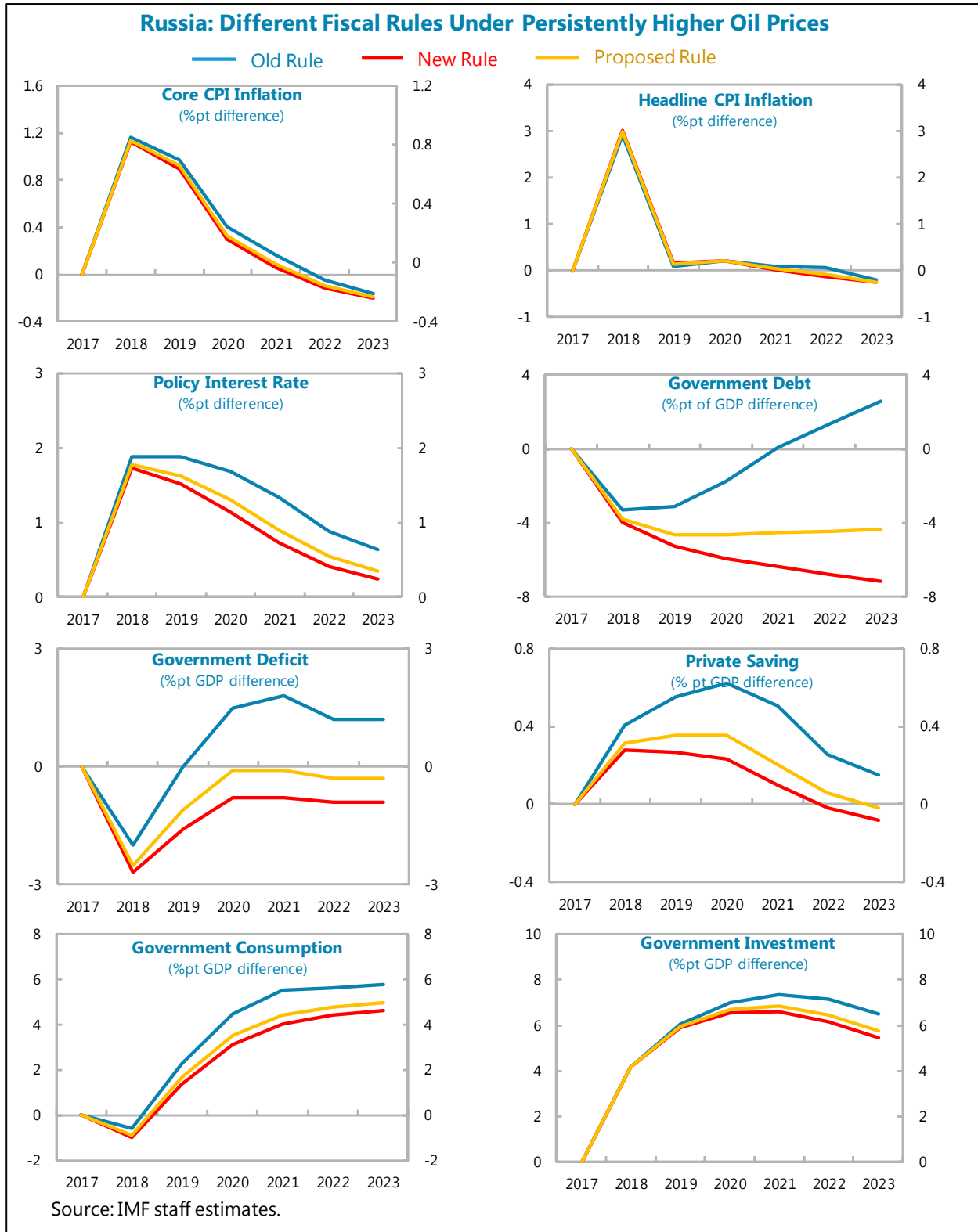
Source: IMF staff estimates.



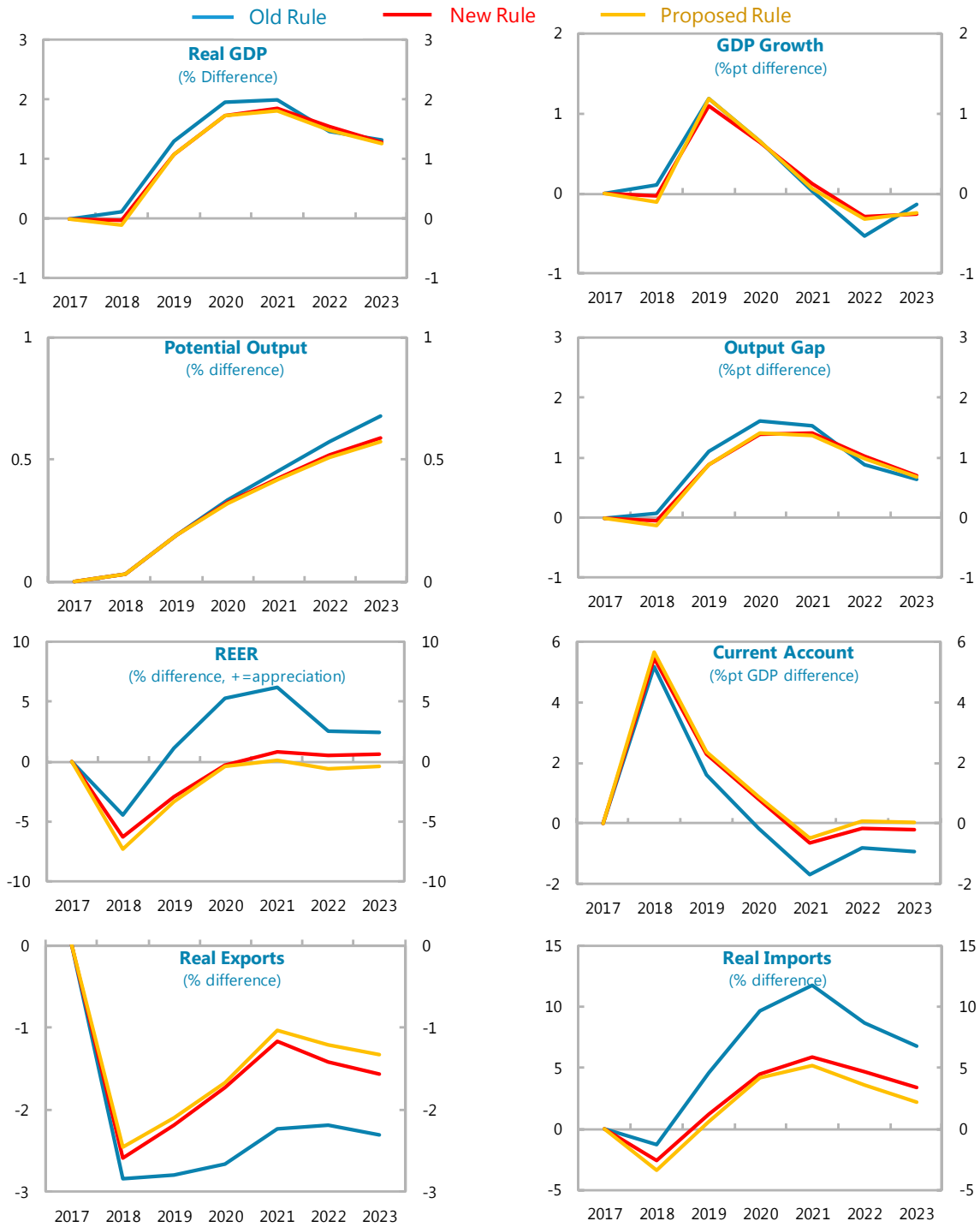
**Russia: Different Fiscal Rules Under Persistently Higher Oil Prices**



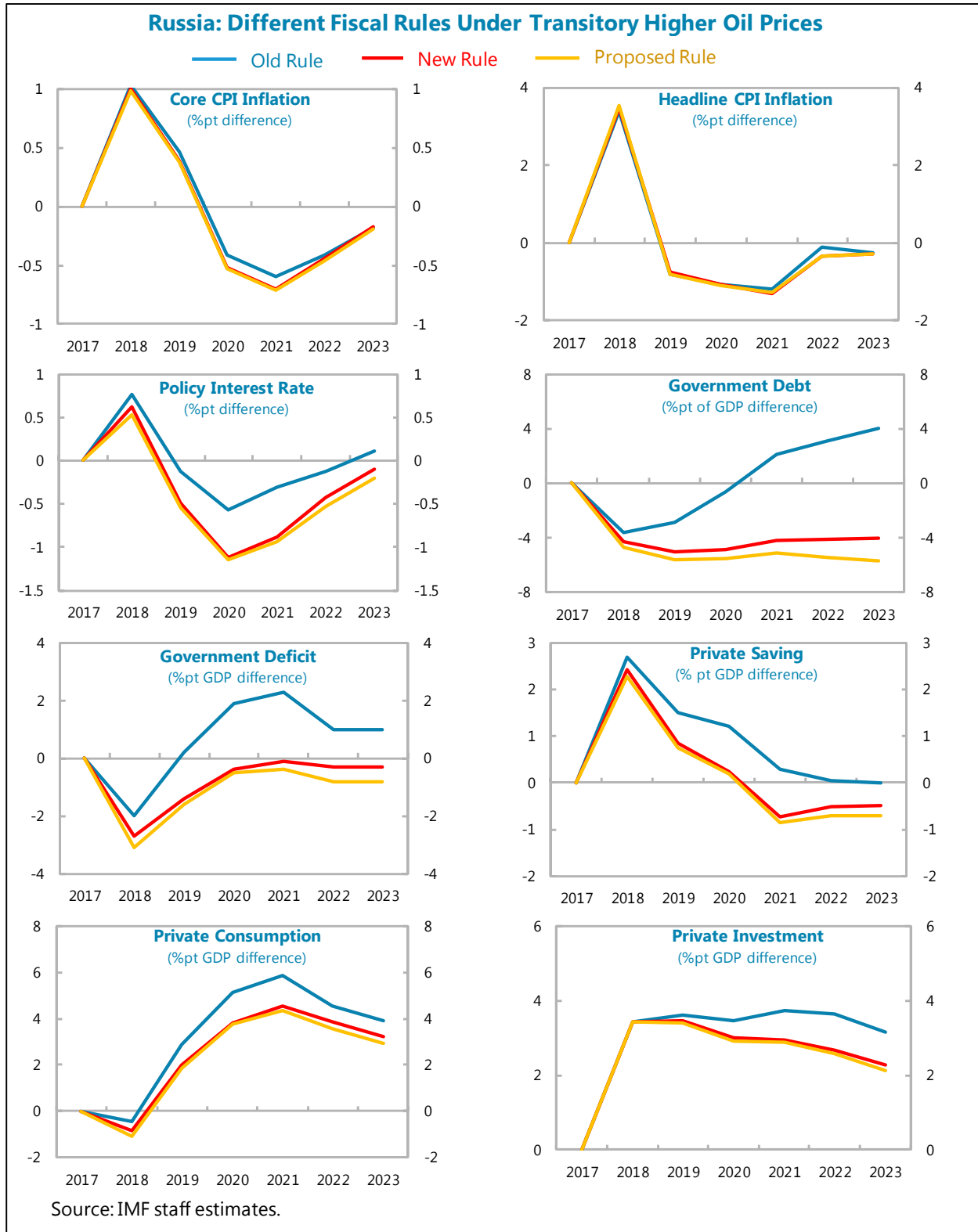
Source: IMF staff estimates.



Russia: Different Fiscal Rules Under Transitory Higher Oil Prices



Source: IMF staff estimates.

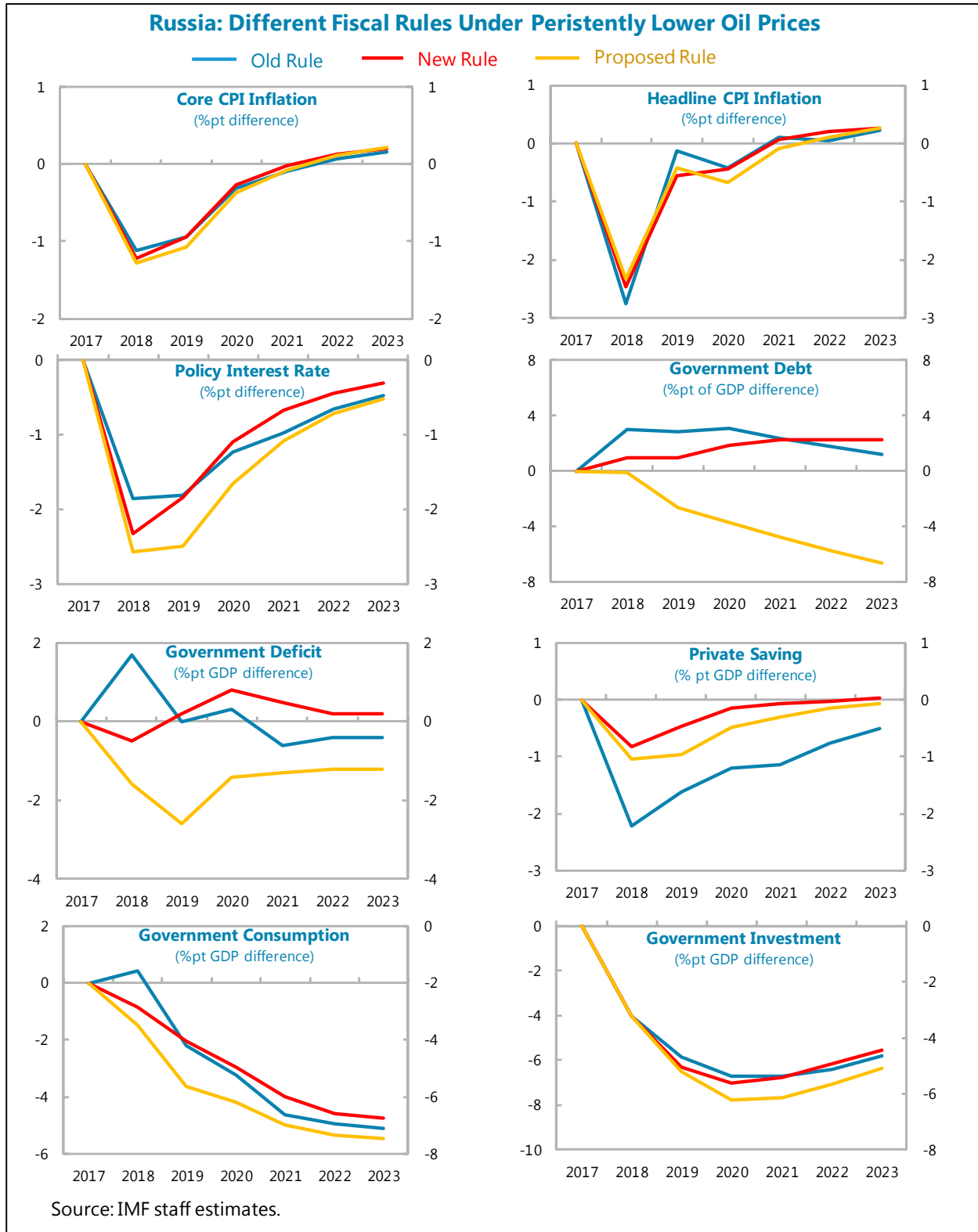


**Russia: Different Fiscal Rules Under Persistently Lower Oil Prices**

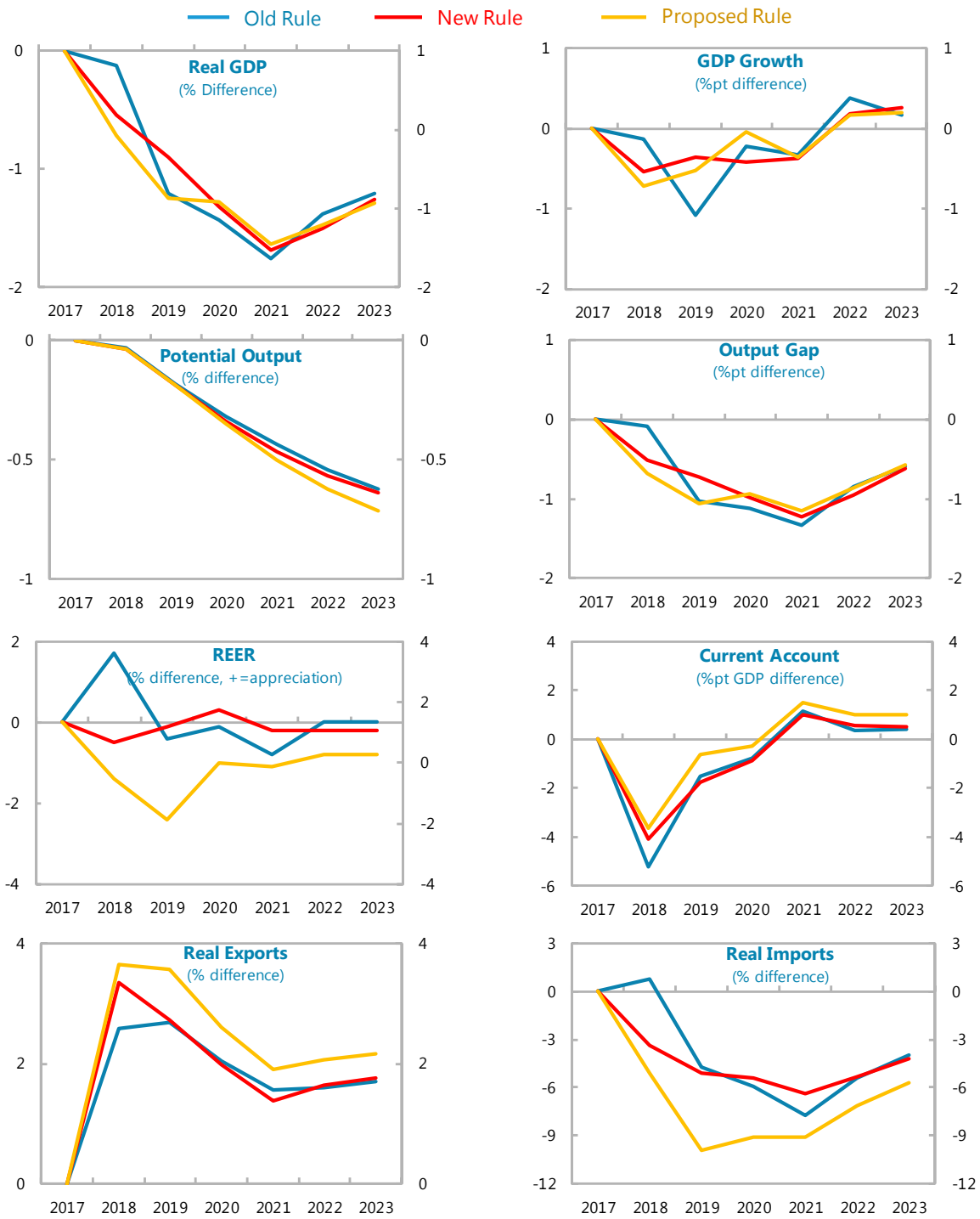


Source: IMF staff estimates.

