

Globalisation and deglobalisation

Bank of Russia

Abstract

We argue that, as emerging market economies (EMEs) gradually converge with advanced economies, the advantages they gain from participating in trade and global value chains (GVCs) have lessened, resulting in lower growth in world trade post-crisis. But EMEs can sustain their long-term growth by participating in the higher value-added and more complex parts of GVCs.

Protectionism is an increasing threat to future global economic growth. The solution lies largely in addressing inequality and fostering structural transformation. Based on Russia's experience, we conclude that an optimal policy mix for a commodity-exporting EME consists of a floating exchange rate, inflation targeting, a fiscal rule, and macroprudential policy.

Keywords: global value chains, globalisation, international trade, Russia.

JEL classification: D63, E58, F02, F41, F60.

A. Determinants of international trade and population flows

What explains the growth of international trade in EMEs in recent years? Is weak trade growth in the aftermath of the Great Financial Crisis a temporary phenomenon or does it mark a new trend?

The main contributing factors to the rapid growth of trade in the current century have been:

A large demographic dividend in the major EMEs. This served as the impetus for the inclusion of these countries into global value chains (GVCs) as assemblers of labour-intensive products.

The reduction of transport costs through containerisation and the automation of port and production logistics. Cost reduction exercised a non-linear (increasing) effect on trade at the start of globalisation.¹

The development of regional and global integration (via WTO accession), which, by reducing import tariffs, has had a profound effect on the growth of world trade.

Industrialisation has supported EMEs' income growth and their participation in GVCs not only as suppliers of production factors (labour, cheap natural resources), but as buyers of final and intermediate products, including those of other EMEs.

¹ See, P Krugman, "A finger exercise on hyperglobalisation", blog post, New York Times, June 2017, <https://krugman.blogs.nytimes.com/2017/06/14/a-finger-exercise-on-hyperglobalization/>.

Importantly, **EMEs have strongly contributed to global economic growth**, expanding south-south trade (ie trade among EMEs) faster than north-south trade (ie trade between EMEs and advanced economies). This was also the case for Russia. The share of Russian exports to China, Korea and India saw a significant increase between 2003 and 2016, reflecting the declining share of trade with advanced economies, the EU in particular. See Graph 1 in the Appendix.

Research has shown² that the slowdown of world trade since 2011 has been most pronounced for trade in goods. The slowdown was accompanied by a reduction in GVC participation by both EMEs and advanced economies. This was seen most markedly in the reduced share of complex value chains in GVCs.

The global trade slowdown since 2011 has been caused primarily by:

- The upsurge in protectionism to support the recovery of national economies after the Great Financial Crisis (GFC) in both EMEs and advanced economies, including through changes in the real currency exchange rates of advanced relative to emerging market economies.
- The replacement of imported intermediate goods (processing trade) with domestic goods in the largest EMEs. Industrialisation enabled developing countries to replace external with internal supply chains. This was the case with Chinese metal production, which has emerged as a competitor to Russian suppliers.
- Technical progress also allowed participation in GVCs to be replaced with domestic alternatives. Robotisation in advanced economies has reduced the cost not only of low-skilled labour, but medium-skilled labour as well, redirecting some production back to the United States, for example. The US shale revolution, meanwhile, is reshaping the global oil market.
- Changes in EME growth models. EMEs are seeing their economies increasingly rebalanced towards services in the context of rising incomes and a reduced demographic dividend. The younger generation is characterised by higher levels of education, which has helped certain EMEs to compete with developed countries in innovation.

On the whole, the gradual convergence of EMEs with advanced economies (in income levels, productivity, capital-to-labour ratio and innovation) indicates that the advantages that these countries reap from trade and participation in GVCs are irreversibly and permanently on the decline. This has reduced world trade growth below its pre-crisis levels. Reduced protectionism could exert a temporary but significant stimulating effect on world trade due to non-linearity (high marginal return).

For a better understanding of the outlook for world trade, it is necessary to examine the trends and prospects of GVC formation.

² See the survey in World Bank (2017) and Figure 2.7 in the report.

Will global value chains (GVCs) continue to lengthen or has this process reached a natural limit? Which factors determine the degree of integration into GVCs and how does this affect trade?

The integration of countries in GVCs is based on several factors:

- Logistical advantages. The WTO identifies a direct link between a country's logistical advantages and its involvement in GVCs.³ In order to participate in a GVC, it is better to be a coastal country than one in the heart of a continent (for example, Korea vs Mongolia). In this respect, Russia, despite possessing the largest territory, is in a disadvantageous position as it has access to predominantly northern seas, remote from the main trade routes. This partly explains Russia's low Logistic Performance Indicator.⁴
- Location near the largest trade hubs: China, Europe and the United States. Thus, the presence of large neighbours strongly increases a country's chances of active participation in GVCs. For example, the United States fulfils that function for Mexico, as does China for New Zealand or Russia. Russia's advantage lies in its proximity to two large trade hubs: Europe and China.⁵ This determines the main orientation of the country's trade flows.
- A surplus of certain resources. With respect to labour, for instance, a key role is played not by low wages in themselves, but unit labour costs (ULC), that is, wages with productivity taken into account. Low labour productivity in the majority of African countries together with relatively high wages (large African countries suffer from "Dutch disease") is a major barrier to their inclusion into GVCs. For Russia, a similar abundant factor is natural resources, particularly gas and oil. This determines the nature of the country's participation in GVCs.
- The institutional environment (the openness of the economy, standards of business protection) and the accessibility of trade finance. These factors are especially important for the formation of complex chains, in which component goods cross borders many times. The relevant figures for most EMEs have room for improvement.

Thus, the growth of world trade is primarily contingent upon increased country participation in long (complex) value chains. The factors indicated above have negatively affected the length of value chains (see Graph 2), and thus, world trade.

The prospects of GVC development will determine world trade performance. There are *extensive* and *intensive* GVC growth factors. *Extensive* factors include the expansion of geographic coverage, the involvement of small and medium-sized enterprises (SMEs) in GVCs, and the development of GVCs in services.

