Russian devaluation in 2014-2015: Falling into the abyss or a window of opportunity?

Mironov, Valeriy

ELSEVIER

Russian devaluation in 2014–2015: Falling into the abyss or a window of opportunity? ☆

Valeriy Mironov

National Research University Higher School of Economics, Moscow, Russia

Abstract

Falling oil prices are leading to a reduction in domestic demand and lowering of the ruble exchange rate, thus enhancing the price competitiveness of Russian producers and stimulating the supply side of the economy (especially in foreign markets unaffected by the recession). Indeed, all of this create the possibility of offsetting the decline in domestic demand to a varying degree through increased net exports. However, the present study shows that, taking into account all of the structural problems of the Russian economy, the devaluation of the ruble may lead to a more severe recession than anticipated by most experts in their estimates, judging by average consensus forecasts (as of the end of September 2015).
© 2015 Non-profit partnership "Voprosy Ekonomiki". Hosting by Elsevier B.V. All rights reserved.

1. Introduction. One year after the Russian exchange rate shock: an overall balance of short-term effects

The devaluation of the Russian ruble, which followed falling oil prices and the imposition of financial sanctions in 2014 and 2015,[1] is having a controversial impact on the Russian economy. On the one hand, the reduced inflow of foreign currency

---

[1] Hereinafter, we interpret the term "devaluation" both as a devaluation per se, caused by a sharp decline in the nominal exchange rate of a national currency during the transition from a fixed to a floating exchange rate, and as a depreciation due to its falling nominal exchange rate under conditions of the free floating regime.

2405-4739/© 2015 Non-profit partnership "Voprosy Ekonomiki". Hosting by Elsevier B.V. All rights reserved.

and increasing inflation are causing a reduction in aggregate demand. Moreover, as nearly always occurs during a shock devaluation, existing financial problems have become more acute. In particular, foreign debt payments are becoming more expensive in ruble terms. On the other hand, in the tradable sectors of the economy, prices and expenses are decreasing in currency terms against trading partners under the effect of the ruble devaluation, improving the competitiveness of domestic producers and, consequently, offering potential for growth in the proportion of exports in output and for a reduction in the proportion of imports in domestic demand.

The net impact on the economy, i.e., the balance between the negative impact of falling oil prices and the positive influence of improved competitiveness, is currently unclear. For example, although retail turnover fell by 8.2% y-o-y in January–August 2015, total investment contracted by 6%, and industrial production and GDP declined by 3.2% and 3.5%, respectively. Meanwhile, the decreasing real exchange rate of the ruble is creating nothing more than mere potential economic growth in the future. It would require considerable time and effort to revamp the business models and geographic and sectoral production configurations and to enter foreign markets with new products.

On the whole, according to the Bank of Russia, in January–August 2015 the real effective exchange rate of the ruble dropped by 18.6% y-o-y (Fig. 1), whereas according to our estimates, unit labor costs fell by approximately 27% in currency terms across the industry in general and by 26% in manufacturing over the first half of the year (Fig. 2). In industrial sectors, where output continues to grow despite the general recession (chemicals, food, oil products, non-fuel mining and minerals), unit labor costs have contracted to an even greater extent, and this contraction may prove to be a factor that encourages growth.