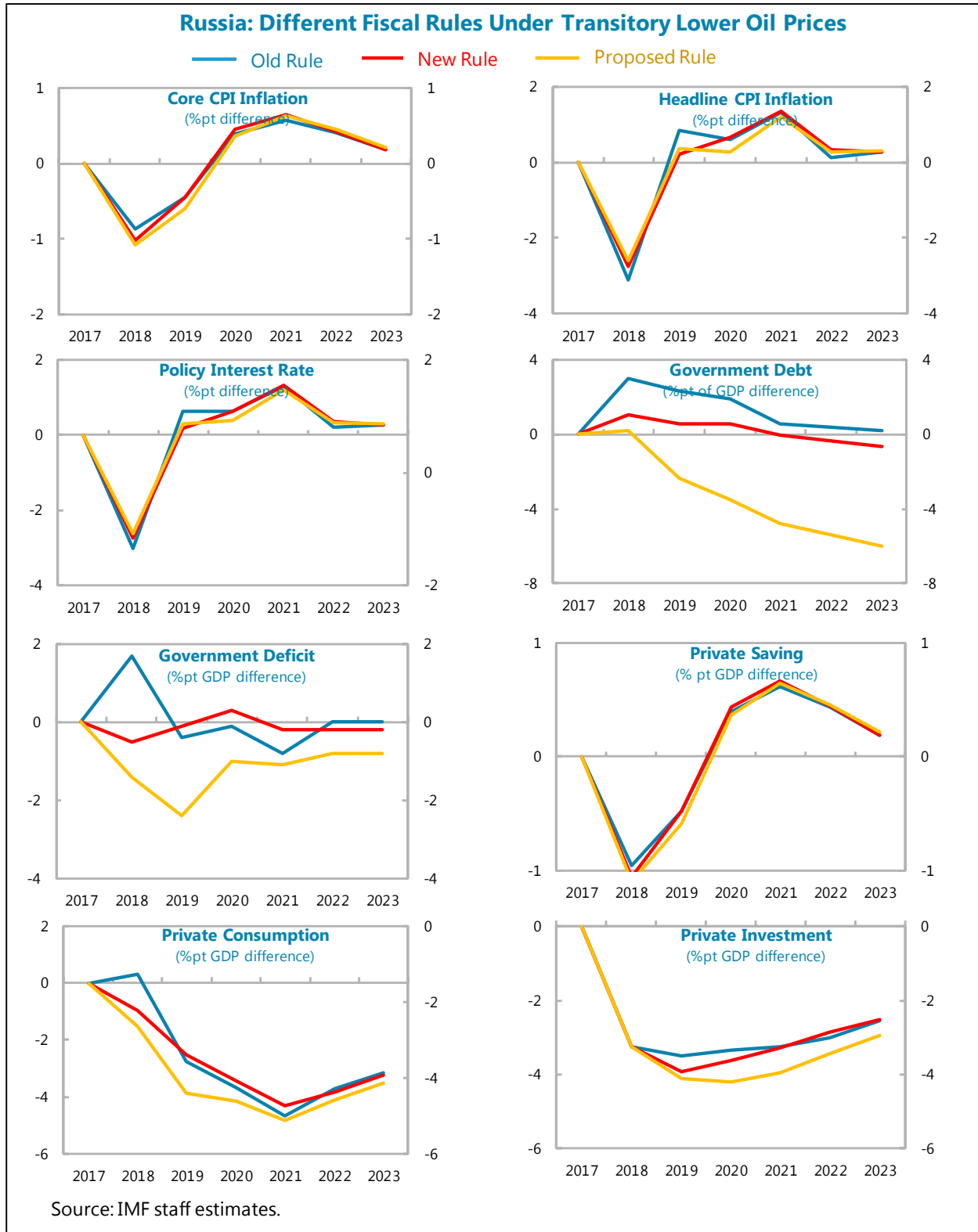




Russia: Different Fiscal Rules Under Transitory Lower Oil Prices



Source: IMF staff estimates.



## Annex I. FSGM for Russia

**Simulations of the economy under the various fiscal rules are calibrated using the IMF’s Flexible System of Global Models (FSGM).** The model is an annual, multi-economy, forward-looking, model combining both micro-founded and reduced-form formulations of economic sectors (see Andrieu and others 2015). Countries are distinguished from one another by their unique parameterizations. Each economy in the model is structurally identical (except for commodities), but with different steady-state ratios and behavioral parameters. Russia’s parameters are strongly determined by the fact that its economy is dominated by oil. Characteristics of the model, including assumptions on specific parameters for Russia are outlined.

**Consumption and investment are micro-founded.** Consumption is given by overlapping-generations households that can save and smooth consumption, and liquidity-constrained households that must consume all their current income every period. Firms’ investment is determined by a Tobin’s Q model. Firms are net borrowers. Risk premia rise when the output gap is negative during periods of excess capacity, and fall when the output gap is positive, during booms (capturing the effect of falling/rising real debt burdens).

**Trade is given by reduced-form equations.** A function of a competitiveness indicator and domestic or foreign demand. The competitiveness indicator improves one-for-one with domestic prices—there is no local-market pricing. For Russia, most (90 percent) exports are oil and gas, so competitiveness changes play a small role in the model. Exports of oil respond largely to Russian production decisions.

**Potential output is endogenous.** It is modeled by a Cobb-Douglas production function with exogenous total factor productivity (TFP), and endogenous capital and labor. For Russia, Potential output moves one-for-one with the long-run average production of oil (but not cyclical swings in oil production).

**Consumer price and wage inflation are modeled by reduced form Phillips’ curves.** They include weights on a lag and lead of inflation and the output gap. Consumer price inflation also has a weight on the real effective exchange rate and second-round effects from food and oil prices. As energy prices in Russia do not respond to global oil price developments, there is no feed-through from oil price changes to CPI inflation.

**Monetary policy is governed by an interest rate reaction function.** It is an inflation-forecast-based rule working to achieve a long-run inflation target through a risk-adjusted uncovered interest rate parity.

**The model includes three commodities—oil, metals, and food.** This allows to distinguish between headline and core consumer price inflation. The demand for commodities is driven by the world demand and is relatively price inelastic in the short run due to limited substitutability of the commodity classes considered. The supply of commodities is price inelastic in the short run.

Countries can trade in commodities, and households consume food and oil explicitly, allowing for the distinction between headline and core CPI inflation. All have global real prices determined by a global output gap (only a short-run effect), the overall level of global demand, and global production of the commodity in question. Commodities can function as a moderator of business cycle fluctuations. In times of excess aggregate demand, the upward pressure on commodities prices from sluggish adjustment in commodity supply relative to demand will put some downward pressure on demand. Similarly, if there is excess supply, falling commodities prices will ameliorate the deterioration.

**Oil plays a dominant role in the calibration of Russia's model.** Oil price fluctuations affect government revenues, but have little effect on household wealth as households have no direct ownership stake in the oil sector. Oil prices also have little effect on households' and firms' decisions, as oil prices are held fixed domestically.

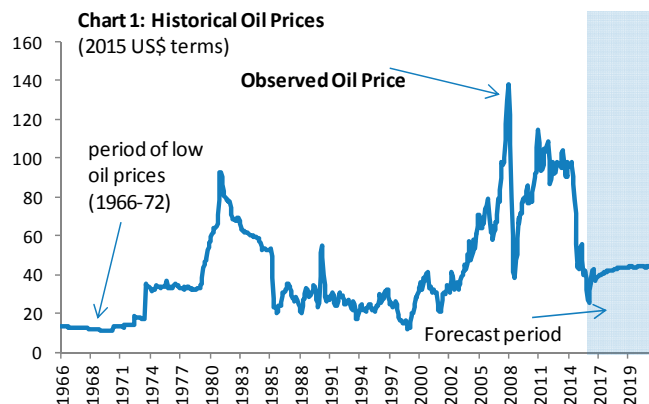
## Annex II. Russia's Proposed Oil Price Benchmark

The authorities new budget rule will use a benchmark oil price that is the average of the last 50 years (in 2015 terms) and that they will adjust such a price (on a yearly basis), by the variation of the US CPI (i.e., what implies assuming a constant relative price between oil and the US consumption basket going forward). This annex analyzes some of the implications of moving to such an oil rule for the Russian federal budget.

- We look at oil prices for the period 1923–2016 (in US\$ nominal terms) and express them in 2015 US\$ terms using the US CPI.
- We look at the implications of using different benchmarks for the oil price, based on moving averages (in 2015 US\$ terms) of different lengths (i.e., 3, 10, 20, 25, 30, 40 and 50-year MAs).
- We extend the analysis into the next few years, using future oil prices (as of July 27, 2016) through 2021, and assume that US CPI inflation will gradually converge to 2 percent per year (from the current 1 percent), by end 2019.

### Some Observations:

- The 50-year average (1966–2015) oil price in real terms (for the US imported oil basket) is US\$42.6 in 2015 terms. It includes a period (1966–1972) of stable and relatively low oil prices in real terms (Chart 1). This is in the order of magnitude that the authorities plan to use.
- Using oil price benchmarks based on shorter-length moving averages (e.g., a 3-year MA), result in more “realistic” oil prices, but potentially in strong pro-cyclicality in periods of sustained increases or decreases of oil prices. At the same time, the use of short-length MAs does not generally result in extended periods in which observed oil prices are either far above or below benchmark prices. Define “far” to represent years in which observed oil prices (in real terms) were either higher (or lower) than the benchmark by +/- 25 percent. Using such criterion during 1972–2015, the longest period in which oil prices were “far” higher than the 3-year MA was 1.5 years. Conversely, the longest period in which observed oil prices were “far” lower than the 3-year MA was 2 years. The average period in which observed oil prices were either far above/below the 3-year MA was only 0.2 years (See Panel 1 and Table 1).



- Oil price benchmarks based in longer-length moving averages (e.g., a 50-year MA, as proposed by the authorities), would result in far less pro-cyclical government spending than shorter-length MAs. However, the use of long length MAs result in the observed oil prices to be “far” from benchmark oil prices for long periods of time. Defining “far” as above, observed oil prices were “far” above or below the 50-year MA during, an average, of 2.5 years in 1972–2015. The longest period in which observed oil prices was higher than the 50-year MA was about 12 years. However, the longest period in which observed oil prices were far lower than the 50-year MA was only 1.5 years; (See Panel 1 and Table 1). This asymmetry is due to the fact that the 50-year moving average oil price included throughout the period a long spell (before 1973) of low and stable oil prices in real terms. Even through 2015, the 50-year moving average still includes a period (1966–1972) of low and stable real oil prices (of about US\$13/barrel in 2015 terms). Fixing the benchmark real oil price going forward at the 50-year average through 2015 should then be a relatively “safe” choice, not only due to its freezing at a relatively low level, but also due to the fact that the relative price of oil has increased during the last few decades (see more on this below).<sup>1</sup> Using a prudent oil price benchmark will likely result in avoiding long periods in which the government has to place debt to compensate for a negative difference between observed and benchmark oil prices. However, a rule in which observed oil prices may be higher than the budget benchmark for relatively long periods of time will require strong political will to stick to such rule while government net assets increase.

**Table 1: Difference between Observed and Benchmark oil prices**

(in years; 1972-2015)

	All Episodes		Price above Benchmark		Price below Benchmark	
	3-year	50-year	3-year	50-year	3-year	50-year
average	0.21	2.43	0.08	2.43	0.08	0.03
maximum	2.08	12.17	1.50	12.17	1.50	1.50

Source: IMF staff calculations

- Interestingly, using oil price benchmarks of intermediate length (e.g. 10-year MA –like in the previous fiscal rule, or 15-year MA), overlooks the fact that during the period 1972–2015 oil prices remained persistently low (after being high), or persistently high (after being low) for relatively long periods of time. Therefore, oil price benchmarks based on intermediate-length MAs result in relatively long periods in which observed oil prices are either “far” above, or “far” below the MA-benchmark (See Panel 2).<sup>2</sup> In particular, for periods in which the benchmark is above observed oil prices for a long period of time, may result in debt increases that exceed those that the market is willing to provide.

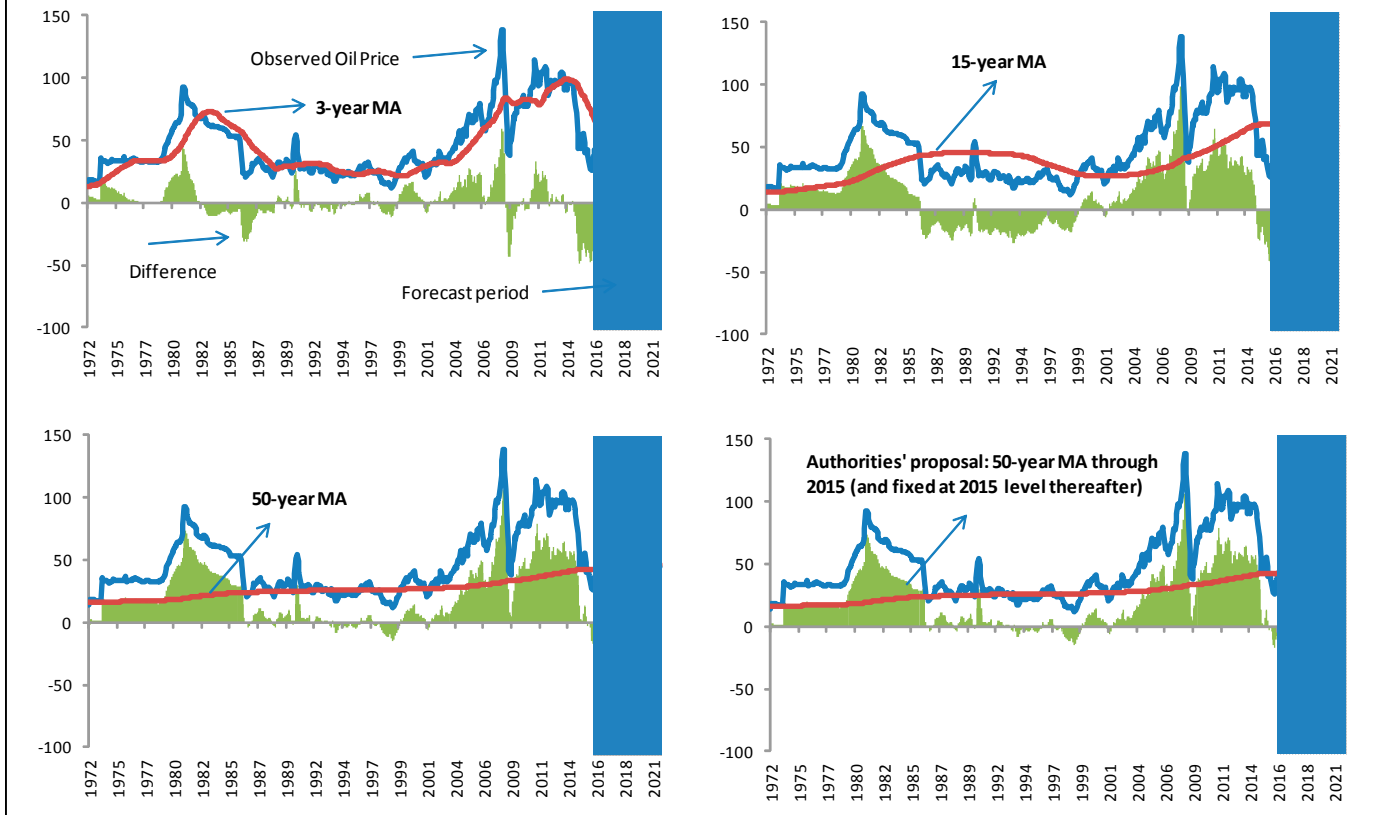
<sup>1</sup> Adopting a benchmark based in the 50-year MA (instead of “freezing” the relative price of oil going forward, as proposed by the authorities), would result in an increase in the oil price benchmark in the coming years, as the 1966–1972 period is substituted for more recent periods of higher real oil prices. For example, the 50-year moving average oil price through 2021 (using oil price futures through 2021) would be around US\$46/barrel in 2015 terms, compared with US\$42.6/barrel in 2015 terms in the rule proposed by the authorities.