First, geographically, African and South Asian countries could play an important role in GVC growth. Their inclusion in GVCs is constrained by low labour productivity and lack of capital even for labour-intensive sectors. Automation and robotisation in advanced economies and EMEs reduce the likelihood that these countries will be

³ World Bank (2017).

⁴ According to the World Bank index, in 2016 Russia occupied 99th place out of 160 countries. Germany, Sweden, the Netherlands, Singapore, Austria, the United Kingdom and the United States occupied the top places.

⁵ Sanghi et al (2017).

included in GVCs, as compared with the inclusion of East Asian countries in GVCs 20 years ago.

Second, for SMEs, the impetus for GVC development has increased, thanks to reduced transaction costs in gaining access to external markets due to the partial elimination of information asymmetry (thanks to IT counterparty search platforms) and of liquidity constraints (via trade finance instruments and risk insurance). The advance of IT in logistics lowers the risks of production delays for these businesses.

Third, GVC development in service production has vast growth potential. Besides, GVC development in services has positive externalities for GVC growth in the production of goods. Yet, GVC development in services faces high protectionist barriers in financial, medical, industrial and educational services. With respect to the role of GVC in services, the question is how one should evaluate the participation of foreign banks, insurance companies and other financial intermediaries in generating a country's GDP: can potential risks outweigh potential benefits? Or is there no such trade-off?

Thus, the prospects of extensive GVC development are not straightforward. Special economic zones within EMEs, such as the one in the Russian Far East, are one way of embedding EMEs in GVCs.

As for *intensive* factors of GVC development, EMEs that are integrated into existing GVCs have already received most of the resultant benefits. Indeed, several EME countries face the challenge of the middle-income trap, and some attendant risks to financial stability.

Maintaining GDP growth in these EMEs requires a transition to a different growth model based on innovation and structural reforms in economies, so that they can participate in the higher value added parts of GVCs. But this is more difficult to achieve than their initial entry into GVCs. This task is also very relevant for Russia.

In addition, the diminishing marginal effect from late-20th century innovations such as containerisation and logistics automation does not enable further accelerated GVC creation. No profound new breakthroughs capable of lowering transport costs are foreseen.

Consequently, the slowdown in the growth of GVCs is likely to be a long-term phenomenon.

Unlike most EMEs, Russia entered the period of GVC development without a demographic dividend but it does have rich natural resources, which have supported Russia's integration into the global economy.

Russia's specialisation as a supplier of natural resources has grown in the past 20 years. See Graph 3 for an indication of its comparative advantage.

The growth of Russia's specialisation was first and foremost attributable to rising demand from EMEs and advanced economies for raw commodities and their rising prices, and the effects of "Dutch disease" on Russia. Kilian (2009) shows that strong global demand was a dominant driver of crude oil price growth in 2000–07. "Dutch disease" (increasing wages in the tradable and non-tradable sectors) undermined the country's competitiveness vis-à-vis central and eastern European countries. In addition, the development of Southeast Asian countries as centres of manufacturing reduced the role of light industry and other traditional labour-intensive sectors of the Russian economy. As a result, Russia was largely left on the sidelines of GVC

formation, specialising predominantly in forward participation (that is, exports of commodities used for further processing in importing countries) (Graph 4).

Russia's competitive advantages include an abundance of natural resources, highly skilled labour, a vast territory, transport opportunities that must be further exploited (particularly considering the non-linear effect of transport costs), for example, development of the Northern Sea Route.

An insight into Russia's changing role in GVCs may be found by looking at the experience of countries with similar demographics (Finland), and dependency on oil exports (Norway), which are both more firmly embedded in GVCs than Russia. This is particularly important in the light of technological innovations (such as shale oil and gas, alternative energy) that could weaken Russia's position as a supplier of traditional raw materials in the long term. Changes in Russia's role in GVCs will have important consequences for current trade partner countries as well. China's rebalancing and the growth of the Indian economy are two additional factors that will affect the inclusion of Russia in GVCs.⁶

Why do some EMEs trade much more than others? To what extent have regional and global arrangements driven trade? How concerned are you about a return to protectionism and how would it affect EM trade integration?

The factors that drive trade between EMEs or regional trade are not altogether different from global trade factors. The only significant difference is the importance of protectionism, which is a more important factor on a regional than on the global level. On the global level, geographical factors, factors of proximity to large trade hubs, and the availability of cheap resources play a more important role for trade than on the regional level. In addition, studies show that reduced bilateral trade due to protectionism causes negative externalities for countries that are not directly affected by these reductions.

Russia is a big country with many neighbours. Regional free trade agreements are very important; agreements with growing, developing markets are valuable. A key question is whether countries aspiring to strengthen their positions in GVCs should develop internal production linkages between regions, and between neighbouring countries? Or can inclusion in GVCs develop without enhanced internal or regional integration? In this regard, Russia has benefited from the formation of the Eurasian Economic Union (EAEU), a regional production and trade association.

Russia's role in the EAEU is not limited to trade in natural resources. The structure of Russian trade is visibly different from that of non-CIS economies (Table 1). Specifically, Russia has a higher share of processed goods in exports to the EAEU countries than in exports to the rest of the world.

The global rise of protectionism could have a damaging effect on world trade and Russia. The 2014 oil price shock prompted structural changes in the Russian economy that ran counter to those that occurred prior to the GFC. Specifically, both relative prices and the economic structure moved in favour of the tradable sector. Among other things, such structural changes opened up the non-commodity export

⁶ Sanghi et al (2017).

potential that had previously been blocked by the high real exchange rate. This makes Russia a natural proponent of globalisation.

In discussing the threats of protectionism, it is important to understand its nature. Advanced economies resent the transfer of manufacturing employment to EMEs. As a result, blue-collar workers either lose their jobs or are forced to tolerate lower wages. EMEs are concerned by their narrow specialisation in labour-intensive production. They are denied access to high value-added production (technological components, marketing, design). In this context, technological innovations lead to growing inequality in both advanced economies and EMEs. In such circumstances, protectionism and populism are the corresponding defensive reaction of the global economy to the absence of effective mechanisms for the structural reallocation of redundant production factors. Robotisation is set to further exacerbate these trends.