The basic indicators of the Russian economy's competitive performance, i.e., the real exchange rate of the ruble and unit labor costs, returned to 2004–2005 levels (see Fig. 1 and Fig. 2), when the explosive growth of oil prices stimulated demand, although this undermined the economy's international competitiveness. The latter was manifested in the strengthening of the real effective exchange rate of the ruble by an annual average of 5% from 2004 to 2013 (equivalent to
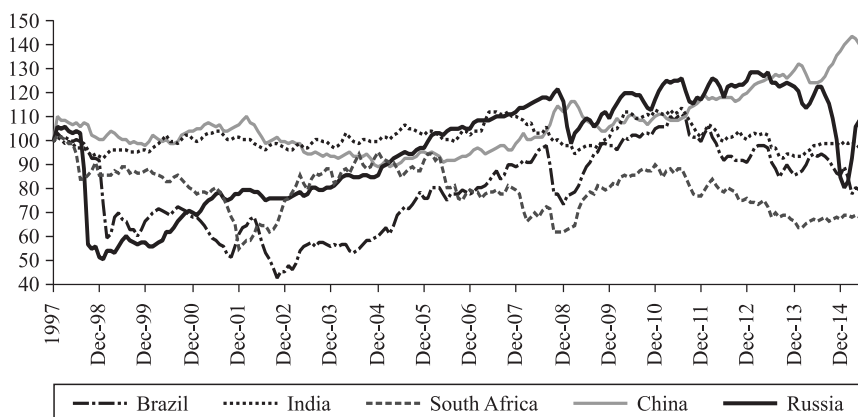

Fig. 1. Real effective exchange rates of the ruble and BRICS currencies from 1998 through August 2015 (1997 = 100%).

Sources: Bank for International Settlements; author's calculations.
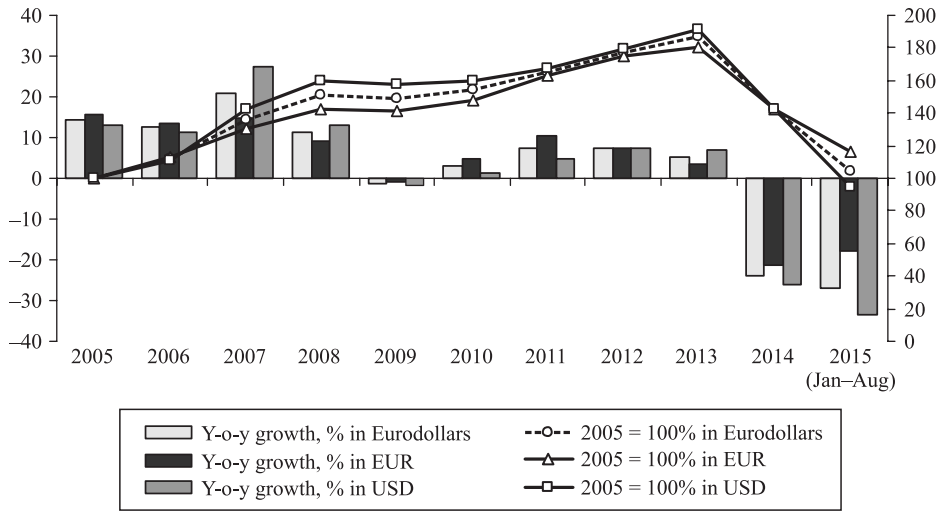
Fig. 2. Unit labor costs (ULC) in currency terms for Russian manufacturing from 2005 through 2015
(the left-hand scale shows the y-o-y growth rate).

Sources: Rosstat; Bank of Russia; author's calculations.

the growth in relative prices for Russian goods in currency terms by the same value). Rising oil prices (accompanied by structural labor scarcity due to low mobility) also led to faster wages increases compared to labor productivity growth and to an increasing ratio of wages to total revenues for the manufacturing industry, from approximately 6% in 2006 to 16–17% currently (Fig. 3).

In the absence of economic overheating in the majority of Russia's trading partner economies, the recent ruble devaluation can be viewed as a type of "foreign exchange war," i.e., a method for spontaneously redistributing demand in favor of the devaluing country. It can also be considered a cure for the Dutch disease, which as many recent papers have proven exists in the Russian economy

Fig. 3. Proportion of wages to value of products shipped (%).

Sources: Rosstat; Bank of Russia; author's calculations.