<sup>2</sup> There is an ample literature that analyzes whether oil prices are I(0) or I(1) with non-conclusive results. From a practical point of view, however, it is clear from Chart 1 that shocks to oil prices appear to be persistent, or in other words, if prices are mean reverting to trend, they do it slowly.

- As hinted above, the relative price of oil with respect to the US consumption basket during the period 1972–2015 increased by about 2.3 percent per year. Moreover, oil price futures (as of July 27, 2016), imply an average annual increase in such relative price of about 1.3 percent per year through 2021. Therefore, the authorities' proposal to "freeze" the oil price at the 50-year moving average in real terms at end-2015 also results in a "saving" bias.

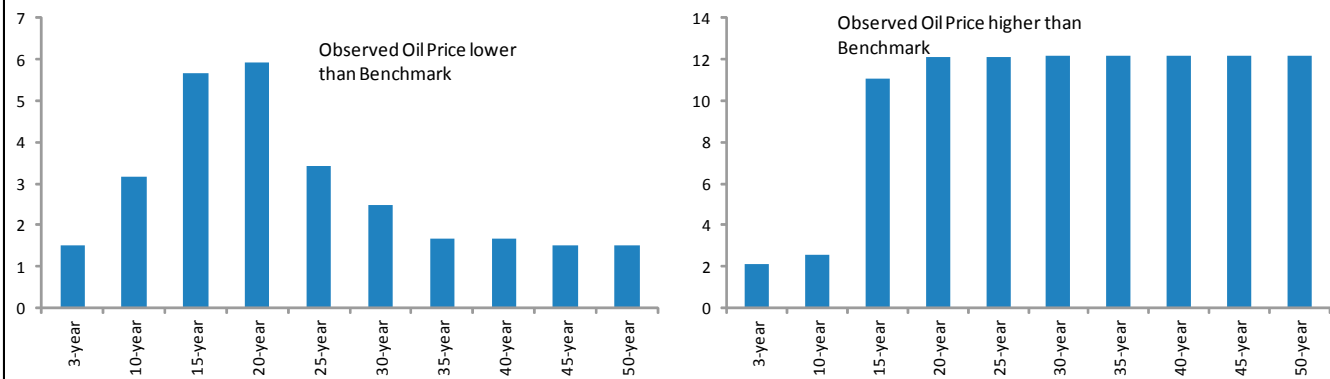


**Panel 1. Oil Price Benchmarks of Different Lengths**  
(Figures in US\$ of 2015)



**Panel 2. Longest length where difference of Observed and Benchmark Oil prices is Large**

(In years. Oil price Benchmarks are MA of different lengths. "Large" defined as 25 percent or more during 1972-2015)



Source: IMF staff calculations

# FISCAL FEDERALISM AND REGIONAL PERFORMANCE<sup>1</sup>

## A. Introduction

### 1. **Sound regional policies are essential for sustained and balanced economic growth.**

Russia is a federal state in which regions have the legal responsibility (either exclusively or shared with the federal government) for education, health, and infrastructure spending. The interaction of federal and regional policies together with cross-regional structural differences (e.g., natural resources, distance to markets, among other) affect human and physical capital formation, the business climate, private investment, market depth and competition. Policy pitfalls can contribute to geographically unbalanced development, which can manifest in persistent differences in regional per-capita income, dependence on federal transfers, and excessive geographic concentration.

### 2. **Russia's fiscal constitution is more centralized than in other federal countries, and thus the federal government plays a significant role in shaping regional outcomes.**

Fiscal federalism defines the set of policy instruments with which the federal government can affect regional economic outcomes. Its main building blocks are a relatively centralized tax authority and a complex system of federal transfers. The latter have constituted the economic lifeline for lower per-capita income regions in the last 15 years, where tax bases are weaker. Consolidated federal transfers (through the budget or federal extra budgetary funds, EBFs) to the regions (including territorial EBFs) represented 3.5 percent of GDP in 2016 (about 65 percent of federal oil and gas revenues). Transfers finance a large share of regional fiscal spending, including almost 70 percent in the North Caucasus, and about 40 percent in the Far East. This dependence on federal resources adds to a list of earmarked transfers that also includes those to the pension system and other EBFs, some of which will likely mount as population ages. This decreases federal spending flexibility and creates other challenges, including for the design of a fiscal rule.<sup>2</sup>

### 3. **A significant share of Russia's general government spending is executed at the sub-federal level.**

About 40 percent of consolidated general government spending occurs in regions and territorial medical extra budgetary funds (EBFs). This is lower than in Canada, the U.S., and Mexico, but similar to that in a number of other OECD countries including Belgium, Germany, and Spain. From a cyclical perspective, the large regional share in general government spending suggests that the fiscal stance is determined simultaneously by policies at the regional and federal level. Moreover, federal transfers may affect the degree of synchronization of regional growth, creating positive (or negative) spillovers for the effectiveness of monetary policy.

<sup>1</sup> Prepared by Oksana Dynnikova, Gabriel Di Bella, Tatiana Chernisheva and Nina Chebotareva.

<sup>2</sup> See accompanying Selected Issues Paper.

**4. This paper summarizes the main elements of Russia’s fiscal federalism, analyzes the channels through which it operates, how effective it has been, and how sustainable its results are.** The paper is organized as follows: Section II describes Russia’s fiscal federalism and compares it with those of other federal countries; the analysis in this section relies on OECD (2016) and on a review of the legal framework for fiscal federalism in Russia; Section III discusses the effectiveness of federal transfers in reducing regional disparities in the provision of public services, and how sustainable those results are from a regional perspective. Section IV summarizes the findings, discusses possible policy implications, and identifies questions for further analysis.<sup>3</sup>

## B. Russia’s Fiscal Federalism in Context

**5. Fiscal federalism arrangements in Russia are quite involved.** There are three levels of government (federal, regional and local), with the local level further subdivided into a hierarchy of municipalities, which in total count more than 22,000. The Budget Code states that each of the three levels is autonomous and should be financially self-sustained. A complex system of intra-budgetary transfers (mostly flowing from the federal government) ensures that spending of most regions, territorial extra budgetary funds (EBFs) and federal EBFs remain broadly financed. A large network (counting more than 65,000) of budgetary, extra-budgetary, unitary enterprises, and joint stock companies (most of which operating at the regional level), adds to complexity.

**6. A recent study (OECD, 2016) compares Russia’s fiscal federalism with that of other federal countries.** This analysis together with a reading of Russia’s legal framework (see Appendix for further details) allows to understand the relative weight of the federal and regional governments in shaping cross-regional socio-economic outcomes. The cross-country comparison (based on the findings by Blochliger and Kantorowicz; OECD, 2016) assesses the framework for intergovernmental fiscal relations of several federal and quasi-federal countries and quantifies it along five categories: the autonomy of sub-national governments (SNGs); their responsibility for their own fiscal policies; their power to shape federal policy; the strength of budget frameworks; and, the overall system’s stability. Each of these categories is then evaluated by looking at several sub-indicators.<sup>4</sup> As the analysis in OECD (2016) is, for some of the indicators, mainly *de jure*, the description below will note differences (when relevant) with *de facto* realities in Russia.

**7. Russia’s SNGs have lower tax than spending autonomy relative to other federal countries.** Although this is the norm for both the average of advanced and emerging market economies in the sample in OECD (2016), the disparity appears larger in Russia. Tax autonomy is assessed by looking at each tax category and evaluating whether the federal government, SNGs, or both can affect tax rates, as well as with respect to the clarity with which the law assigns power between different levels of governments. Likewise spending autonomy is evaluated at each policy

<sup>3</sup> The Appendix provides further details about the distribution of revenue authority, sharing arrangements, intra-governmental transfers, spending jurisdictions among levels of government, and the limits imposed by the federal government on the regions’ budgets.

<sup>4</sup> Each category and sub-category is quantified from 0 (low) to 1 (high).

area, and assessing the respective responsibilities of SNGs and the federal government. In other categories assessing SNGs' autonomy (namely borrowing and budgetary autonomy) Russia ranks below the average of advanced economies and similarly to the average of emerging economies (Figure 1).

**8. The federal government plays a relatively more important role in regional fiscal policy in Russia than in both advanced and other emerging market economies analyzed in OECD (2016).** Fiscal equalization policies are more the responsibility of the federal government than that of SNGs, and stabilization policy is fully in the hands of the federal government. The intensity of federal grants (which may be underestimated in OECD (2016) as it is measured in terms of aggregate GDP rather than in terms of the GRP of recipient regions), also suggests an important role for the federal government in shaping regional outcomes. A *de jure* evaluation of the possibility of regional bail-outs or bankruptcies situates Russia in a better position than the average of advanced and emerging market economies, although *de facto* the federal government has recently resorted to *ad-hoc* transfers to ease the burden of public debt in some regions.

**9. Russia's legal framework obtains higher marks than the average of advanced and emerging market economies in co-determination of federal policies, fiscal rules, and the stability of its fiscal constitution.** However, *de jure* versus *de facto* considerations play a role in this assessment. For instance, although Russia's budget code has included some form of a fiscal rule since 2008, its parameters have changed, and its implementation has been suspended a few times. Regarding the stability of the legal framework, Russia has been characterized by numerous modifications of the operational framework establishing the relation between the federal and regional governments, including on tax sharing and transfers.

**10. Russia's legal framework is consistent with an integrated fiscal constitution, as opposed to a decentralized one.** A main conclusion in OECD (2016) is that through clustering of fiscal constitutions of similar features it is possible to classify countries in either those having integrated fiscal constitutions as opposed to those having decentralized ones. Decentralized fiscal constitutions (e.g., Canada and the United States) are consistent with more SNG autonomy, responsibility, low co-determination and relatively weak numerical budget rules and frameworks. Centralized (or integrated) fiscal frameworks are characterized by lower SNG autonomy and responsibility and, at least *de jure*, strong fiscal rules and frameworks.

## C. Fiscal Federalism at Work: Achievements and Challenges

**11. This section presents some stylized facts pertaining to the fiscal situation of regions.** It then empirically analyzes the effectiveness of federal transfers in equalizing the provision of public services; in increasing the correlation of cross-regional growth rates; and in delivering sustainable results from the perspective of regional budgets.

**12. The econometric analysis uses panel data of 79 regions covering a large variety of regional socio-economic variables, including economic activity, labor, fiscal, financial, and**

**structural.** The data spans the period 2000–16, although some variables are available for shorter time periods (e.g., regional fiscal data for 2005–16, GRPs for 2000–15, GRPs' composition for 2004–15, etc.). The analysis is based on a cross-sectional bilateral dataset of regional differences in which each data point reflects some interaction (e.g., difference in growth rates or absolute terms, or the correlation, among other) of the value of a given variable (or the time series) for a pair of regions. This gives rise to more than 3000 observations.

### Some Stylized Facts

**13. Regional revenues are comprised by own revenues and federal transfers.** Federal taxes (most importantly personal and corporate income tax) are the largest source of regional fiscal revenue, representing on average about 70 percent of own revenues. Tax sharing (or primary distribution) aims at reducing vertical fiscal inequality between government levels. It is performed directly in the regions where taxes are collected (on a tax by tax basis), at predetermined rates.<sup>5</sup> Sharing arrangements and rates are governed by the Budget Code, and in the case of the corporate income tax by the Tax Code. Rates tend to be adjusted frequently (See Appendix).

**14. There is significant cross-regional difference in own revenues in real per capita terms.** Real per capita fiscal revenues are generally positively associated with the share of the private sector in regional GRP; they are positively associated with the share of mining in GRP and negatively associated with the share of agriculture. More generally, regions with lower real per capita GRP have lower real per capita own revenues (Figure 2).

**15. Intragovernmental transfers aim at leveling cross-regional (horizontal) fiscal inequality.** The primary distribution of taxes results in large cross-regional dispersion of fiscal revenues, and thus vertical transfers (secondary distribution) of federal revenues to SNGs aim at reducing these disparities. Intragovernmental transfers include (i) non-earmarked and non-matching transfers (*dotatsii*, of which equalization grants are the most important); (ii) subsidies (earmarked matching transfers to finance spending priorities); (iii) subventions (earmarked non-matching transfers to finance devolved spending responsibilities); and (iv) other transfers. In addition, the Federal Medical Insurance Fund makes transfers to Territorial Medical Insurance Funds, which represented 1.7 percent of GDP in 2016.<sup>6</sup> Equalization grants constitute about 50 percent of federal government transfers (See Appendix).

**16. Regions and municipalities are largely responsible for social policies as well as for some regional infrastructure.** In 2016, regional spending represented 95 percent of general government expenditure for housing and utilities; 80 percent for education and cultural activities; and around 85 percent for health including spending by territorial extra-budgetary medical funds.

<sup>5</sup> Regional excises' shares are determined by the organic budget law with horizontal re-distribution.

<sup>6</sup> About 40 percent of these transfers are financed by contributions to the Federal Medical Fund from regional budgets on behalf of the non-working population.

## Federal Transfers and Public Goods Supply Disparities

**17. At a basic level, federal transfers have lifted real per capita fiscal spending in lower GRP per capita regions, and have reduced cross-regional spending dispersion.** Disparities arising from the dispersion of regional tax bases and fiscal revenues were reduced through federal transfers, as real per capita grants flowing to regions with lower per capita income and own fiscal revenues have been relatively larger. This has contributed to a cross regional dispersion of real per capita expenditure that is lower than that net of transfers. Reductions in real per capita spending disparities were achieved mainly through grants, as subsidies and subventions in real per capita terms have been broadly allocated to regions with higher per-capita income (Figure 3).

**18. Federal transfers have been associated with reductions in cross regional disparities in real per capita spending in education and health.** Higher average transfers in 2005–16 (in real per capita terms) have been positively associated with larger increases in in real per capita annual spending in health and education (Figure 4). This has helped regions with initial lower real per capita GRP partially close the gap in real per capita spending in health and education.

**19. Higher federal transfers have also been positively associated with stronger human capital accumulation in regions with initially lower real per capita income.** Regional labor data for 2002–15 shows that regions with lower initial real per capita income and weaker educational attainment experienced faster increases in the years of education of the average worker than other regions. Educational attainment together with employment data allows constructing regional measures of human capital, using the methodology in Hall and Jones (1999), which assumes diminishing returns for additional years of education. The resulting human capital measures show that it has increased at relatively higher rates in regions that received higher average transfers (in regional GRP terms) during the last decade (Figure 4). This result, however, has been partially driven by cross-regional differences in labor supply.

**20. Regions receiving larger federal transfers (in GRP terms) have generally experienced higher investment-to-GRP ratios, which resulted in higher growth rates of physical capital.** The construction of regional capital stocks by means of the perpetual inventory method shows that physical capital accumulation in regions with initially lower per capita income and receiving larger transfers has been faster than in other regions (Figure 4). The very high investment ratios (in some cases to the order of 50 percent of GRP) highlight, however, that initial capital stocks in poorer regions were likely very low when compared with richer regions.

**21. There is also evidence that federal transfers may have contributed to increased correlation of regional growth rates.** To analyze the impact of transfers on cross-regional growth correlation, several models are estimated relating the correlation of cross-regional growth of real per capita GRP with the correlation of cross-regional growth of real per capita federal transfers (on aggregate and by type of transfer) and several other variables (including distance, GRP structure, footprint of the state, and international trade). Table 1 describes the variables in these models, while Table 2 shows alternative model specifications. The estimated coefficients show that aggregate

transfers do not have a strong or robust association with bilateral cross-regional growth correlation (Table 3). This masks different behavior by transfer type: while the correlation in the growth of grants (whose purpose is to reduce cross regional spending disparities) is not associated with the correlation of growth rates, subsidies and subventions are positively associated. Although these results should be taken with caution given possible endogeneity, they underline the different impact of transfer types in cross regional GRP growth rates correlation.<sup>7</sup>

**22. The impact of transfers on cross regional growth correlation deserves a deeper analysis.** Given the central role that the federal government plays in economic stabilization, the positive association between cross regional GRP growth correlations and those of subsidies and subventions can be either desirable or not, depending on whether federal fiscal policy has amplified or lessened the severity of overall economic cycles. Ideally, a federal policy that smooths out aggregate economic cycles and strengthens cross regional growth correlations, should have positive spillovers for the effectiveness of monetary policy.<sup>8</sup>

### Federal Transfers and the Sustainability of Regional Budgets

**23. Federal transfers have affected regional fiscal sustainability through different channels.** These channels are explored by means of estimating a system of equations to assess direct and indirect effects of federal transfers on fiscal sustainability. Concretely, the system allows for interactions between the ratio of own regional revenues-to-expenditures (a proxy for fiscal sustainability), per capita GRP growth, GRP structure, and federal transfers. As before, Table 1 describes the variables used, while Table 4 shows the model specification and the identification restrictions.