Therefore, the solution to the problem of protectionism lies largely in solving the problem of inequality and fostering structural transformation.

What are the drivers of migration flows into and out of EMEs? What has been the impact of migration on the size and composition of the workforce in EMEs? What drives remittances?

Adverse demographic trends require Russia to compete actively for global migration flows. Otherwise, even maintaining its existing production capacity will prove highly problematic.

Drivers of labour migration to Russia include:

- The higher level of dollar wages in Russia relative to other countries in Europe (Poland) and Asia (China) before the 2014 crisis.
- The inflow of migrants from culturally and historically close regions (eg the former Soviet republics).

There are sources of labour migration to Russia (Graph 5):

- (i) Inflows of cheap, low-skilled labour from Central Asian countries increased greatly in the 2000s on the back of rising oil prices and the growth of dollar wages in Russia. They became outflows with the depreciation of the rouble at the end of 2014. Remittances from Russia also fell (Graph 6).
- (ii) Inflows of medium-skilled labour from Ukraine and Moldova were stable in the 2000s, but reversed after the rouble depreciation in 2014 and amidst economic recession. Exacerbating these outflows, Russia had been steadily losing ground in the competition for middle-skilled labour from Ukraine and Moldova vis-à-vis eastern European countries, particularly Poland and the Czech Republic.

Migrants in Russia are traditionally employed in the service sector, including utilities, construction and retail – sectors focusing on servicing import consumption. Falling oil prices have led to reduced demand for this labour. As a result of the high sensitivity of migration flows in Russia to the price of oil and the exchange rate, the labour market adjustment to oil price shocks proved to be fast and less painful than would have been the case otherwise. In 2014, migrants left the labour market and returned to their homelands, thereby preventing any deflationary pressure on wages

in Russia in these sectors. Thus, potential output in non-tradable sectors proved to be flexible.

This played an important role in Russia's monetary policy. As the central bank faced no strong policy trade-off between output and inflation after the oil price shock, it was able to focus on stabilising inflation, rather than on shoring up GDP.

Thus, migration in Russia offsets the impact of business cycle and ameliorates the "Dutch disease" when oil prices rise, by preventing a rapid rise in labour costs. It also fosters faster adjustment to falling oil prices through the eliminations of jobs occupied by labour migrants in the non-tradable sector.

How has the relationship between trade and financial integration evolved in recent years? How has trade affected foreign direct investment (and vice versa)? And trade financing? How have the linkages changed over time?

Russia's participation in GVCs as an exporter of primary commodities has determined the role that FDI and trade finance play in the Russian economy.

First, FDI inflows to Russia have been relatively small and have failed to boost the development of non-commodity economic sectors and secure significant technology transfer. The share of FDI to GDP was 2.4% in Russia between 2000 and 2016, compared with the EME average of 3.0% (Graph 7).

Second, the mining sector was the primary recipient of FDI and trade financing, which has further encouraged Russia's existing specialisation in global trade.

As a result, the benefits of globalisation have been lower for Russia than for EMEs in general.

The largest companies in the raw materials and metallurgy sectors, along with the banks servicing them, were well integrated into the global financial system through bond issuance, IPOs etc. The oil price shocks of 2008 and 2014 revealed the weakness of this structure: when oil and other commodities serve as collateral, any fall in their prices makes refinancing difficult. This creates financial problems in key sectors of the economy and the banks that lend to these sectors. This amplifies financial stability risks.

Thus, the diversified structure of FDI and trade finance makes a recipient economy more resilient to shocks.

B. Macroeconomic and distributional effects of globalisation

How has globalisation affected the sectoral composition of the economy? Has trade integration increased specialisation? Has it been possible to sustain (or even expand) manufacturing sectors built up to substitute imports?

Globalisation has prompted **labour reallocation** across sectors in Russia:

First, the wealth effect, formed by rising prices on the primary raw materials exported by Russia in the 2000s, lifted demand for imports and goods/services of the non-tradable sector. The appreciation of the rouble at that time supported the reallocation of employment to the non-tradable sector from manufacturing (Graph 8).

The second effect of globalisation was linked to the appearance of a powerful centre of manufactured goods production in China. This facilitated the decline in manufacturing. Labour-intensive production lost competition to imports produced in Asian countries with cheap labour.

The third effect manifested itself in the growth of demand for imports of capital-intensive products. Amid rising competition, some capital-intensive industries (eg machine-building, woodworking industries) failed to improve quality and reduce their production costs, thus losing market share to imports from advanced economies.

Eventually, the share of non-tradable sectors in the Russian GDP rose by 3.6 percentage points in 2000–14. The share of employment in these sectors increased by 6.2 percentage points. As a result, Russia entrenched its position as a country specialising in the production of primary commodities.

The change in Russia's employment structure followed a trend common to many advanced economies: the erosion of middle-skilled labour. In general, labour employed in the tradable sector (in manufacturing in particular) fell, while labour employed in the non-tradable sector increased. The commodity-exporting industries that benefited from globalisation only employed a small proportion of the labour force (2.2% in the mining industry) and were unable to offset the loss of employment in manufacturing and other industries. Such labour reallocation has also increased the share of informal employment. The downside of this structural shift was the loss of the skills and productivity of blue-collar workers, who had to migrate to better-paid but lower-productivity jobs in the non-tradable sector.

Had it not been for the rising oil prices that accompanied globalisation, Russia would be faced with serious problems in economic restructuring, including the need to reallocate large amounts of redundant labour from manufacturing to other sectors. High oil prices have alleviated the severity of this economic restructuring.

The specificities of Russia's participation in GVCs have strongly influenced its trade structure. Trade has become more sensitive to the price movements of oil and metals. The exchange rate has assumed a greater role as a shock absorber, which would not be the case with a more diversified integration into GVCs.⁷

How has globalisation affected income and wealth inequality? Which population groups in EMEs have been the winners and losers from globalisation? How can we distinguish the impact of globalisation from that of technological change?

On the whole, globalisation has had a positive impact on EME real sectors and living standards over the past 20 years. In this respect, Russia is no exception.