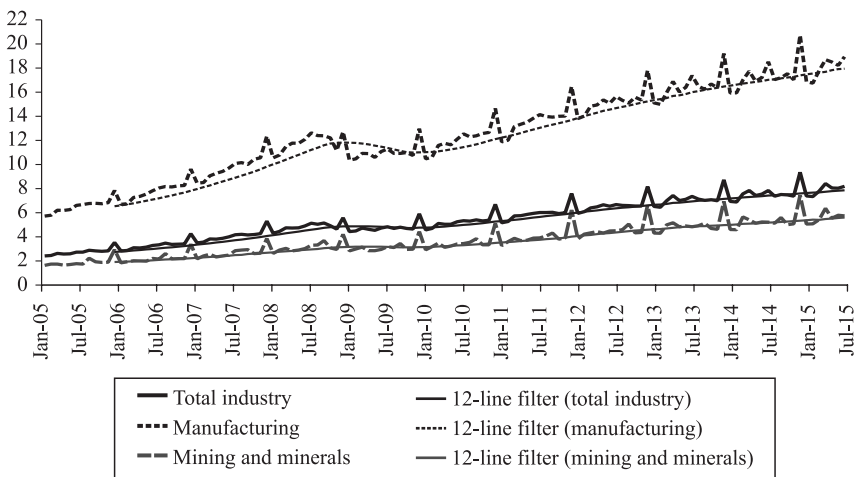(see Dülger et al., 2013; Tabata, 2013; Egert, 2012; Algieri, 2011). Before these papers however, the existence of this phenomenon was largely denied.

Simultaneously, all of the events related to the exchange rate shock are occurring against the backdrop of the ongoing recession in Russia, which has its own specific characteristics. On the one hand, it was caused by the slowdown in economic growth that began in 2011, apparently resulting from structural imbalances. On the other hand however, unlike the crises in 1998 and 2008–2009, this is not a recession of inventories but, to a great extent, a recession of demand (Fig. 4), which may (all other conditions being equal) alleviate it but hinder the process of overcoming it.[2] Against weak investment activity and low household demand, it is devaluation that — provided that a number of conditions are met at the micro and macro levels — is expected to factor into accelerating Russia's economic growth through a greater contribution of net exports to GDP.

There are reasons for these expectations. Attempts to use devaluation as a short-term incentive for economic acceleration are indeed in line with the global experience. Indeed, according to said experience a short-term recovery relies on a very limited number of standard measures involving the positive impact on the psychology and expectations of economic agents, the elimination of government failures
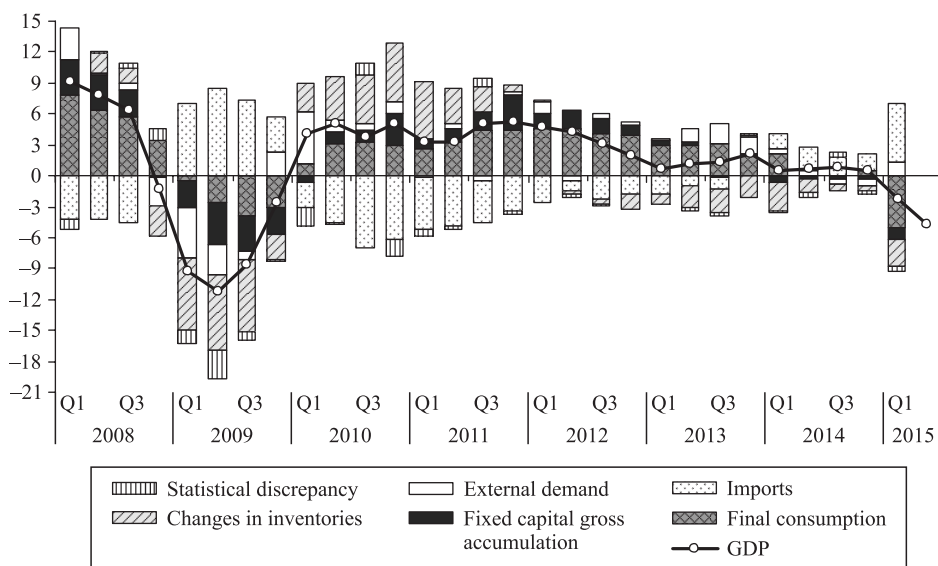
Fig. 4. GDP trends (in increments compared to the respective quarter of the previous year, %) and contributions from components by type of demand (p.p.)