**24. Empirical analysis suggests that federal transfers have not positively impacted regional fiscal sustainability.** Federal transfers appear to have resulted in a change in GRP structure, increasing the size of the public sector. However, while analyzing the impact on GRP growth, federal transfers appear to have had a direct positive impact (through stronger accumulation of production factors), and a negative indirect impact through a larger public sector (more on this below), with the negative impact more than offsetting the positive. For instance, a one-standard deviation difference in the level of federal transfers (about 17 percent of regional GRP) is associated with a negative cumulative bilateral difference in real per capita GRP growth (over 2005–15) of around 1.2 percentage points, an increase in the bilateral share of public sector in GRP of around 1.5 percentage points, and (own) revenue-to-expenditure ratio that stays around unchanged (indeed, a decrease in such ratio of about 0.1 percentage point). Given the positive association between own revenue-to-expenditure ratio and GRP growth, federal transfers have not resulted in

<sup>7</sup> Further analysis may be warranted, by which the cross regional growth correlation equation is estimated within a system allowing for endogeneity of some of the RHS variables. Further analysis can also differentiate between cycle and trend, although time series are short in Russia (See, e.g., Imbs, 2004).

<sup>8</sup> This is a similar argument to that made in the optimal currency area literature, of which the seminal work is Mundell (1961).



an improvement in regional fiscal sustainability. These results are particularly relevant for around 1/3 of Russia's regions (28 out of 79 in the sample), which receive federal transfers that are higher than the average by between 1 and 3 standard deviations.

**25. Accordingly, regions receiving larger federal transfers have not been able to close (even partially) the gap between their expenditures and own revenues.** Economic growth based on the expansion of government services did not result in an improvement in own revenue-to-GRP ratios, which (in levels) are positively correlated with the size of the private sector (Figure 2). Thus, the financial dependence of many of these regions on federal transfers has remained broadly unchanged, raising questions about their sustainability. This dependence is summarized by the fact that for many of them their own revenues are barely sufficient to finance health and education spending.

**26. These results also suggest that, at least during the period analyzed, federal transfers were insufficient to jumpstart self-sustaining, private-sector led growth in regions receiving relatively more transfers.** Federal transfers should, on impact, increase the size of the public sector; however, they should not necessarily result, *a priori*, in a long-term increase in the *share* of public sector in GRP.<sup>9</sup> Indeed, it should be expected that the increased supply of public goods (e.g. in the form of education and health), should result in positive spillovers for the private sector. This is not what is observed during the period analyzed. Interestingly, transfers flowed to regions not only with lower initial real per capita GRP, but also, with a relatively larger footprint of the state (measured as the number of per capita regional budget and non-budgetary entities, including state unitary enterprises and joint-stock companies).

**27. This finding is supported by complementary analysis showing that total factor productivity (TFP) expanded at lower annual rates in regions receiving relatively high levels of federal transfers.** Neutral TFP levels were recovered using a production function approach. Regional capital stocks were constructed using the perpetual inventory method and regional investment. Effective human capital (i.e., corrected for labor utilization) was constructed using educational attainment of the employed working age population. TFP levels for the period 2000–15 were then recovered using regional human and physical capital and assuming identical Cobb-Douglas production functions for all regions. The analysis suggests that cross-regional TFP growth differentials are negatively associated with cross-regional differences in average transfers; and thus, that the distance in productivity levels between low and high-income regions has increased in the last decade (Figure 5).<sup>10</sup>

<sup>9</sup> Public sector is defined as the sum of the share of public administration, military security, social insurance; education; health care and social services; and, other communal, social and personal services. Note that the 'private sector' is defined as sum of the rest of economic activities, despite of the fact that it will comprise the operation of SOEs in these activities.

<sup>10</sup> Additional analysis following Pedroni and Yao (2006) (not shown) suggests that during the period 1998–2015 there is no convergence in real per capita income across Russian regions. This supports the conclusion above that federal transfers have not helped speed up regional convergence.



**28. Moreover, geographic population concentration has increased in the last 15 years.** The population of the city of Moscow has increased by more than 30 percent since 2000, and by 10 percent in Saint Petersburg, against the backdrop of broadly constant total population. This implies that other less densely populated regions have experienced population decreases of 15–20 percent. Although concentration has some advantages for recipient regions and cities (increases economies of scale, supports firm localization, improves job matching, among other), it has symmetrical drawbacks for regions losing population, and results in increasing costs of per capita federal transfers. More broadly, it results in geographically unbalanced development, a critical issue for a continental-sized country like Russia. Federal transfers (and fiscal federalism more generally), appear not to take into consideration both the advantages or disadvantages related with increased concentration, as well as the unintended effects that current fiscal federalism institutions may be creating to that effect.

#### D. Conclusions and Issues for Discussion

**29. Russia’s fiscal federalism assigns a strong role to the federal government, but increased policy coordination with regions could be beneficial.** The system evolved from a somewhat disorderly decentralization in the 1990s into a more centralized system in the last 15 years. Regions play an essential role in human and physical capital formation, but cross-country comparisons of fiscal constitutions suggest that they have less autonomy and exercise lower control on their own fiscal policy than in other federal countries. The system is quite complex and diversity of federal subjects along socio-economic dimensions is wide. Increased coordination between the federal and regional governments to tackle complexity, and to address cross-regional infrastructure and human capital bottlenecks could result in a more integrated national market with positive spillovers for inter-regional and international trade, and investment. Ongoing work to measure regional business climate differences with a view of strengthening institutions, should be pursued and deepened, avoiding stigma but promoting jurisdiction competition. Regional convergence can result in a growth dividend and in more balanced geographical development.

**30. Appropriate federal macroeconomic and tax policies can contribute to the development of regional tax bases, supporting regional sustainability.** The adoption of a fiscal rule along realistic parameters should promote a more stable and more aligned-with-fundamentals real exchange rate with positive spillovers for lower per-capita income regions, where agriculture (a tradable sector) represents a larger share of GRP. Current plans for a rebalancing of domestic taxes with a view to taxing labor less strongly, should support decreases in informality, which is likely more prevalent in low per-capita income regions as attested from weaker tax bases. From a macroeconomic perspective, the adoption of a fiscal rule should eliminate the role that fiscal policy has played in transmitting terms of trade shocks. Against this backdrop, the role of transfers in supporting correlation in regional growth should have positive spillovers for monetary policy.

**31. Strengthening regional tax bases could improve regional sustainability and accountability.** An option in this regard should be to expand the use of personal property taxes (OECD, 2016). Personal property taxes currently represent only 0.4 percent of the consolidated own

revenues of regions. In 2016, 28 regions started a transition to market value-based instead of accounting value-based taxation of property. For instance, the city of Moscow is projecting a five-fold increase in property tax collections by 2020 (with tax collection increasing by 55 percent in 2016). Stronger regional tax bases should also balance somewhat the strong *de jure* role of the federal government, and increase the accountability of regional governments.

**32. Federal transfers have been effective in supporting factor accumulation in lower per capita income regions and increasing growth correlation, but less effective in supporting self-sustaining GRP growth and productivity increases.** Given relatively rigid tax sharing arrangements, federal transfers constitute one of the main levers through which federal policy operates at the regional level. Transfers have expanded government services but have not been as effective in expanding productive activities. Accordingly, large cross sectional differences in own fiscal revenues (in per capita and GRP terms) have persisted, as well as the associated dependence on federal transfers. Importantly, federal transfers have flowed more strongly to regions where the footprint of the state is larger.

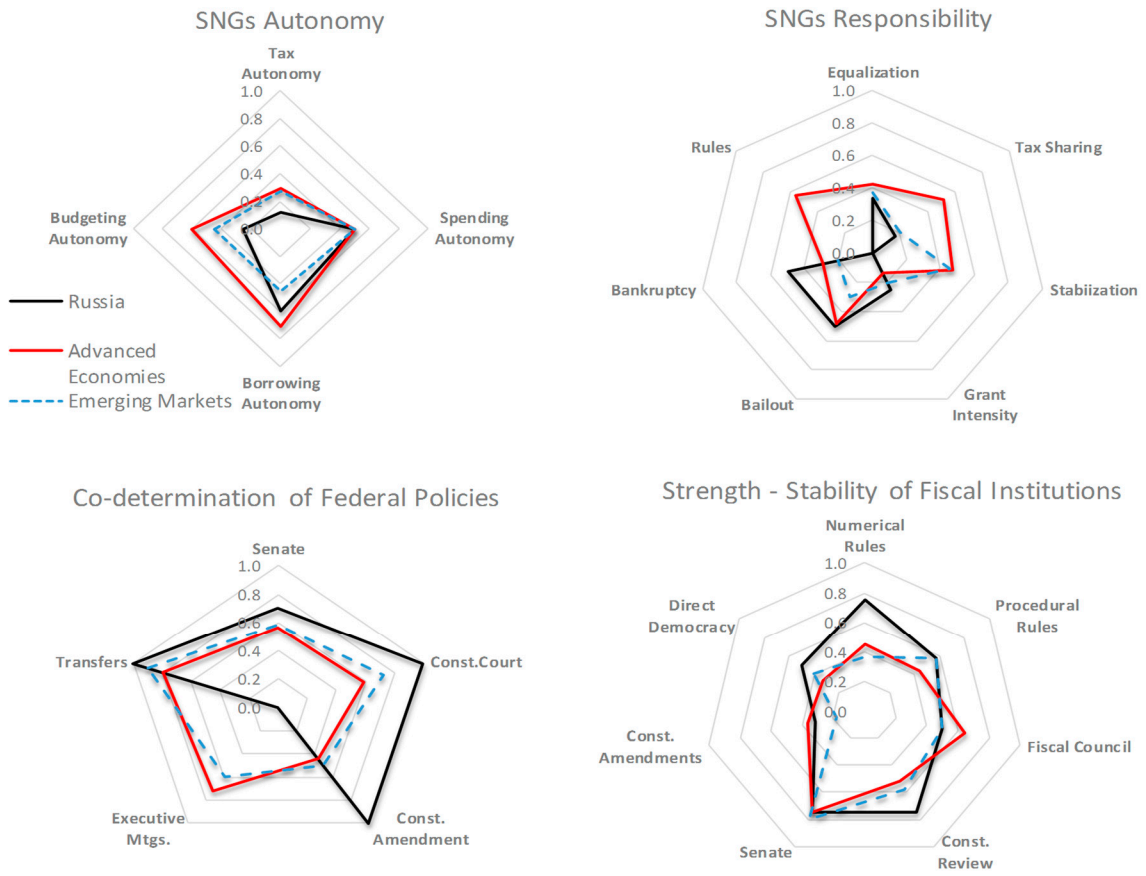
**33. The most likely scenario going forward is one in which regional dependence on transfers decreases only slowly, which calls to revisit strategic objectives.** From a regional perspective, equalization grants will likely keep their leading role. Sudden decreases or reallocations could create disruptions especially in the most financially dependent regions. The complete elimination of regional dispersion is unlikely. However, enhanced strategic direction could help increasing federal transfers' growth effectiveness. Open-ended transfers may have had the unintended effect of weakening regional incentives to enlarge their tax bases, further supporting a pattern of dependence. Thought should be given to include in the formulas defining grant allocation, gradually and in the margin, a measure of sustainability together with the current objective of equalization. Transition periods and reasonable time frames to achieve sustainability would be essential. From a macroeconomic perspective, the expected persistence of current volumes of transfers will add up to the existing earmarking of federal revenues that also includes transfers to EBFs. This may complicate somewhat addressing intertemporal equity considerations in the use of oil revenues.

**34. There may be scope to increase the use of horizontal transfers in the margin.** The large cross-regional dispersion of per capita own fiscal revenues may have contributed to economic and population concentration, which creates negative spillovers for regions with population outflows. Thought should be given to modify incentives for increased concentration to gradually slow down. The use of horizontal transfers, in the margin, may contribute to that effect, and support the use of improved levels of human and physical capital in lower per-capita income regions. In this regard, there may be room to gradually improve the primary distribution of corporate income tax, and of making more permanent the ongoing redistribution (by the federal government) of 1 percentage point of CIT to finance equalization grants.

**35. There may be room to streamline, simplify and increase the transparency of transfers.** Streamlining the number of transfers (especially subsidies), in particular for agriculture development,

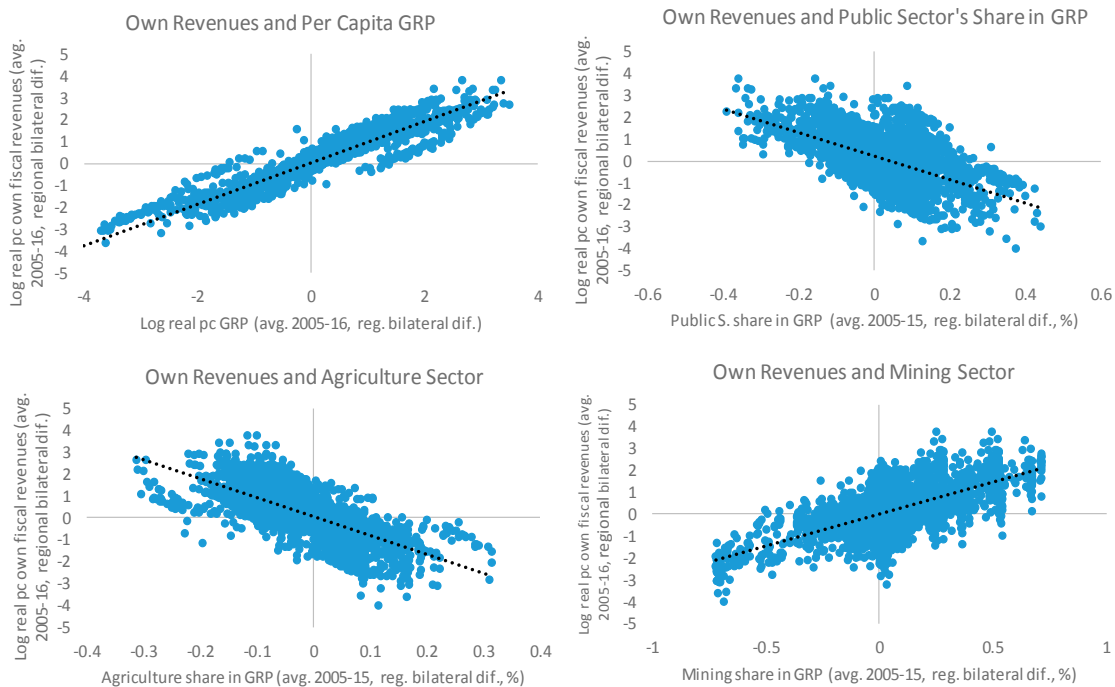
housing and utilities and education, and allocating them in appendices to the federal budget law; allocating subsidies one-to-one to government programs (or subprograms), instead of to a multiplicity of them; transforming and further consolidating “other transfers” into subsidies; and, regulating budget loans, which are increasingly used because of their concessional interest rates, should all result in a simpler, more transparent, and easy to administer system. Moreover, ongoing work towards streamlining the Budget Code should be pursued and finalized. Approved by the Federal Assembly in 1998, it has since been amended by 120 federal laws. The streamlining and simplification of the budget code provides an opportunity to increase the simplicity and transparency of transfers.

**Figure 1. Features of Russia's Fiscal Federalism**



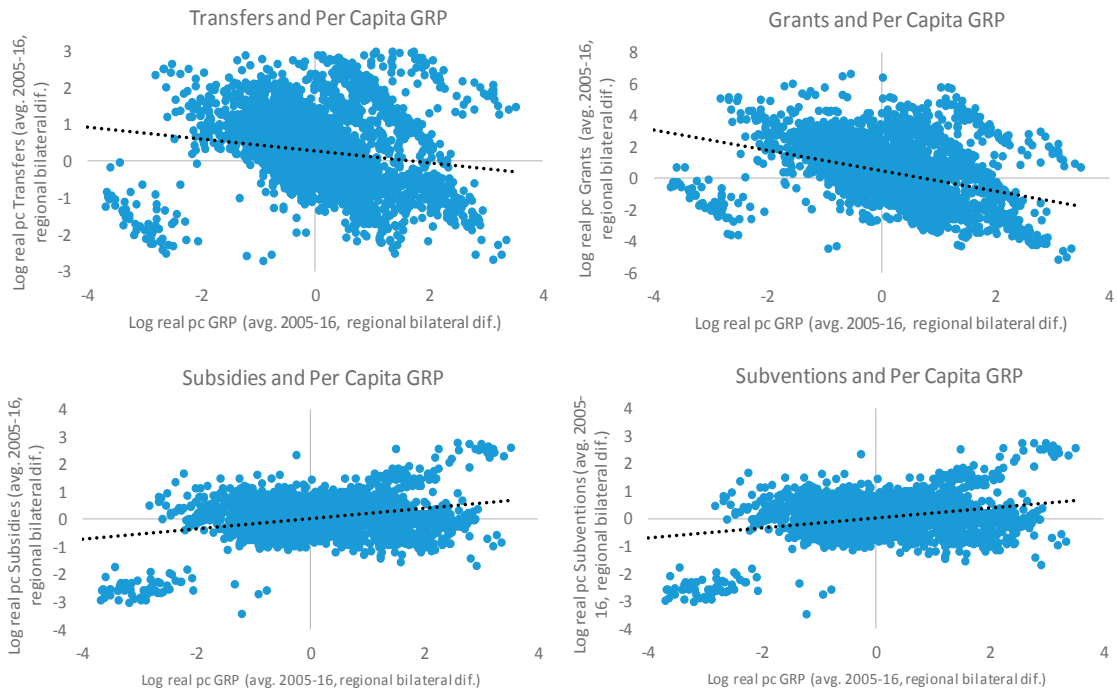
Source: IMF staff calculations on the basis on data and analysis in OECD (2016)