⁷ See Leigh et al (2017).

A good review of the consequences of globalisation for income distribution and the labour share of income can be found in a study by IMF researchers.⁸ The authors find that, for EMEs, globalisation primarily affected inequality, while for advanced economies it led to technological changes.

Globalisation has had ambiguous social consequences in Russia. On the one hand, globalisation has contributed to rising inequality, as in other countries (Graph 9).

On the other hand, strong economic growth in the 2000s, boosted by globalisation, significantly reduced the poverty level in Russia (Graph 10). Globalisation has had a positive impact on household incomes and living standards. As in other commodity-exporting countries, the increased oil and gas windfall, along with the windfall from other export commodities, boosted household incomes. Moreover, in Russia the rise in export prices and significant improvement in overall terms of trade have also led to real exchange rate appreciation and the rapid growth of the service sector and other non-tradables. This has additionally augmented real household incomes in both absolute and relative terms (ie vis-à-vis advanced economies). Globalisation has also prompted deflation in global consumer goods through the better use of international division of labour and the development of GVCs.⁹ This has contributed to improved living standards by restraining the increase in the living costs around the globe, including in Russia.

The reduction of the income labour share in Russia, as in other EMEs, and the rise of inequality raises issues of financial stability. One of these is how to identify equilibrium debt levels in developing countries. Increased inequality lowers the equilibrium debt level. But to what extent? We do not know.

⁸ See Dao et al (2017).

⁹ Rogoff (2003).

C. Policy implications

Which policies have been most successful in harnessing the benefits of globalisation and limiting its adverse impact? What has been the role of measures to strengthen the global competitiveness of domestic industries?

Russia's economic policy has not specifically addressed the distributional issues stemming from globalisation. However, rising fiscal revenues have allowed the government to increase retirement benefits as well as wages and employment in the public sector, reducing the pay gap with the private sector. Overall, this has contributed to **poverty reduction** while curbing the rise of inequality.

The 2014 oil price shock prompted structural changes in the Russian economy. Among other things, these structural changes opened up the non-commodity export potential that had previously been hindered by a high real effective exchange rate (REER) (Graphs 11–12). However, harnessing the benefits of globalisation through the rise in exports requires export promotion policies. Without them, non-commodity export growth is likely to be sluggish for a long time.¹⁰

Which export promotion policies could work for Russia? These can be divided into two groups. The first group includes general policy measures that improve the economic flexibility, by removing barriers to factor mobility. This includes policies that foster competition and increase labour market flexibility within sectors and across sectors and regions. Policies that attract FDI and foster GVC development deserve special mention. They include opening up the economy, further lowering tariff and non-tariff customs barriers and the re-orientation of customs administration towards trade facilitation, the unification of technical standards, and streamlining of business regulations, administration and supervision.

The second group covers special export promotion policies. These include bilateral and regional/multilateral trade agreements, cross-border trade finance facilitation, compensation of export promotion costs (participation in international trade affairs, advertising costs etc) and information support in identifying external markets and finding local business partners. The primary focus of these policies should be on the sectors where Russia has a comparative advantage (such as oil and petroleum products, science-intensive production, information technologies, transport and logistics). However, companies from other sectors should also have access to such export support measures.

The big issue is the role that the exchange rate should play in policy supporting Russia's participation in GVCs. The real exchange rate is a reflection of an economy's level of development and structure. The strengthening of the exchange rate – the normal process for countries that are “catching up” in terms of development – aims to reduce their underdevelopment. Competition on the back of the artificial undervaluation of the national currency does not stimulate increased quality and production efficiency nor does it contribute to public welfare. To rely on this policy in the medium and long term means to participate in a wage-lowering race with countries that have abundant cheap labour. This would require increasingly acute

¹⁰ Culiuc (2017).

undervaluation of the real exchange rate and wages, as well as reduced living standards. Thus, “subsidising” labour-intensive production sectors in this way comes at the expense of the rest of the economy, thereby limiting its growth potential.

Has globalisation affected considerations of monetary policy objectives and trade-offs, and the role that the central bank could play in economic policy more generally?

The GFC showed that global systemic risks can exert a more destructive effect than ever before on global GDP. Countries with poorly diversified commodity-based export structures, such as Russia, are particularly sensitive to global economic fluctuations. **Export price volatility** thus became a key source of GDP, employment, fiscal and exchange rate volatility in Russia. While rising crude oil prices were driving Russian economic growth before mid-2008, their subsequent fall during the GFC prompted a double-digit decline in Russian GDP.¹¹ This was one of most pronounced declines in economic activity levels among the EMEs during the GFC (Graph 13).

There is no sufficient evidence that increased integration into GVCs would lower this sensitivity. With greater integration into GVCs, exports and imports become ever more diversified, reducing the sensitivity of the economy to shocks in individual markets (such as the price of oil), but increasing sensitivity to systemic shocks.

Globalisation influenced the Central Bank of the Russian Federation’s understanding of monetary policy in several areas:

- (i) Commitment to the floating exchange rate policy. For Russia, which is modestly integrated into GVCs, the role of the exchange rate as a shock absorber remains key. We saw this in action after the oil price shock at the end of 2014, when we moved to a floating exchange rate. It is indeed an effective mechanism for rapid economic adjustment to external shocks.
- (ii) The inflation targeting policy is advisable for small, open economies exposed to volatile relative prices. The high volatility of relative prices due to changes in the terms of trade requires a central bank to focus on inflation stabilisation in the medium term. This implies a policy focus on the stabilisation and anchoring of inflation expectations.
- (iii) A fiscal rule plays an important role in consumption-smoothing, the reduction of relative price volatility and dampening the economy’s sensitivity to external shocks. The Bank of Russia supports an interim version of a fiscal rule that the government put in place in 2017 and its further modification has been approved for 2018–19.
- (iv) Russia is particularly sensitive to global capital flows as a country with an open capital account.¹² The dependence of the country risk premium on oil prices increases this sensitivity even with the fiscal rule enacted. In order to dampen the influence of the oil cycle on the financial cycle and increase the independence of

¹¹ Quarterly GDP shrank by more than 11% from peak to trough.