Sources: Rosstat; calculations by the Centre of Development Institute, National Research University Higher School of Economics.

---

[2] During the previous crises in Russia, nearly $^3/_4$ of the total GDP decline was caused by the selling off of surplus inventories accumulated earlier rather than by lower demand per se. For example, according to Rosstat survey data processed by the Institute for Statistical Studies and Economics of Knowledge, National Research University Higher School of Economics, the majority of respondents believed finished product inventories to be excessive in early 2009. According to the same surveys, the current situation is exactly the opposite, which — all other conditions being equal — suggests a potentially less severe recession now than during the previous two crises. However, there is a reverse side: the potential lack of a negative "inventory accelerator" may prevent Russia's traditionally high post-crisis recovery rate (a V-like recession).

(with a "de-bureaucratization" of the economy),[3] and, sometimes, the devaluation of a national currency, giving domestic producers a chance to increase output. This is especially important for resource-based economies, where institutions tend to be weak, corruption is high, and the traditional selective industrial policy is not effective. Meanwhile, devaluation is not selective in its impact on economic agents.

Experts who expect the Russian economy to recover quickly also base their optimism on the fact that, unlike the 1998 and 2008–2009 crises, the recent devaluation of the ruble occurred in two stages (late 2014 and the summer of 2015), whereas the adverse consequences of a protracted devaluation tend to become somewhat milder due to gradual adaptation of the economy to the exchange rate shock.[4] In addition to this, the pre-devaluation weakness of economies typically enhances the positive response of output to devaluation. However, the instability of the financial sector (which is also relevant to the Russian economy today, especially taking into account the sanctions) makes this response considerably weaker (IMF, 2015. Ch. 3).

A question arises as to how the currently unstable situation in the oil and foreign exchange market may affect the Russian economy. Will the decreasing real exchange rate for the ruble and decreasing unit labor costs offer production growth incentives which are sufficiently strong to offset shrinking demand and encourage a speedy recovery from the recession? How can we close the gap in the development of the tradable sectors (industry and agriculture) affected by the Dutch disease? Do they have the potential to increase their output quickly? What can be done to achieve this outcome? Is it achieved through a classical increase in net exports by growing non-commodity exports and import substitution? In addition and given the dependence of Russian exports on commodities that are not very price elastic, is overcoming the recession and the exchange rate shock going to be specific and protracted over time? What type of macroeconomic policy should be pursued in this case?

2. An analysis of the impact of devaluation on macro indicators and output: a literature review

In our opinion, papers that have studied the effects of national currency devaluation on output and other macroeconomic indicators should be considered separately from the sources (which are far less numerous) devoted to analyzing the impact of an undervalued or balanced (after a period of overvaluation) exchange rate on economic growth.[5] As an indicator of the national currency

---

[3] Read more on this matter in, e.g., Rodrik, 2005.

[4] A paper by Bussière et al. (2012), which sums up the experience from devaluations in more than 100 countries between 1960 and 2006, demonstrated that output losses from pre-devaluation slowdowns in the form of trend deviations account for 5% to 7% of GDP in the medium term in the event of a one-time devaluation and approximately 6.3% in the event of a two-stage devaluation of a national currency.

[5] According to some studies involving a large sample of countries, a reduction in the overvalued exchange rate of the national currency (not necessarily shock-like) to below the equilibrium level in developing countries eventually leads to accelerated economic growth. However, this occurs less because of fast-growing exports and rapidly declining imports, as one might expect based on an analogy with devaluations and exchange rate shocks, but more because of an increase in savings and deposits in the national banking system and investments, together with decreasing unemployment (see Gluzmann et al., 2012; Levy-Yeyati and Sturzenegger, 2007). Meanwhile, the authors emphasized the importance of not allowing the country's domestic problems (poor investment climate, political instability, etc.) to drive the increased savings out over the border in the form of capital flight and acquisitions of foreign assets, as occurred in Argentina during the mid-1960s, for example.

undervaluation, these papers have used a specific indicator combining its level in relation to both the purchasing power parity and GDP per capita against its level in developed countries.[6] A negative value for this indicator does not necessarily mean a shock-like fall of the exchange rate, i.e., devaluation, the economic effect of which we consider in this article.