**Figure 2. Own Fiscal Revenues, Per Capita Income and GRP Composition**



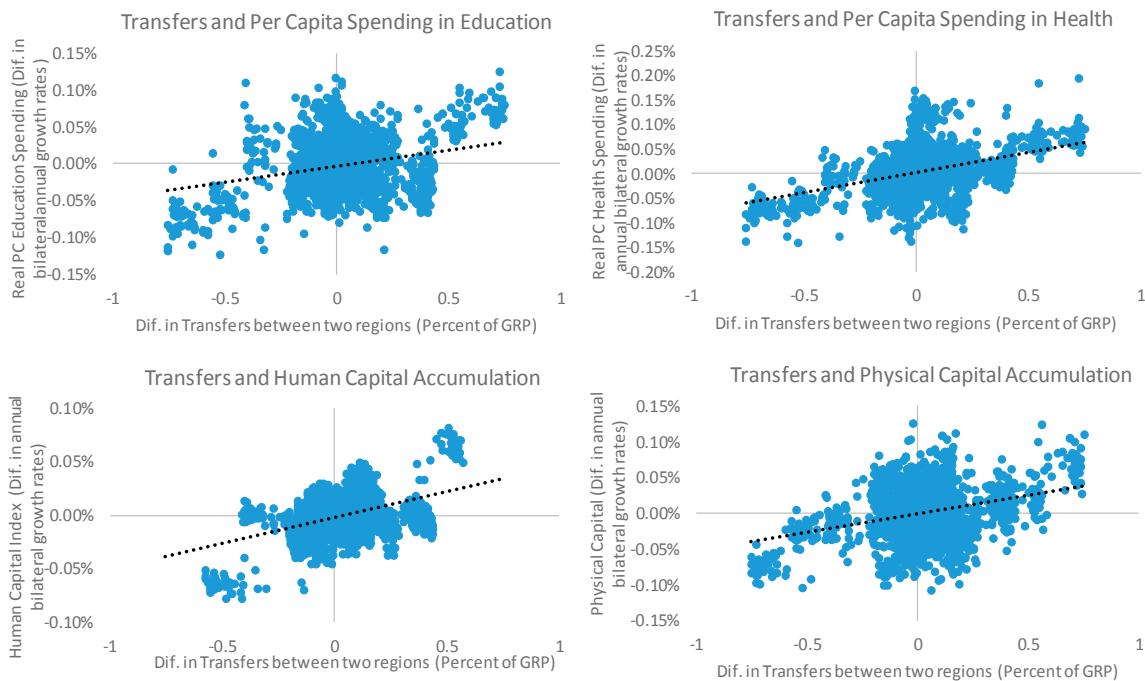
Source: IMF staff calculations based on official data

**Figure 3. Russia: Federal Transfers and Per Capita Income**



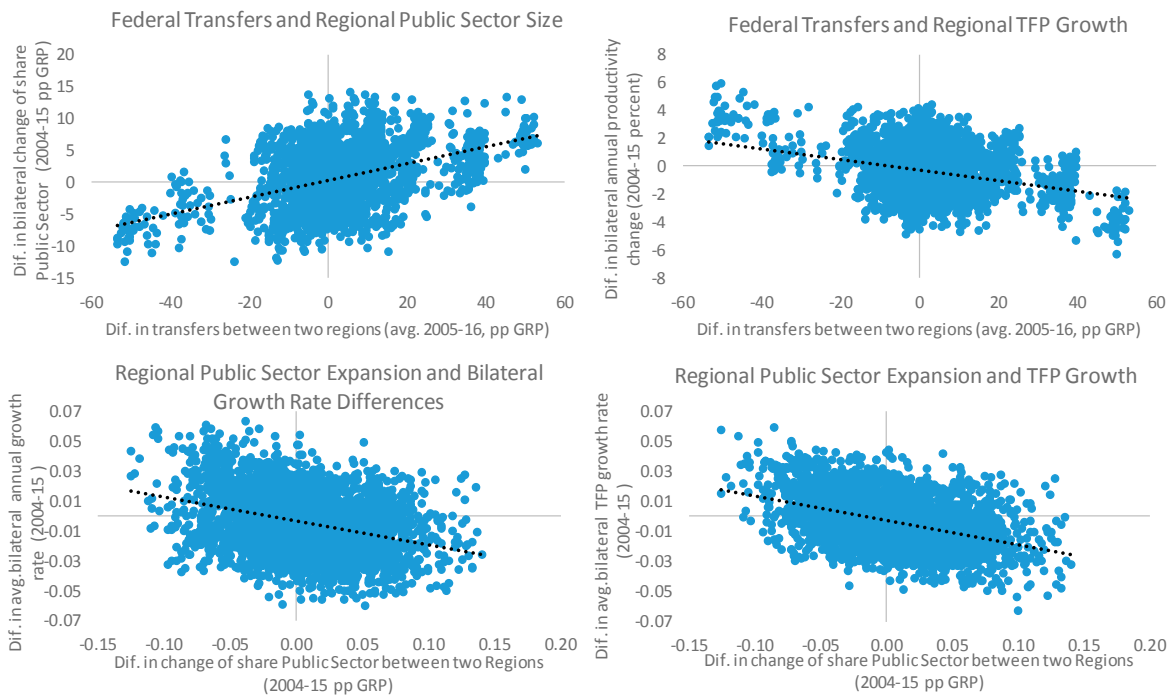
Source: IMF staff calculations based on official data

**Figure 4. Russia: Federal Transfers and Accumulation of Factors of Production**



Source: IMF staff calculations based on official data

**Figure 5. Russia: Federal Transfers, Public Sector Expansions and TFP Increases**



Source: IMF staff calculations based on official data



**Table 1. Definition of Variables**

Variable	Definition
Real per capita growth correlation	Bilateral regional correlation of real per capita GDP growth for 2005-15
Real per capita transfer growth correlation	Bilateral regional correlation of real per capita federal transfer growth for 2005-15 (excluding transfers to territorial EBFs)
Real per capita grant growth correlation	Bilateral regional correlation of real per capita federal grants growth for 2005-15
Real per capita subsidy growth correlation	Bilateral regional correlation of real per capita federal subsidies growth for 2005-15
Real per capita subvention growth correlation	Bilateral regional correlation of real per capita federal subventions growth for 2005-15
Share of public sector in GRP	Average share of public sector in GRP in 2004-15 (percent) 1/
Urbanization rates	Average urbanization rates for 2005-15 (percent) 1/
Foreign trade	Average Exports plus Imports over GRP for 2009-15 (percent) 1/
Revenue-to-expenditure ratio	Annual average change of the revenue-to-expenditure ratio in 2005-15 (percent) 1/
Real per capita growth	Annual average growth rate (Ln difference) of real per capita GRP in 2004-15 1/
Change in the share of public sector in GRP	Change in the share of public sector in GRP in 2004-15 (percent) 1/
Federal transfers-to-GRP ratio	Average federal transfers-to-GRP ratio in 2005-15 (percent) 1/
Initial real per capita GRP	Ln of real per capita GRP in 2003 1/
Share of mining in GRP	Average share of mining in GRP in 2004-15 (percent) 1/
Population	Ln of population (millions) in 2005 1/
Population density	Ln of population density (people per square kilometer) in 2005 1/
Common border	Dummy identifying regions sharing a common border 1/
Footprint of state	Ln of number of per capita budgetary and non-budgetary state institutions 1/

Source: IMF staff

Note

1/ They refer to the bilateral difference between any two regions of the variable being considered

**Table 2. Regressions for Bilateral Regional Per Capita GDP Growth Correlations**

Model	LHS			RHS 1/										stoch. term		
	Real per capita growth corr.			const.	Real PC transf. growth corr.	Real PC grant growth corr.	Real PC subs. growth corr.	Real PC subv. growth corr.	Initial real per capita GRP	Share of common border	Share of public sector in GRP	footprint of state	Urb. rates		Foreign trade	
1	1			C <sub>1</sub>	C <sub>2</sub>											ε <sub>1</sub>
2	1			C <sub>1</sub>	C <sub>2</sub>			C <sub>6</sub>								ε <sub>2</sub>
3	1			C <sub>1</sub>	C <sub>2</sub>			C <sub>6</sub>	C <sub>7</sub>							ε <sub>3</sub>
4	1			C <sub>1</sub>	C <sub>2</sub>			C <sub>6</sub>	C <sub>7</sub>	C <sub>8</sub>						ε <sub>4</sub>
5	1			C <sub>1</sub>	C <sub>2</sub>			C <sub>6</sub>	C <sub>7</sub>	C <sub>8</sub>	C <sub>9</sub>					ε <sub>5</sub>
6	1			C <sub>1</sub>	C <sub>2</sub>			C <sub>6</sub>	C <sub>7</sub>	C <sub>8</sub>	C <sub>9</sub>	C <sub>10</sub>				ε <sub>6</sub>
7	1			C <sub>1</sub>	C <sub>2</sub>			C <sub>6</sub>	C <sub>7</sub>	C <sub>8</sub>	C <sub>9</sub>	C <sub>10</sub>	C <sub>11</sub>			ε <sub>7</sub>
8	1			C <sub>1</sub>		C <sub>3</sub>		C <sub>6</sub>	C <sub>7</sub>	C <sub>8</sub>	C <sub>9</sub>	C <sub>10</sub>	C <sub>11</sub>			ε <sub>8</sub>
9	1			C <sub>1</sub>		C <sub>3</sub>	C <sub>4</sub>	C <sub>6</sub>	C <sub>7</sub>	C <sub>8</sub>	C <sub>9</sub>	C <sub>10</sub>	C <sub>11</sub>			ε <sub>9</sub>
10	1			C <sub>1</sub>		C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	C <sub>6</sub>	C <sub>7</sub>	C <sub>8</sub>	C <sub>9</sub>	C <sub>10</sub>	C <sub>11</sub>		ε <sub>10</sub>
11	1			C <sub>1</sub>			C <sub>4</sub>	C <sub>5</sub>	C <sub>6</sub>	C <sub>7</sub>	C <sub>8</sub>	C <sub>9</sub>	C <sub>10</sub>	C <sub>11</sub>		ε <sub>11</sub>

Source: IMF staff

Note:

1/ Variables are defined in Table 1. Estimated values for the coefficients are shown in Table 3

**Table 3. Regressions for Bilateral Regional Per Capita GDP Growth Correlations: Results**

Model	1	2	3	4	5	6	7	8	9	10	11
C <sub>1</sub>	0.514 *	0.530 *	0.524 *	0.561 *	0.566 *	0.562 *	0.559 *	0.566 *	0.374 *	0.149 *	0.149 *
C <sub>2</sub>	0.065 **	0.051 **	0.047 **	0.034 ***	0.021	0.023	0.025				
C <sub>3</sub>								0.013	0.005	0.002	
C <sub>4</sub>									0.264 *	0.209 *	0.209 *
C <sub>5</sub>										0.356 *	0.356 *
C <sub>6</sub>		-0.071 *	-0.069 *	-0.142 *	-0.124 *	-0.104 *	-0.101 *	-0.102 *	-0.096 *	-0.085 *	-0.085 *
C <sub>7</sub>			0.126 *	0.086 *	0.088 *	0.096 *	0.097 *	0.098 *	0.088 *	0.070 *	0.070 *
C <sub>8</sub>				-1.218 *	-0.784 *	-0.814 *	-0.853 *	-0.854 *	-0.807 *	-0.813 *	-0.812 *
C <sub>9</sub>					-0.090 *	-0.097 *	-0.095 *	-0.096 *	-0.096 *	-0.083 *	-0.083 *
C <sub>10</sub>						-0.155 *	-0.132 *	-0.132 *	-0.148 *	-0.189 *	-0.189 *
C <sub>11</sub>							-0.043 **	-0.043 **	-0.041 **	-0.054 *	-0.054 *
R <sup>2</sup>	0.003	0.030	0.038	0.136	0.160	0.164	0.166	0.166	0.177	0.209	0.209
Adj. R <sup>2</sup>	0.003	0.029	0.037	0.135	0.159	0.163	0.164	0.164	0.175	0.207	0.207
Observations	3023	3023	3023	3023	3023	3023	3023	3023	3023	3023	3023

Source: IMF staff calculations  
 Note: \*, \*\*, \*\*\*, refer to coefficients that are statistically significant at 1, 5, and 10 percent levels, respectively.

**Table 4. Federal Transfers in a Simultaneous Equations System**

Endogenous Vector 1/				Exogenous Vector 1/							
rev/exp ratio (%)	real per capita growth (logs)	change in share of public sector in GRP (%)	transfers (% GRP)	constant	initial real per capita GRP	share of mining population	pop. density	common border	footprint of state	stochastic terms	
1	-c <sub>12</sub>	c <sub>13</sub> = 0	c <sub>14</sub> = 0	γ <sub>11</sub>	γ <sub>12</sub> = 0	γ <sub>13</sub> = 0	γ <sub>14</sub> = 0	γ <sub>15</sub> = 0	γ <sub>16</sub> = 0	γ <sub>17</sub> = 0	ε <sub>1</sub>
c <sub>21</sub> = 0	1	-c <sub>23</sub>	-c <sub>24</sub>	γ <sub>21</sub>	γ <sub>22</sub>	γ <sub>23</sub> = 0	γ <sub>24</sub> = 0	γ <sub>25</sub>	γ <sub>26</sub>	γ <sub>27</sub> = 0	ε <sub>2</sub>
c <sub>31</sub> = 0	-c <sub>32</sub>	1	-c <sub>34</sub>	γ <sub>31</sub>	γ <sub>32</sub> = 0	γ <sub>33</sub>	γ <sub>34</sub> = 0	γ <sub>35</sub> = 0	γ <sub>36</sub> = 0	γ <sub>37</sub> = 0	ε <sub>3</sub>
c <sub>41</sub> = 0	c <sub>42</sub> = 0	c <sub>43</sub> = 0	1	γ <sub>41</sub>	γ <sub>42</sub>	γ <sub>43</sub> = 0	γ <sub>44</sub>	γ <sub>45</sub> = 0	γ <sub>46</sub>	γ <sub>47</sub>	ε <sub>4</sub>
1	1	0	0	1	0	0	0	0	0	0	1
0	1	1	1	1	1	0	0	1	1	0	1
0	1	1	0	1	0	1	0	0	0	0	1
0	0	0	1	1	1	0	1	0	1	1	1

Source: IMF staff  
 Note:

1/ Coefficients equal to zero refer to exclusion identification conditions. Variables are defined in Table 1. Estimated values for the coefficients are show

**Table 5. Federal Transfers in a Simultaneous Equations System: Results**

Equation	Coefficient	SUR	2SLS	3SLS	FIML	GMM
Endogenous						
1	$c_{12}$	0.2799 *	0.7425 *	0.7165 *	1.0992 *	0.7539 *
2	$c_{23}$	-0.3204 *	-0.5044 *	-0.4314 *	-0.2364 *	-0.3726 *
2	$c_{24}$	0.0105 *	0.0509 *	0.0340 *	0.0232 *	0.0255 *
3	$c_{32}$	-1.3605 *	-0.6282 *	-0.5730 *	-0.5017 *	-0.6827 *
4	$c_{34}$	0.0827 *	0.1038 *	0.0900 *	0.0869 *	0.0994 *
Exogenous						
1	$\gamma_{11}$	0.0023 *	0.0040 *	0.0039 *	0.0054 *	0.0041 *
2	$\gamma_{21}$	0.0005	0.0010 **	0.0008 ***	-0.0008 ***	0.0002
2	$\gamma_{22}$	-0.0096 *	-0.0074 *	-0.0106 *	-0.0089 *	-0.0111 *
2	$\gamma_{25}$	0.0008 *	0.0016 *	0.0007 *	0.0004 *	0.0006 *
2	$\gamma_{26}$	0.0001	0.0032 **	-0.0018 **	-0.0021 *	-0.0018 **
3	$\gamma_{31}$	0.0018 *	0.0038 *	0.0040 *	0.0044 *	0.0033 *
3	$\gamma_{33}$	-0.0530 *	-0.0465 *	-0.0408 *	-0.0422 *	-0.0418 *
4	$\gamma_{41}$	0.0220 *	0.0237 *	0.0229 *	0.0240 *	0.0206 *
4	$\gamma_{42}$	-0.0583 *	-0.0679 *	-0.0619 *	-0.0674 *	-0.0494 *
4	$\gamma_{44}$	-0.0456 *	-0.0480 *	-0.0435 *	-0.0431 *	-0.0391 *
4	$\gamma_{46}$	-0.0254 *	-0.0315 *	-0.0235 *	-0.0249 *	-0.0241 *
4	$\gamma_{47}$	0.0334 *	0.0314 *	0.0341 *	0.0337 *	0.0366 *

Source: IMF staff calculations

Note: \*, \*\*, \*\*\*, refer to coefficients that are statistically significant at 1, 5, and 10 percent levels, respectively.

## Appendix I. Fiscal Federalism—Further Details

This appendix summarizes revenue sources (including sharing arrangements) (Table A1), and spending responsibilities by different government levels (Table A2). Concretely, Table A1 catalogues federal taxes, special tax regimes, regional taxes, local taxes, and federal non-tax revenues, including their tax sharing between different levels of government, as specified in the Russian Legal framework. In turn, Table 2, describes federal, regional/local and joint federal-regional spending responsibilities, and specifies devolved federal spending responsibilities to regions (clarifying which are financed by subventions and which not).