¹² Research shows that, for Russia, resource values in global capital markets enter with a different sign, reflecting not the increased cost of funding but the improved prospects of global economic growth, accompanying the rise of global interest rates. That is, the trade channel of influence has proven to be more important in monetary policy changes than the financial channel.

central bank policy under the conditions set out in Rey (2015), the Bank of Russia conducts a countercyclical macroprudential policy and a policy of liquidity support in foreign currency, acting as the lender of last resort. This policy of financial sector stabilisation performed well in the crisis of 2014. The Bank of Russia intends to supplement it with new macroprudential instruments, introducing debt-to-income limits, in addition to the countercyclical buffer.

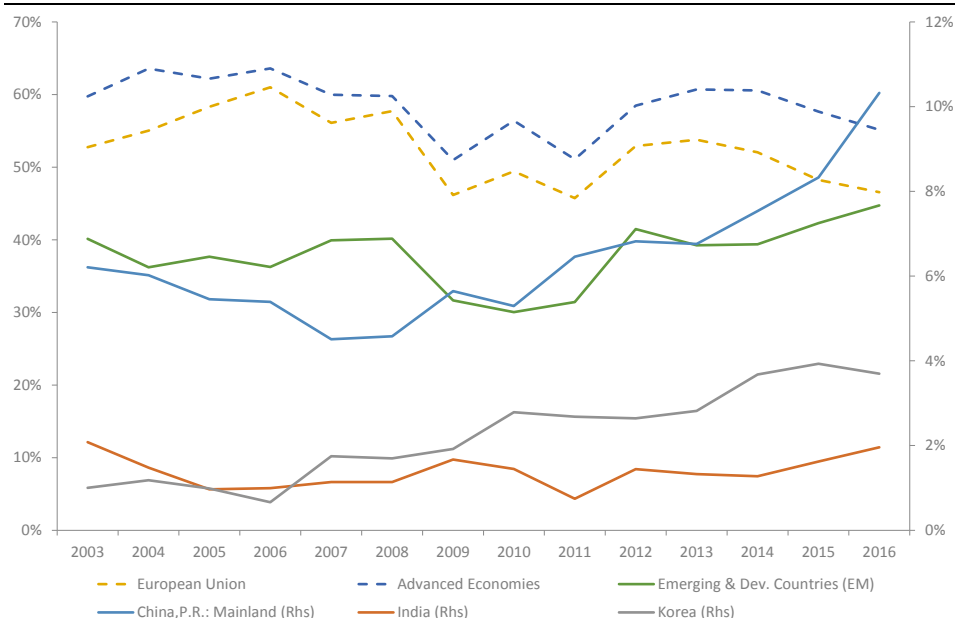
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Appendix

EM countries and country groups' share in total Russian exports in 2003–16

Graph 1



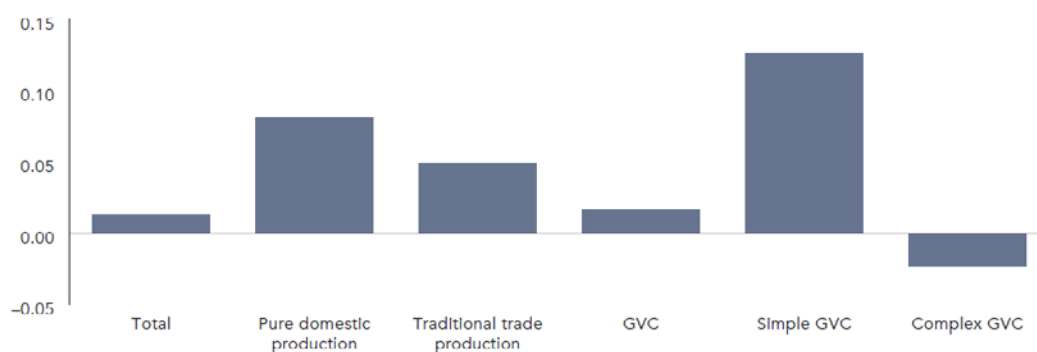
Source: IMF, Direction of Trade Statistics.

Change in production length for different types of value-added activities at the global level in 2011–15 (number of stages)

Graph 2

FIGURE 2.14 Change in production length for different types of value-added creation activities at the global level between 2011 and 2015

Number of stages

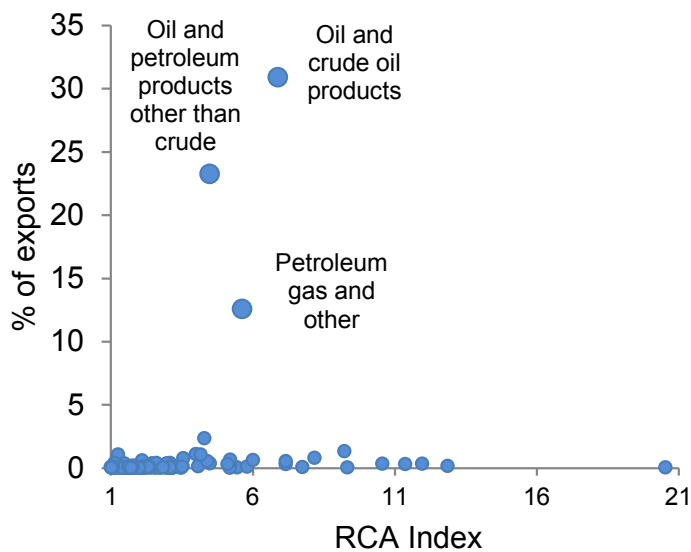


Source: University of International Business and Economics global value chain indexes derived from 2016 Asian Development Bank Inter-Country Input-Output Tables.

Source: World Bank (2017), Figure 2.14.

Revealed comparative advantage index (RCA) and export goods share in total Russian exports, 2014

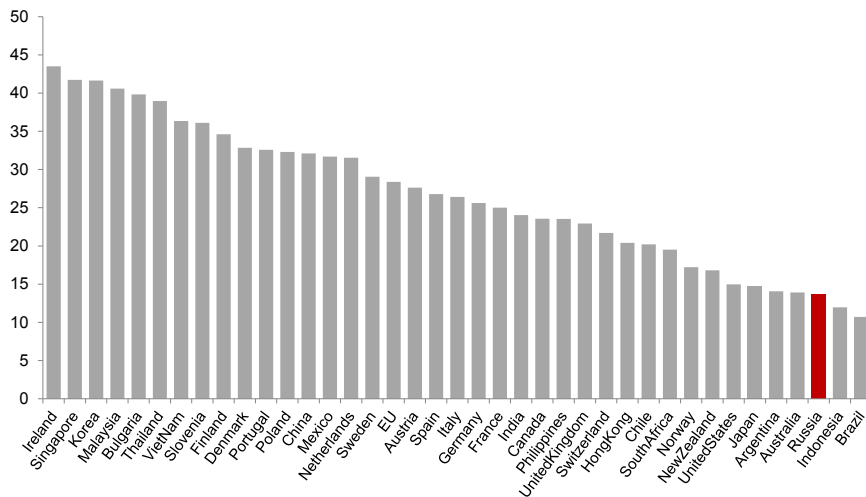
Graph 3



Sources: Comtrade; Bank of Russia's calculations.

Index of participation in global value chains

Graph 4



Source: OECD (data for 2011).

Structure of Russia's export to EAEU and non-CIS countries, percent of total value in 2015

Table 1

industries	EAEU*	non-CIS** countries
Agriculture	8.3	3.2
Mining and Quarrying	43.3	74.2
Chemical	9.9	5.1
Leather	0.2	0.1
Wood, Paper	3.4	2.1
Textile	1.8	0.1
Metals	12.6	10.5
Machinery and Equipment	16.9	3.7
Other	3.6	1
Total	100	100

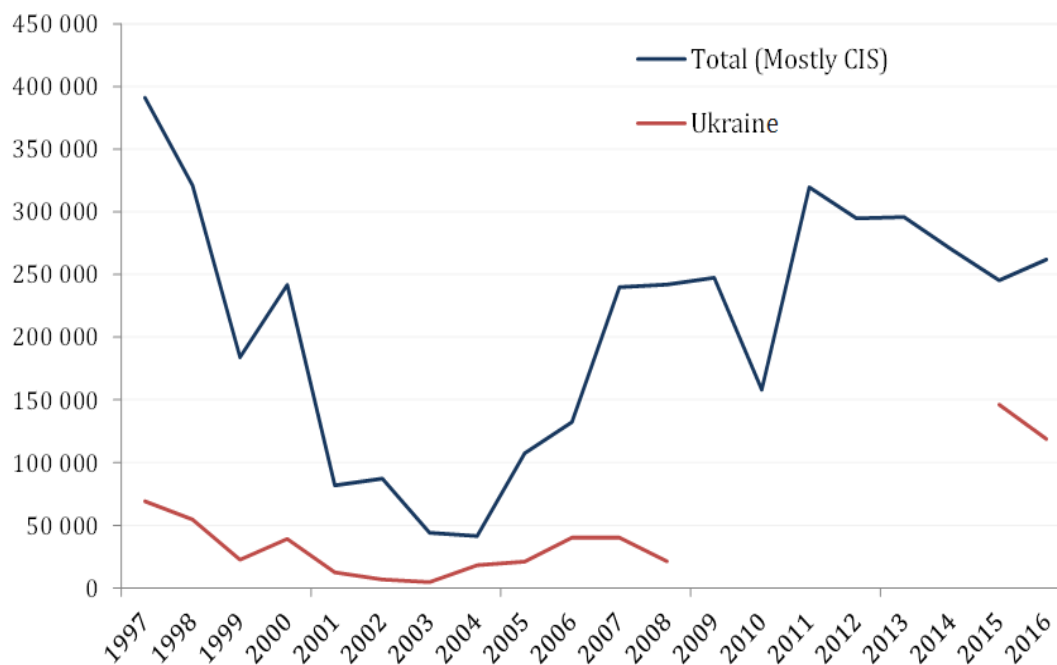
*EAEU - The Eurasian Economic Union

**CIS - The Commonwealth of Independent States

Sources: Rosstat.

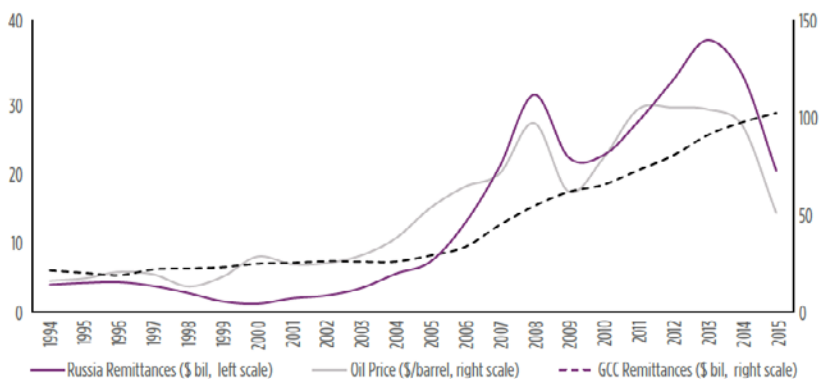
Net migration inflows in Russia, number of people

Graph 5



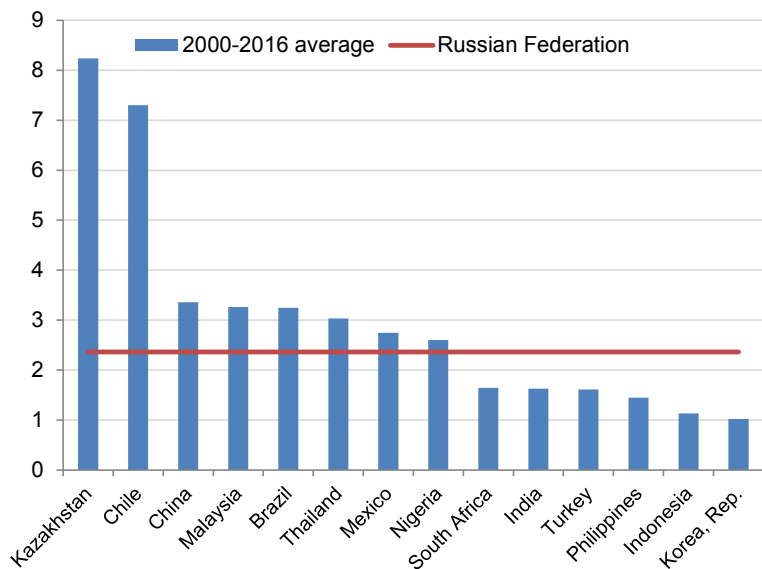
Source: Rosstat.