**Table A1. Russia: Tax and Non-Tax Revenue Sharing Arrangements**

Federal taxes	Rates (percent)	Share accruing to (in percent of total)		
		Federal	Regional	Municipal
VAT	18 (concessional rate 10 percent)	100		
PIT	13	0	85	15
CIT 1/	20	10	90	
MET (Oil and Gas)	Formula-based depending on oil price	100		
MET (Other subsoil resources, including diamonds)	Ad valorem and specific	40	60	
MET (Commonly occurring subsoil resources)	Ad valorem and specific		100	
MET (Diamonds)	8		100	
Water tax	Specific	100		
Excise tax on ethanol from edible raw material 2/	Specific	50	50	
Excise tax on ethanol from all material excluding edible 2/	Specific	100		
Excise tax on alcohol-containing products 2/	Specific	50	50	
Excise tax on spirits 2/	Specific	50	50	
Excise tax on wine, beer, other 2/ 3/	Specific		100	
Excise tax on tobacco 2/	Specific	100		
Excise tax on cars and motorcycles 2/	Specific	100		
Excise on gasoline and motor oil 2/ 4/ 5/	Specific	12	88	
Excise tax on imported excisable goods 2/	Ad valorem and specific	100		
Fee (royalty) for exploitation of water biological resources	Specific	20	80	
Fee (royalty) for exploitation of animal resources	Specific		100	
Stamp duty 6/	Specific	100	100	100
Stamp duty via public multi-service centers		50	50	

Special Tax Regimes	Rates (percent)	Share accruing to (in percent of total)		
		Federal	Regional	Municipal
Single agricultural tax	6%			100
Single imputed income tax	15% (7.5-15)			100
Patent	6%			100
Simplified taxation regime	6% or 15%	100		
Taxes under Product sharing agreements		25	75	

**Table A1. Russia: Tax and Non-Tax Revenue Sharing Arrangements (Cont.)**

Federal Non-Tax Revenues	Rates (percent)	Share accruing to (in percent of total)		
		Federal	Regional	Municipal
Property income and earnings from paid services		100	100	100
License fees		100		
Customs duties and fees		100		
Forests		100	100	100
Water facilities		100	100	100
Environmental Fee 7/		5	40	55
Consular fees		100		
Disposal fee		100		
Subsoil royalty	Formula-based	40	60	
Proceeds from sale/lease of federal land ceded to region			50	50
Fees for record extracts		100	100	100
Fees for record extracts via public multi-service center		50	50	
Fines and penalties 8/				

Regional Taxes	Rates (percent)	Share accruing to (in percent of total)		
		Federal	Regional	Municipal
Corporate property tax	Capped at 2.2%		100	
Gambling tax	Specific		100	
Transport tax	Specific		100	

Local Taxes	Rates (percent)	Share accruing to (in percent of total)		
		Federal	Regional	Municipal
Land tax	Capped at 0.3% and 1.5% for diff. types of land			100
Personal property tax	0.1% - 2%			100
Retail sales fee (so far implemented only in Moscow)	Specific, but no more than patent-based			100

Source: Russian Tax Code (articles 13-15; 18; 143-418); and, Russian Budget Code (articles 46, 56-64).

**Notes:**

1/ The CIT is the only tax whose rate is split between the federal and the regional levels in the Tax Code (sharing of other taxes is established in the budget code). Regions are authorized to adjust their portion of the CIT rate down, but no more than to 13.5 percent (12.5 percent in 2017-20). For 2017-20, the federal government will receive an additional 1 pp to be redistributed via equalization grants. This may result in a financing gap for some regions.

2/ The tax code sets the corresponding rates in Rubles for 2017-19

3/ As established in the Budget Code (article 56, 2.2). For 2017, the distribution of these revenues shall be governed by the Federal Budget Law.

4/ These shares are suspended for 2017-2020 by law 409-FZ of 30 November 2016

5/ Gasoline and diesel oil excise revenues shall be attributed to the federal budget according to the following shares: 38.3 percent in 2017, 42.6 percent in 2018, and 39.8 percent in 2019. The remaining portion will go to the regional budgets.

6/ Whenever share of federal, regional and local government is reported simultaneously as 100 it means that each of them receives the full share of the tax revenue in application to its own jurisdiction.

7/ 95 percent in Moscow, Saint Petersburg. The federal 5 percent is planned to be given over to municipalities in 2018.

8/ Numerous fines and penalties are distributed in various shares (including 100 percent) among different government levels

**Table A2. Russia: Spending Responsibilities and Jurisdiction by level of Government 1/**

Area	Federal	Joint Federal Regional	Regional / Local
<b>General</b>	Exclusive Federal Jurisdiction: Authority on federal property, regulation of social and economic development, federal energy systems, national defense and security, international relations, law enforcement; meteorology and statistics.	Areas of joint federal-regional jurisdiction: Public safety and law enforcement; administrative, labor, family, housing, land, subsoil, forest, water relations; environmental protection; emergencies and natural disasters; education, science, culture, sports; public health, social security. Responsibilities are usually divided based on jurisdictional attribution or relevance (e.g. regional roads or federal water facilities), but sometimes are shared between the two levels of government.	Exclusive Regional Jurisdiction: all other government responsibilities beyond those under the federal jurisdiction and joint federal-regional jurisdiction - as stipulated in regional constitutions and legislation. Local Governments' jurisdiction: Urban, rural settlements; electricity, heating, water, gas, fuel supply; roads; municipal housing; public transport; emergencies, fire safety; public amenities, eateries, retail trade; culture (local cultural heritage, folk art and crafts); physical culture, sports, public entertainment, recreation; archives; cemeteries; local resorts; public safety, rescue operations; waste management; support to agriculture and SMEs; terrorism/ extremism prevention; education (less vocational + vacations); public health.
<b>Delegated federal Responsibilities supported by federal subventions</b>			National Census and Agricultural Census; Prevention of homelessness; Housing for disabled, veterans, retired servicemen, etc.; Subsidization of housing and utility payments for veterans, disabled, radiation-exposed, etc.; payouts to radiation-exposed; unemployment benefits; maternity and childcare benefits; monthly compensation payouts to various categories, e.g. exposed to radiation, blood donors, etc.; water and forest relations: management (partial) of federal water facilities and forests; animal world, hunting, fishing (partial); protection and oversight of cultural heritage; education: oversight, licencing, accreditation (all partial); public health: licencing; procurement of drugs, mandatory medical insurance
<b>Delegated federal Responsibilities unsupported by federal subventions</b>			audit of construction plans and engineering surveys; environmental audit; land relations: provision of plots of land for construction, demolition of real estate, easement; R&D management;
<b>Selected areas</b>			
<b>Education</b>	Universities		Vocational, primary and secondary schools
<b>Employment</b>	Unemployment benefits (delegated - see above)		employment facilitation
<b>Social security</b>	Social support to war veterans, radiation victims (some responsibilities delegated - see above)		social support to senior citizens, disabled, orphans, labor veterans, low income households; payment of medical insurance contributions on behalf of non-workers
<b>Industry support</b>	For instance, Aviation		Support to agriculture (beyond that from federal programs) and to SMEs (since 2015)
<b>Waste management</b>	Radioactive waste		Solid waste

Source: Constitution of Russian Federation (Article 71-73, 130-133), Federal Laws N184 FZ (10/06/1999 amended 12/28/2016; and, N131 FZ (10/06/2003 amended 12/28/2016 and updated 02/17/2017); List of regional responsibilities (Ministry' of Justice website, <http://minjust.ru/razvitie-federativnyh-otnosheniy-i-mes-nogo-samoupravleniya/razgranichenie-polnomochiy-mezhdu>)

Note:

1/ Responsibilities of regional governments in areas of joint jurisdiction are stipulated in the following legislation/regulations: 114 responsibilities listed in the framework law (184 FZ of 1999); 61 responsibilities prescribed in various specific laws (e.g. 52 FZ On Sanitary and Epidemiological Safety); 20 responsibilities arising from Presidential decrees (in particular decrees of May 2012), e.g. social support to medical workers, their professional development, employment of disabled, housing, increase in salaries for teachers and cultural workers, etc.; 162 responsibilities according to GoR decrees (minor, many of them recommended, not mandated. Regional governments implement 55 federal government programs and federal special-purpose programs - according to GoR resolutions (financed with own funds and subsidies).

## Limits imposed by the Federal Government on Regional Budgets

The Budget and Tax Codes establish several fiscal restrictions for sub-federal governments. Monitoring, reporting and transparency standards and requirements established by the federal government are high. Sanctions for rules violations might be imposed and include, among other, adjustments in the size of transfers (excluding subventions).

**Budget balance requirements:** the deficit of regions cannot exceed 15 percent of their own revenues (excluding grants). Rules are stricter if federal grants exceed 40 percent of the consolidated region budget revenues (excluding subventions).

**Tax limits:** Sub-federal governments can set tax rates and reliefs for regional and local taxes. For the CIT, regions can set rates for the regional part of the tax within the limits set by the Tax Code but not reliefs. Excise taxes on gasoline and alcohol are shared annually between regions and federal government. The Tax Code does not allow for regions to legislate on PIT, fees and charges, rates and reliefs, which constitute the remaining 40 percent of their revenues.

**Expenditure limits:** Regions with a share of federal grants exceeding 10 percent of consolidated region budget revenues (excluding subventions), cannot assume and execute expenditures assigned to regional governments by Constitution and federal laws; and to exceed federal norms for budgetary sector wages and regional government activity financing. Similar restrictions exist for municipalities getting equalization grants from regions.

**Borrowing constraints:** Domestic borrowing is not directly restricted; new foreign borrowing (for deficit financing or refinancing) is allowed only for regions that do not receive federal equalization transfers, do not have debt arrears, and have proper credit ratings from at least two international agencies. Regions receiving federal equalization transfers can borrow externally to refinance existing external debt, if no debt arrears and credit rating requirements are satisfied. Total yearly borrowing of regions and municipalities is bound up by deficit financing and debt amortization.

**Debt levels and service:** Debt is not allowed to exceed own annual revenues (excluding grants). Rules are stricter if federal grants share exceed 40 percent of consolidated region budget revenues (excluding subventions). Debt service (interest payments) should not exceed 15 percent of total expenditures (excluding subventions). Escape clauses introduce flexibility for regional budget implementation (budget credit financing, privatization, use of regional precautionary saving funds). Debt ceilings are currently allowed to be exceeded for an amount equal to federal budget credits.

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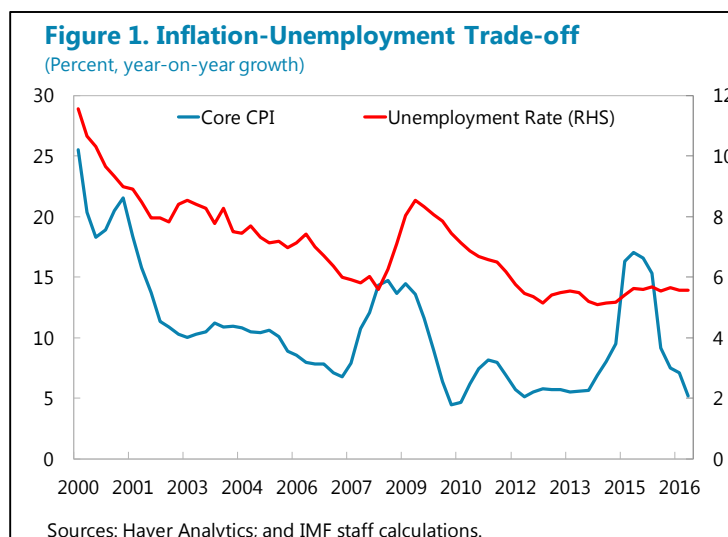
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# PUTTING THE CURVE BACK IN RUSSIA'S PHILIPS CURVE: A TIME-VARYING APPROACH<sup>1 2</sup>

## A. Introduction

**1. The recent relationship between the labor market and inflation has been puzzling in Russia.** While unemployment has stayed muted since 2013, inflation has been volatile, leading researchers to revisit the relationship between inflation and activity. If the role of import penetration, hysteresis for the long-term unemployed, and a potentially weaker relationship between inflation and slack have changed over time this would have significant implications for monetary policy. A better understanding of these relationships is especially relevant in the context of the transition to Inflation Targeting (IT) regime, which Central Bank of Russia (CBR) adopted in late 2014.



**2. In this study, we estimate a hybrid New Keynesian Philips curve for Russia's core inflation, in which the coefficients vary over time.** The time-varying feature of the model helps policy makers to understand how the importance of various explanatory variables in the model has changed over time. We compare our findings to simpler bivariate estimations of the relationship between different measures of inflation and slack. We illustrate how bivariate relationship can be misleading and how an hybrid NK model for Phillips curve can help us to understand the transmission channels better.

**3. We find that the core inflation Philips curve in Russia is alive and the slope is expected to increase with the recovery.** Our results illustrate that while the impact of cyclical unemployment on core inflation changes over time, it tends to increase during the normal-times and to decrease in the aftermath of crisis-times. We also find that the weight on the inflation expectation in the PC model has increased recently, thanks to the introduction of an IT regime. This implies that the CBR is on track in its effort in anchoring the long-run inflation expectation and gaining credibility. Turning to the slack in the economy, the model implied unemployment slack has been coming down fast

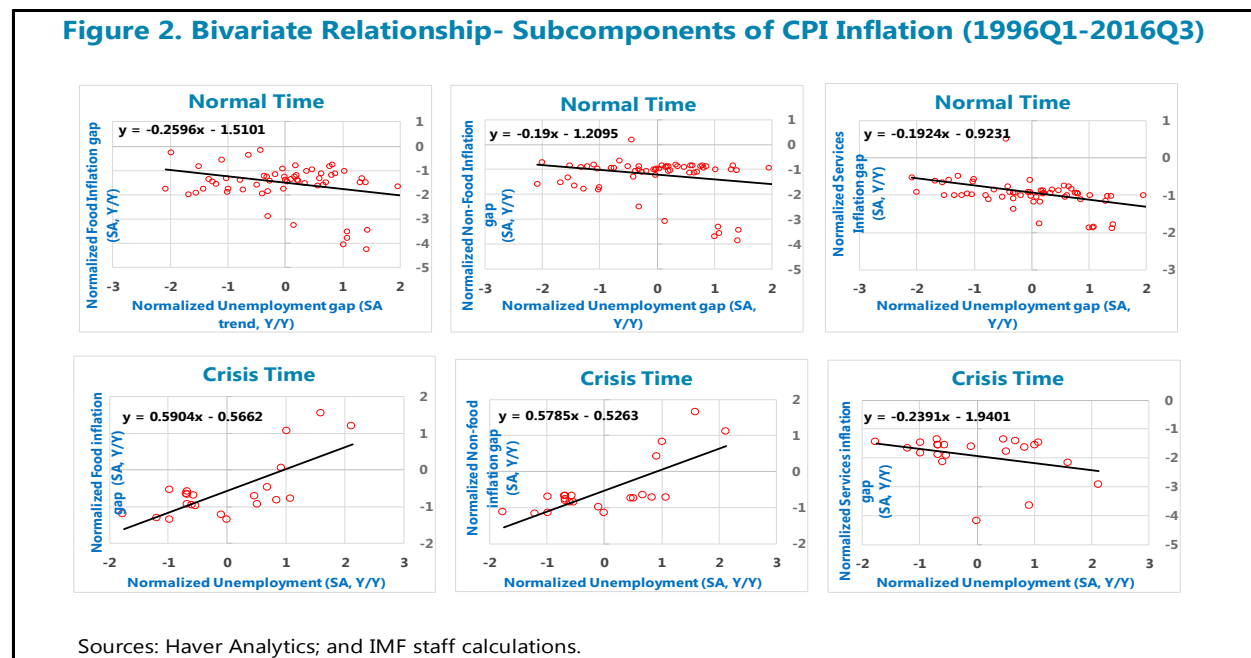
<sup>1</sup> Prepared by Marzie Taheri Sanjani.

<sup>2</sup> I would like to thank Jingzhou Meng for her excellent research assistantship and Carlos Montes-Galdon for providing the Bayesian estimation module. I would also thank the seminar attendants of the Central bank of Russia. All the errors are my own. If there is any question, please email me: [mtaherisanjani@imf.org](mailto:mtaherisanjani@imf.org)

post-GFC, thanks to the flexible labor market conditions in Russia. Finally, by presenting the fitted value of the inflation, we show that PC is overall a good model in explaining inflation dynamics.