FIGURE 6 ■ Remittance Outflows from Russia Are Closely Related to the Oil Price, but Those from GCC Countries Are Not



Sources: Remittance data are from IMF Balance of Payments Statistics and Arab Monetary Fund. Oil price is the average crude oil price from World Bank Commodity Price data. Remittance outflows for 2015 are estimates based on IMF Balance of Payments Statistics available up to 2015 Q3.

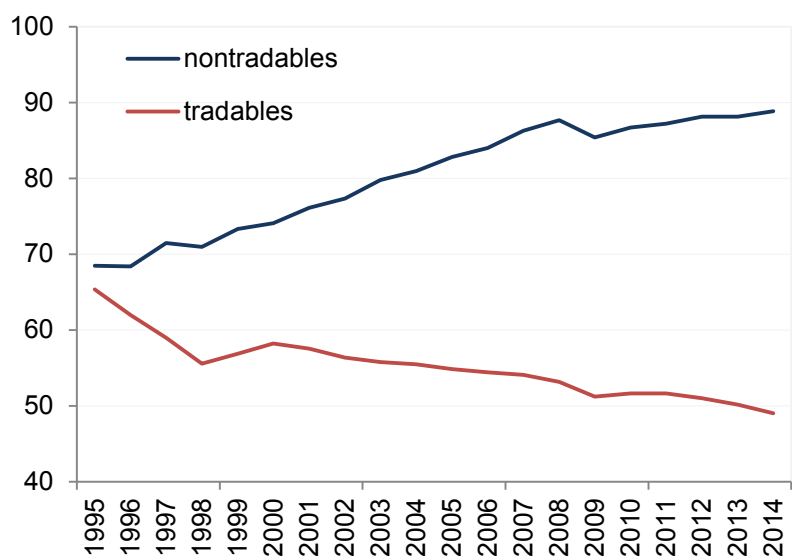
Source: World Bank, *Migration and Remittances: Recent Developments and Outlook*, 2016.



Source: World Bank.

Sectoral reallocation in the Russian labour market: Total hours worked by persons engaged, billions

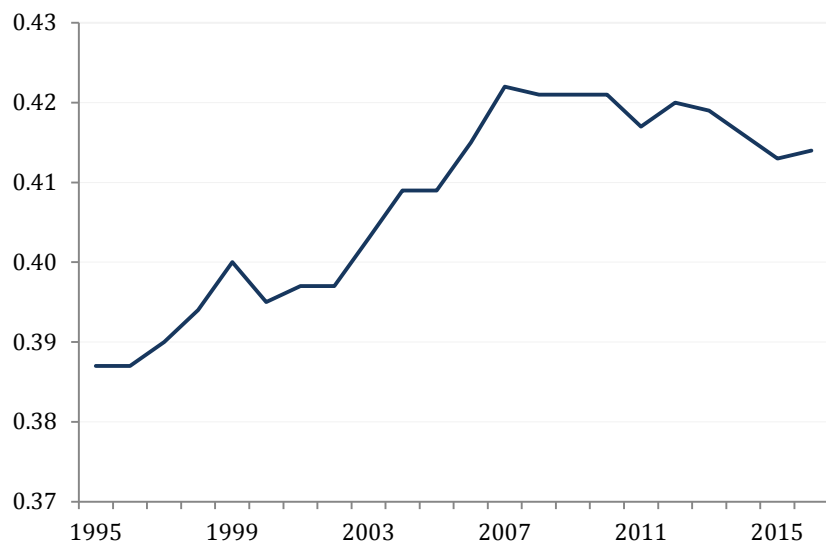
Graph 8



Source: Rosstat

Gini index for Russia, 1995–2016

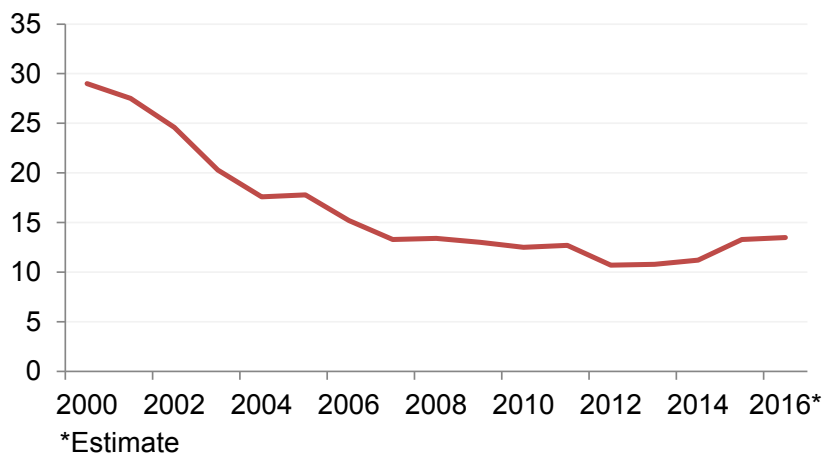
Graph 9



Source: Rosstat.