## B. Avoid Bivariate Relationship and Adopt Multivariate Structural Model

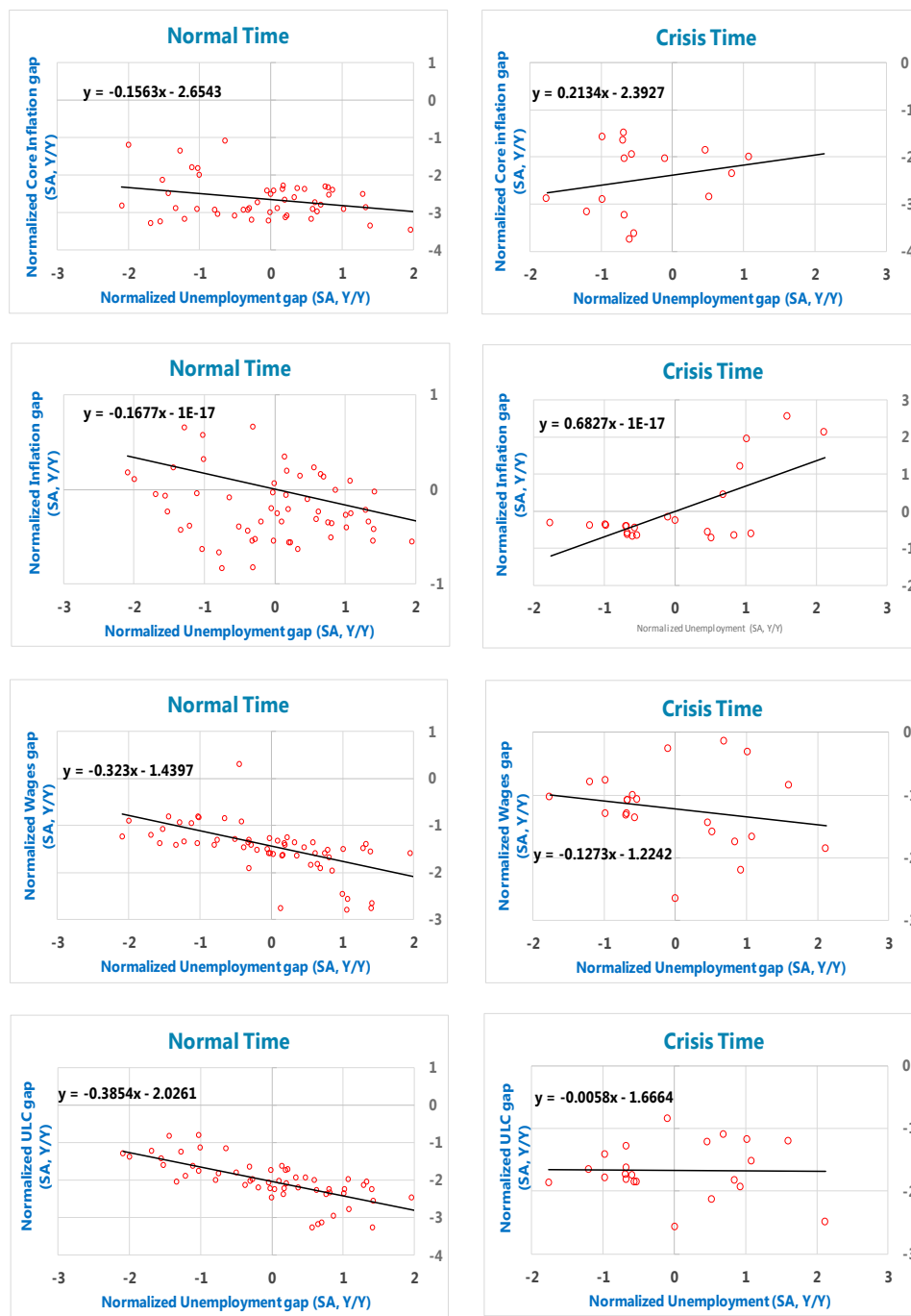
**4. Bivariate relationship between inflation and slack, as in the classic Phillips curve, can be enigmatic.** Looking at the bivariate relationship between various price inflation measures and unemployment gap during the business cycle attests to the existence of this relationship in normal time but with the sign reversed in crisis episodes<sup>3</sup>. The negative correlation between the unemployment gap<sup>4</sup> and various price measures—headline CPI, Core CPI, Wages, and Unit Labour Costs (ULC), as well as subcomponents of CPI inflation—indicates that an appropriate specification of the Philips curve (PC) should exist in the data. Moreover, the reversal in the sign of the relationship during the crisis episodes is evidence of the open economy implications of PC specification and hence the role of the Real Effective Exchange Rate (REER) and import prices. The impact of commodity prices in Russia, as an oil exporter, is accounted for by the REER. Additionally, as depicted below, the dispersion in the estimated slopes, across different measures of inflation and different episodes of the business cycle highlights the shortcoming of the bivariate relationship in accounting for missing factors. This suggests that a multivariate relationship provides a better specification for PC.



<sup>3</sup> We use the following episodes for crisis time: 1998Q3–2000Q4, 2008Q4–2009Q4, 2015Q1–2016Q4.

<sup>4</sup> Russia doesn't have an official NAIRU data. Hence for our descriptive studies we use HP filter to calculate the unemployment gap, in which HP trend is considered as long run steady state of unemployment. Furthermore we estimate NAIRU as an unobserved variable implied by a time-varying parameters Phillips curve.

**Figure 3. Bivariate Relationship- Various Inflation Measures (1996Q1-2016Q3)**



Sources: Haver Analytics; and IMF staff calculations.

**5. Our hybrid NK model of Phillips curve explicitly account for the role of imported inflation and the exchange rate on core inflation.** With the above motivation in mind, we estimate a relationship between inflation, expected and lagged core inflation, unemployment rate,

lagged relative import price inflation and lagged REER over the sample of quarterly data starting from 2000Q1 to 2016Q3. The estimated model is as following:

$$\pi_t = -0.37u_{t-1} - 0.13\pi_t^e + 0.96\pi_{t-1} - 0.03\pi_{m,t-1} - 0.007reer_{t-1} + \varepsilon_t$$

Where  $\pi_{m,t}$  is inflation in the relative price of imports—defined as the import price deflator relative to the GDP deflator—to account for the impact of import prices, including commodity prices, on domestic consumer prices.  $\pi_t^e$  is the long-run inflation expectation (defined as a 5-year forward-looking forecast of inflation and is based on the WEO vintage database (1993–2016))<sup>5</sup>. We discuss the fit of the model in annex 2 by analyzing various statistical properties of this regression. We show that the overall fit of the model is relatively good based on the residuals and the RMSE. The above regression demonstrates the presence of a PC, with strong hysteresis (in this case lagged inflation), and mild impact of import price inflation. However, the coefficients of REER and inflation expectation are not significant, when they are estimated over the whole sample period; this fact shows that these coefficients have gone through significant changes over time and a constant time parameter model can't simply capture such changes. These time variations come from the establishment of inflation targeting framework in 2014 and the adoption of a free-floating exchange rate regime in November 2014.

This leads us to conclude that estimating a PC with constant coefficients can't guide policy makers about the “dynamic” relationship between inflation and slack. In the context of transition to a fully established IT regime<sup>6</sup>, investigating how the dynamic relationships between inflation and slacks and external factors evolved over time will shed light on transmission channels of monetary policy. To assess time-variation in the Phillips curve there are three approaches in the literature: regime switching and conditional forecast—for an example of a recent work on the U.S. Phillips curves see, Laseen and Taheri Sanjani (2016), and time-varying parameters—for an example of a recent work on the E.U. Phillips curve see, Ciccarelli and Osbat (2017).

**6. How has the dynamic of Phillips curve evolved over time?** We estimate a hybrid NKPC specification which allows for both the natural rate of unemployment and the coefficients to change over time. The model is based on Matheson and Stavrev (2013), which has also been used in Blanchard, Cerutti, and Summers (2015), ECB occasional paper (2017), and Chapter 3 WEO (2016)<sup>7</sup>. It comprises of the following equations:

<sup>5</sup> Ideally we would like to have a survey-based expectation measures starting from 2000, however Russia doesn't have a long enough inflation expectation time series. Recently the authorities have begun conducting a survey to measure 1-year ahead inflation which is a short-term forecast horizon.

<sup>6</sup> CBR has adopted an IT regime in 2014 with the target headline inflation of 4 percent by the end of 2017.

<sup>7</sup> It also has been used in panel remarks by Vítor Constâncio, Vice-President of the ECB at the Jackson Hole Economic Policy Symposium, August 2015. Additionally Szafranek (2016) and Oinonen and Paloviita,(2014) similarly use a TVP model.

$$\pi_t = \theta_{1t}(u_{t-1} - u_{t-1}^*) + \theta_{2t}\pi_t^e + (1 - \theta_{2t})\pi_{t-1} + \theta_{3t}\pi_{m,t-1} + \theta_{4t}xr_{t-1} + \varepsilon_t \tag{1}$$

$$u_t - u_t^* = \rho(u_{t-1} - u_{t-1}^*) + \eta_t \tag{2}$$

$$u_t^* = bu_{t-1}^* + (1 - b)u_{t-1} + v_t \tag{3}$$

Equation (1) is the hybrid NK Phillips Curve, in terms of the slack, unemployment gap ( $u_t - u_t^*$ ),  $\pi_t^e$  is long-run inflation expectations<sup>8</sup>,  $\pi_{t-1}$  year-over-year<sup>9</sup> core CPI inflation (lagged one quarter), and  $\theta_{2t}$  is a time-varying weight attached to long-run inflation expectations that reflects the stability of inflation expectations,  $\pi_m$  relative import price inflation and the real effective exchange rate is  $xr$ . In this model, the slope coefficients in equation (1) are time varying, and they are assumed to follow a random walk process,

$$\theta_t = \theta_{t-1} + \epsilon_t \tag{4}$$

The natural rate of unemployment in Russia is not available; hence we estimate it within the model. Equation (2) determines the law of motion of the unemployment gap with persistence  $\rho$ . Equation (3) determines the dynamics of the natural rate of unemployment, as an unobservable. The coefficient  $b$  determines the level of hysteresis in the natural rate. All the three shocks,  $\varepsilon_t$ ,  $\eta_t$  and  $v_t$ , in the model are normal and i.i.d (uncorrelated). This assumption implies that the model is Gaussian however, it is not linear in the latent states.

Data (2000-2016, quarterly) and Transformation		
Mnemonic	Description	Transformation
HICPXE	Core Consumer Price Index, SA (Dec.2000=100)	YoY Growth Rate
UR	Unemployment Rate, SA	Level
IMPXdef	Imports Deflator/GDP Deflator (SA, 2011=100)	YoY Growth Rate
REER	Real Broad Effective Exchange Rate Index, CPI Based (2010=100), SA	Annualized log difference
LTEXP	Long-term Inflation expectation	YoY Growth Rate

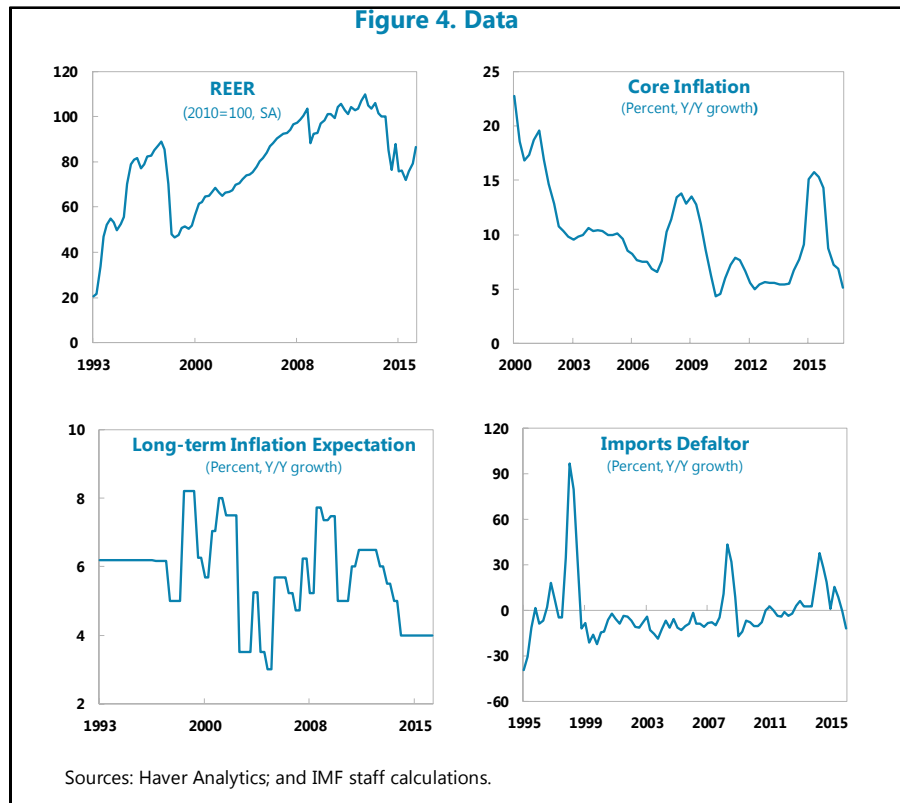
**7. Our identification assumptions imply some constraints on the coefficients.** More precisely the slope on the unemployment gap is negative, the coefficient of import price inflation

<sup>8</sup>The long run inflation expectation data is a 5-year forward-looking forecast and is based on the WEO vintage database (1993–2016). Firstly, we downloaded inflation data from two WEO vintage database for each year. Then we took the inflation data in WEO Spring vintage (WEO April or WEO May) as the Q1 and Q2 expectation, and data in Fall vintage (WEO September or October) as the Q3 and Q4 expectation. For example, inflation projection of 2021 in 2016 WEO April vintage is taken as the 5-year inflation expectation in 2016Q1 and 2016Q2; and 2021 projection in 2016 WEO October vintage is taken as the inflation expectation in 2016Q3 and 2016Q4. Lastly, we calculate the Y/Y growth rate based on the index.

<sup>9</sup> The reason we choose this transformation, as oppose to qoq annualized, is the consistency with our measure of inflation expectation which is yoq.

must be positive, the weight of inflation expectations is between 0 and 1, and the slope of the exchange rate is restricted to be negative. Thus, a standard Kalman Filter cannot be used to perform the estimation, and instead, we estimate the model using a Constrained Extended Kalman Filter.

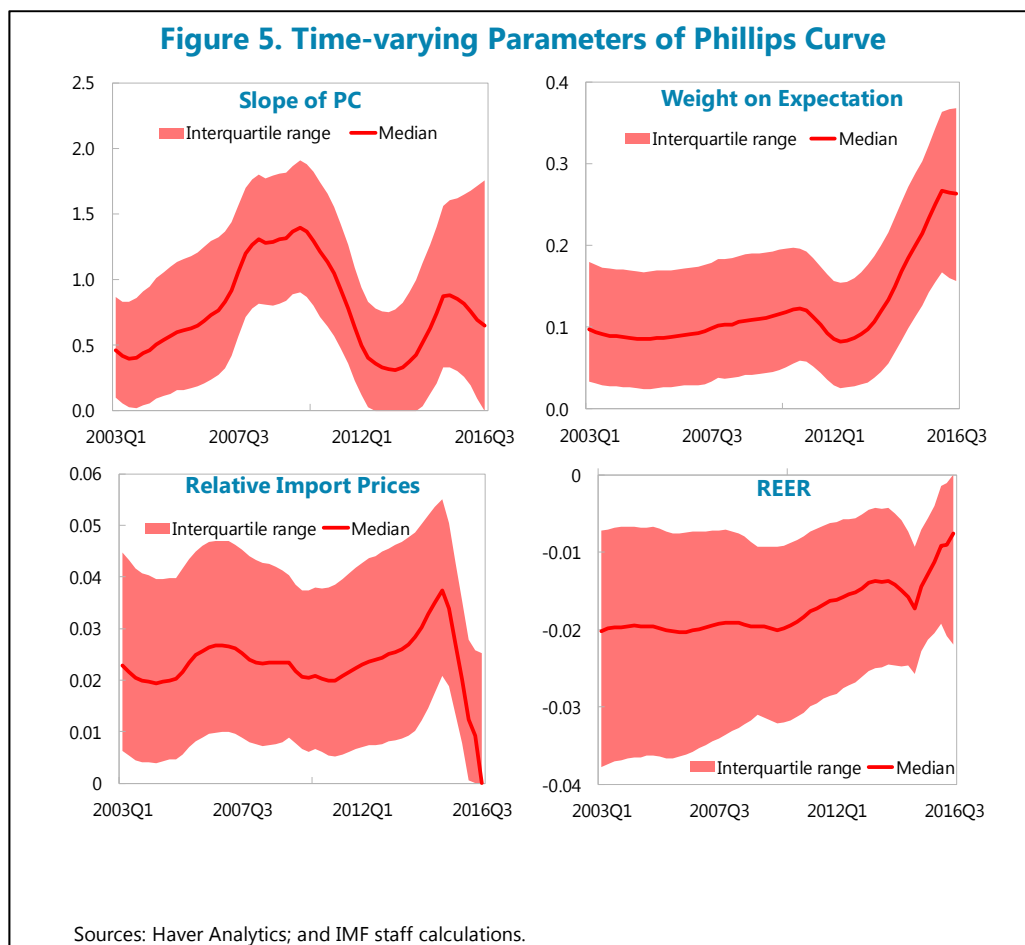
**8. The data is measured at the quarterly frequency and covers 2000Q1 to 2016Q3.** They are seasonally adjusted. The relative price of imports is the import-price deflator relative to the GDP deflator. The series for long-run inflation expectations is a 5-years-ahead forecast of inflation from WEO quarterly vintages. The table above summarize the data that was used.



### C. Results—How Does the Phillips Curve Evolved Over Time?

**9. The slope of core inflation Phillips curve is not flat and the slope is steeper in normal business cycle time.** Below we present the estimated coefficients of the model, finding that the weight on long-run expected inflation (as opposed to the coefficient on lagged inflation) has increased since 2012, thanks to the CBR's effort in anchoring inflation expectations. This explains in large part why we have not seen inflation spiral in the aftermath of the recent inflationary recession, despite the large movement in the exchange rate. However,, the coefficient on inflation expectations is lower than the ones typically found in Advanced Economies with well-established IT regimes (i.e., for the US it hovers around 0.7). This is an intuitive result considering the transitioning nature of IT regime in Russia, as it takes a long time to established credibility.

We also find clear evidence that the effect of the unemployment gap on inflation increases before crisis episodes and goes down post-crisis with some lag; while the slope of the PC has flattened in the aftermath of GFC, it started to recover 2012 until the beginning of the recent crisis in 2015. This suggests that we can expect another episode of slope-sharpening as the recovery gets underway<sup>10</sup>.