Share of the Russian population with income below the cost of living, %

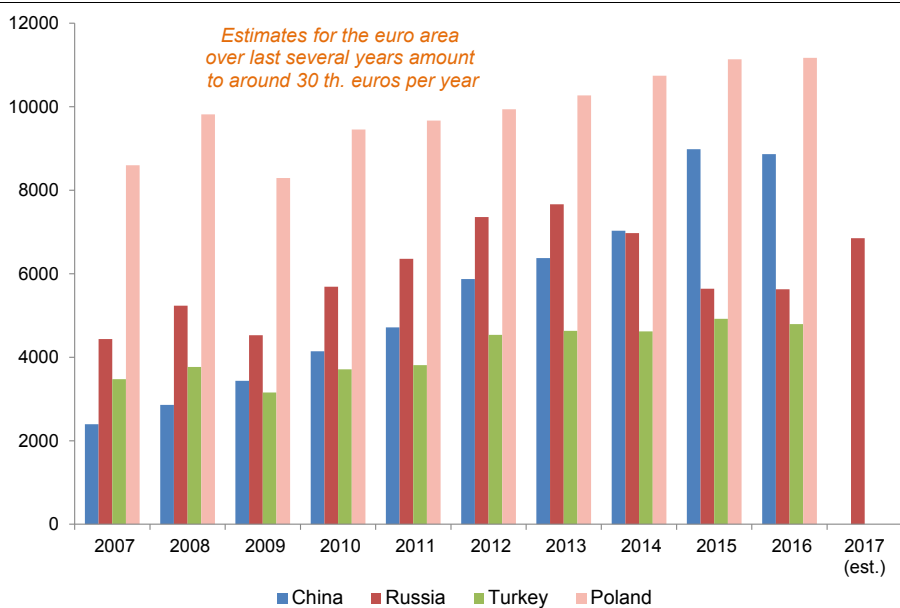
Graph 10



Source: Rosstat.

Average wages in euros

Graph 11

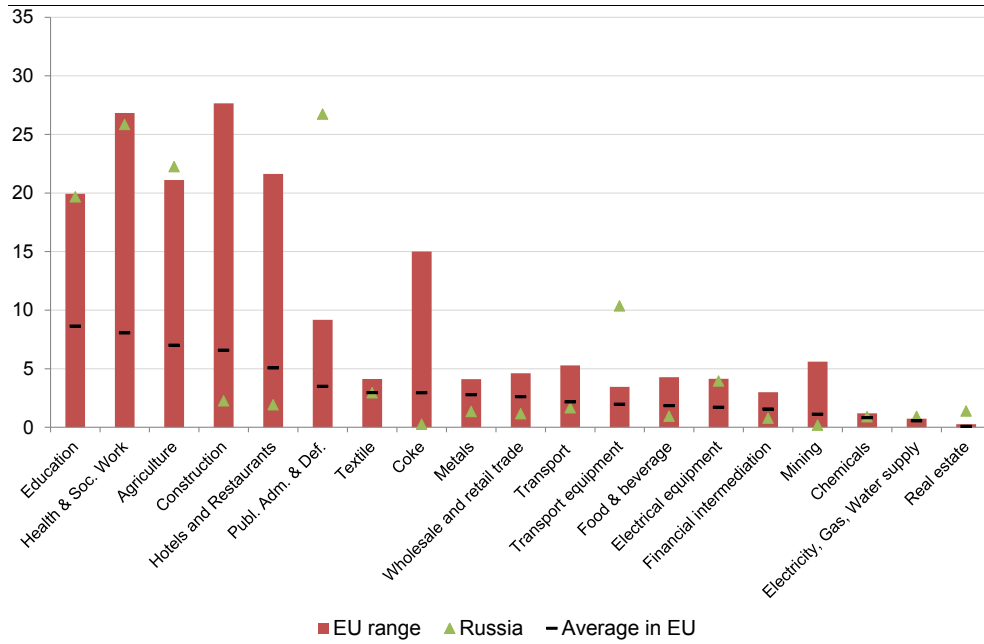


Data are based on statistics for manufacturing industries.

Sources: CEIC, Rosstat; Bank of Russia's calculations.

The ratio of labour cost to the cost of capital services by activity, average for 2011–14

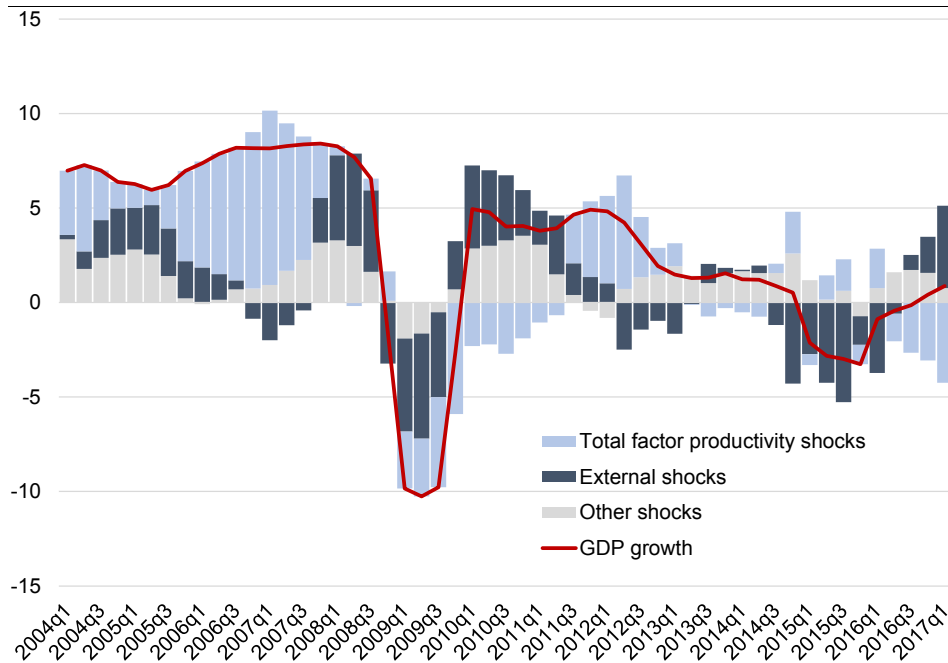
Graph 12



Source: World KLEMS.

Russia's annual GDP growth and its decomposition in the DSGE model of the Russian economy¹

Graph 13



¹ Kreptsev and Seleznev (2016)

Sources: Rosstat; Bank of Russia calculations.