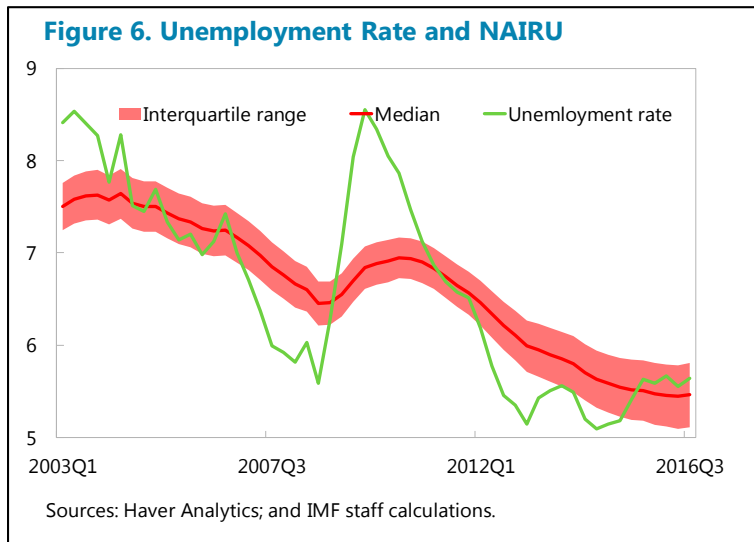


The results show that the importance of import price inflation has increased over time up to the onset of the sanctions, consistent with rising import penetration and globalization. In 2015 onward, the sanctions on some foods, and the compression of consumption and expenditure switching impacted imports of goods, and hence the inflation elasticity to import prices. The impact of REER on core inflation has been mostly steady and small until the 2014 move to a floating exchange rate regime, which has lowered the absolute value of this coefficient.

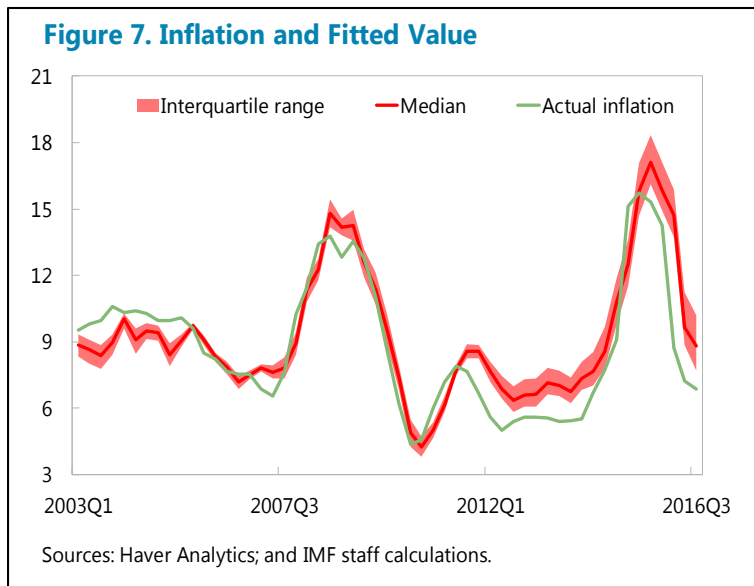
**10. The Philips curve implied slack is decreasing.** Turning to the estimated time-varying NAIRU as an unobservable, the PC-implied NAIRU is smoother than unemployment by construction. Russia's estimated NAIRU has been declining since 2000 on average, thanks to the flexibility in Russia's labor market, even though it has risen during crisis episodes. Recently it has manifested a positive but small

<sup>10</sup> Annex 3 compares the slope of headline inflation with the core inflation.

gap (Figure 6). The wage-structure in the Russian economy makes the labor market flexible. More specifically, the wages have two components: a flexible and a fixed component. The flexible component is cyclical and adjust during the business cycle, both upward and downward.<sup>11</sup>



**11. The Phillips curve fits the inflation data reasonably well.** The predicted values of the inflation implied by the Phillips curve model, fit the data well, except for a few episodes with particularly large inflation spikes. However, from 2012 onward the model implied inflation slightly lags the actual inflation. The goodness of the fit, implies that one can use the model to forecast inflation.

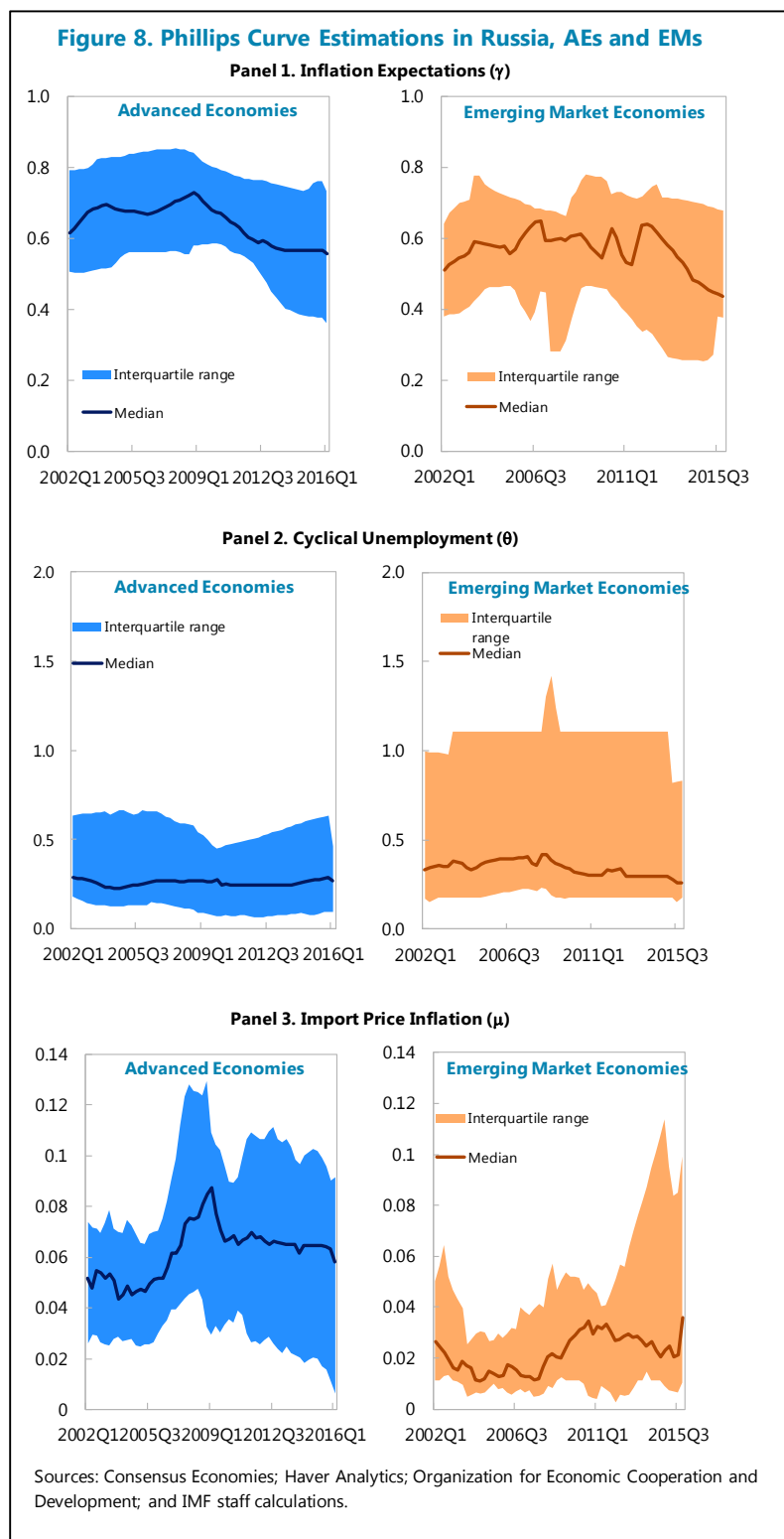


<sup>11</sup> To study monetary policy trade-off between slacks and inflation in the economy and its implication for interest rate setting one needs a GE model, see Furlaneto, Gelain and Taheri Sanjani (2014).



**12. How does Russia’s estimate compare to the ones of Emerging Markets (EMs) and Advanced economies (AEs)?** The figure below shows the analysis presented in October 2016 WEO, chapter 3, using similar TVP PC model. In the right-hand side, the panel summarizes the average EMs estimates and in the left-hand side the panel shows the average AEs estimates both for headline inflations. Comparing the weights on various variables in the model to the ones of Russia one can draw the following points:

- 1) **Weight on Inflation expectation in EMs is lower than AEs.** This is because AEs’ central banks have relatively more mature IT framework in place. After establishing the IT regime in Russia, the weight of the inflation expectations in PC has risen. The overall weight is aligned with the average of EMs.
- 2) **The slope of PC is steeper in Russia than on average in EMs.** The reaction to cyclical unemployment in Russia, on average over the sample period, is higher than in other EMs. This would imply monetary policy should be more watchful of slack in the economy.
- 3) **Historically the weight on Russia’s relative import price inflation is in line with the others in EMs.** The weight of relative import price on



inflation in AEs is larger than EMs, thanks to the higher import penetration in AEs. Note that the scales for both EMs and AEs are small. In Russia, this weight has decline after the imposition of the sanctions in 2014. Therefore, it implies that in Russia import prices inflation have a smaller impact on the domestic inflation.

## D. Conclusion

**13. In this paper, we estimate a time-varying parameters hybrid NK Phillips curve using Russian data between 2000 to 2016.** We analyze how the coefficients have evolved over time. Our estimates suggest that the Philips curve is alive and the slope is expected to increase as the recovery is underway; this would emphasize on the role of slack in underpinning the monetary policy decision. Our results illustrate how the weight on inflation expectation has increased recently, thanks to successful establishment of the IT regime in Russia. As a bi-product of our analysis, we estimate the PC-implied Nairu, and we show that the slack has been coming down fast post-GFC, thanks to a flexible labor market in Russia. Finally, by presenting the fitted value of the inflation, we show that PC is overall a good model in explaining the dynamic of inflation.

## Annex I. Identification and Bayesian Estimation

This technical appendix describes some of the Bayesian estimation challenges—such as non-linearity in Kalman filter, calibration of some parameters, prior variance of latent variables and finally sign restrictions—that algorithm of Montes-Galdon addresses.

Constrained Extended Kalman Filter is a nonlinear version of the standard Kalman Filter, with two modifications: The Jacobian of equation (1) is required to update the covariance in the filter. When we run the filter, we check the constraints at each step and if the constraints are not satisfied, a minimization procedure is performed to obtain a constrained estimate of the states.

We calibrate two parameters. One is the hysteresis parameter,  $b$ . A higher value of this coefficient will produce smoother estimates of the natural rate, while a small value will generate a natural rate which follows more closely the observed unemployment rate. The second parameter is the variance of the natural rate of unemployment for which we calibrate the signal to noise ratio between the variance of the unemployment gap and the natural rate.

Time varying parameters models are highly sensitive to the choice of the prior variance of the latent time varying slopes. To calibrate this prior, we examined three different options:

1. By using user-defined priors
2. By using a calibrated prior variance from a rolling or full sample estimation of the model with constant slopes, using Constrained Maximum Likelihood.
3. Calibrate the variance from the Constrained Maximum Likelihood, either from a rolling or full sample regression and do not estimate it (this is the methodology in the Matheson and Stavrev (2013)).

**We use sign restrictions as our identification assumption.** To identify signs of the coefficients we impose sign restrictions on coefficients. Hence the draws with wrong sign are discarded. The constraints should be passed as:  $Dx \leq d$ . By setting the values of matrix  $D$  and vector  $d$ , we specify the sign restrictions. The dimension of the  $D$  matrix should be  $r \times k$ , where  $r$  is the number of restrictions and  $k$  is the total number of latent states in the model. The vector  $d$  is  $r \times 1$ .

Suppose that we only want the first slope to be negative. Then, we have the restriction:

$$x_1 \leq 0$$

Since we have six states, the matrices should be:

$$D = [1 \ 0 \ 0 \ 0 \ 0 \ 0]$$

$$d = 0$$

If we want also that the third coefficient is positive, then, we have that  $-x_3 \leq 0$ , and the matrices now become,

$$D = \begin{bmatrix} 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & -1 & 0 & 0 & 0 \end{bmatrix}$$

$$d = [0 \ 0]'$$

Finally, suppose that we want the second coefficient to be restricted between 0 and 1. This generates two restrictions,

$$x \geq 0$$

$$x \leq 1$$

Or,

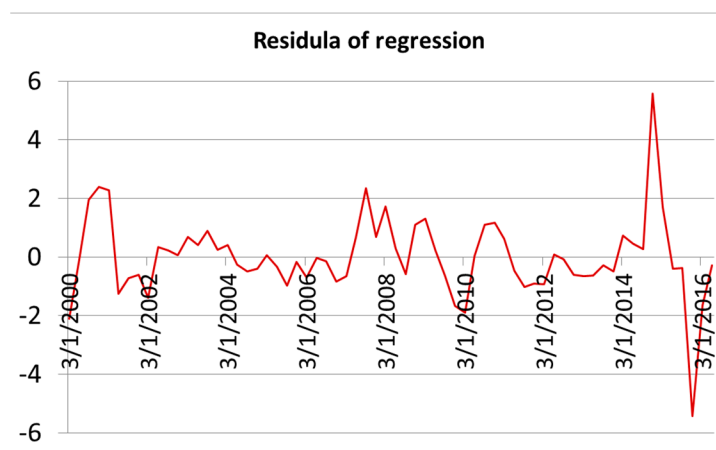
$$-x \leq 0$$

$$x \leq 1$$

These two restrictions can be entered as the previous ones.

## Annex II. Fit of the Constant Time Coefficient Model

The R-square statistic of the model is estimated 87 percent and an estimate of the error variance of the model is 2. The R-squared measures how close the data are to the fitted regression line and it is between 0 to 100 percent and the higher the R-squared, the better the model fits the data. While the R-squared of 87 percent shows a good fit, this statistic cannot determine whether the coefficient estimates and predictions are biased, which is why we assess the residual plots next. If the points in a residual plot are randomly dispersed over time, our linear regression model is appropriate for the data; otherwise, a non-linear model is more appropriate. In the chart below we plot the residuals from the model, in orange, and the plot shows a fairly random pattern, except the last quarter of 2014 and 2015 which present outliers in the regression.

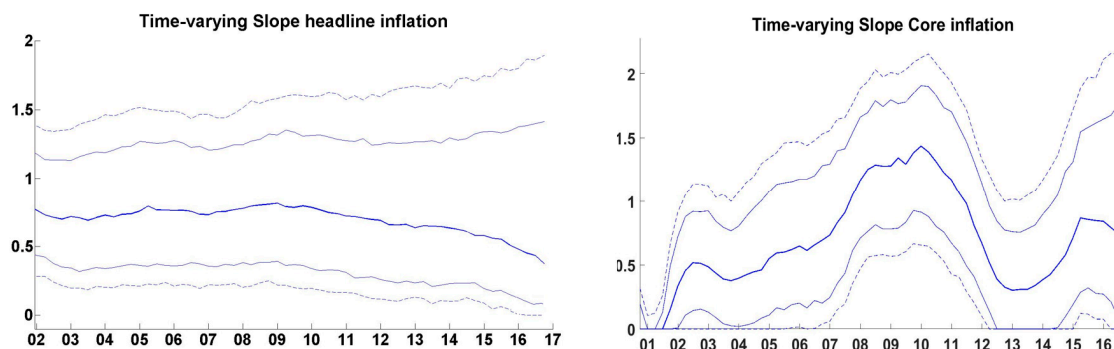


Estimated Coefficients and Statistics				
	Estimate	SE	tStat	pValue
Lagged unemployment	-0.3686	0.195	-1.8903	0.0635
Inflation Expectation	-0.1258	0.1324	-0.9507	0.3456
Lagged inflation	0.9586	0.0605	15.855	0
Import inflation	-0.0255	0.0145	-1.7626	0.0831
REER	-0.0079	0.0095	-0.8297	0.41
<hr/> Root Mean Squared Error: 1.43 R-squared: 0.87, Adjusted R-Squared 0.86 F-statistic vs. constant model: 83, p-value = 1.19e-25				

Another statistic that we assess is the error variance which is a more accurate statistic in measuring the fit of the model. It is the square of the root of mean square error (or MSE) represents the average distance that the observed values fall from the regression line. Smaller values of MSE are better as it means that the observations are closer to the fitted line. In this case, MSE of our regression is around 2.05 which means approximately 95 percent of the observations should fall within plus/minus 2\*standard error of the regression from the regression line, hence this is also an approximation of a 95 percent prediction interval.

The  $p$ -value for the F statistic of the hypotheses test that the corresponding coefficient is equal to zero or not. For example, the  $p$ -value of the F-statistic for inflation expectation and REER is greater than 0.1, so this term is not significant at the 10 percent significance level given the other terms in the model.

### Annex III. Time-variation in Slope, Headline versus Core



**How much time variation is there in the slope of the Phillips curve?** The discussion on the steepening or flattening of the Phillips curve depends on the measure of inflation that is used. We take an agnostic view on the origins of the time-variation and estimate a hybrid NKPC with time-varying parameters for core CPI inflation and headline CPI. As it is demonstrated in the above panel chart the slope of headline inflation had a general tendency to decrease after 2010 and at the same time the fan chart widens, which implies more uncertainty around the estimated coefficients (see the left-hand chart). For core inflation, the slope is more volatile and it goes up during the normal business cycle episodes and go down post recessions (see the right-hand chart).

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