Although devaluation is often considered to be an incentive for economic growth, for a long period of time the scientific literature has shown a more skeptical attitude of the authors towards it, more often attributing any positive effects to instances of devaluation in developed countries (see Gylfason and Schmid, 1983). Cooper (1969) was the first to identify a type of "devaluation pessimism" in his classical paper, where a predominantly descriptive analysis, characteristic of works on the subject in that period, provides a basis for studying the influence of devaluations on aggregate demand (foreign trade balance, budget spending, net tax proceeds) and on the money supply in the economy. The author shows that, although devaluations typically have a positive effect on economic activity, their short-term (year-long) effect was largely restrictive based on his sample of 19 countries that experienced 24 devaluations from 1959 to 1966.

In analyzing data from 43 countries during the period spanning 1953 to 1983, Kamin (1988) extended the horizon of analysis by studying the three years before and the three years after the devaluation. He noted that a sharp slowdown in GDP growth (by 2 p.p.) began a year before the devaluation and continued during the actual year of the devaluation. Following this, over three years, the growth rates were approximately 1 p.p. higher than in the devaluation year, although the GDP did not fully recover during that period. This paper seems to be the first to have discovered a pre-devaluation slowdown in output (see also Bussière et al., 2012).

In their paper, Calvo and Reinhart (2000), based on a descriptive analysis of nearly 100 devaluations between the 1970s and the 1990s, reached the conclusion that, on average, in the first year following a devaluation in developing countries, GDP growth rates dropped by approximately 2 p.p. against the pre-devaluation level and achieved almost no increase during the second year. A number of other works have shown that, very frequently, devaluation does not serve as an efficient tool for growing output in the short and medium term, especially in less developed countries (Krugman and Taylor, 1978; Sheehey, 1986; Mustafa, 2000; Frankel, 2005).

In particular, Krugman and Taylor (1978) provided an explanation that, although the government of any country generally has a theoretically justified opportunity to turn to fiscal and monetary policies to fight the reduction in aggregate demand caused by devaluation and to avoid a recession, governments of less developed countries are not sufficiently flexible to pursue this course of action.

Calvo and Reinhart (2000) noted the following problems, typical of developing countries, related to devaluations and that have a negative effect on the prospects for their recovery after an exchange rate shock:
- sudden stop, when a one-time closure of access to international financial markets has an adverse impact on the economy;
- change in access to global capital markets (degradation of a country's credit rating), with low creditworthiness often becoming a persistent issue;

---

[6] This type of indicator used to be applied by Rodrik (2008).

- high volatility of the real exchange rate, which undermines foreign trade in industrial countries; and
- devaluation of a developing country's currency often causes explosive growth in inflation and a succession of repeated devaluations.

The restrictive effect of devaluations on developing countries may be the result of an increase in prices for the imported equipment due to a sharp decline in the national currency exchange rate. For example, Blecker and Razmi (2007) demonstrate that devaluation of a developing country's currency against those of developed countries is restrictive in terms of output in the short term but is expansionist with respect to the currencies of other developing countries. The increase in prices for the imported equipment may be the reason behind the restrictive impact of devaluations in countries with manufactured export products and the positive effect in countries that export agricultural products (Nunnenkamp and Schweickert, 1990).

In a paper by Domac (1997), which is dedicated to studying currency instability and devaluation in Turkey between 1960 and 1970, the literature review identified four empirical approaches to analyzing the impact of devaluations on output: the use of a control group as basis (enabling a distinction to be drawn between the effect of devaluations on output and the influence of other factors); before and after; a macro model simulation; and an econometric approach. The author illustrated the diversity of empirical approaches to the problem by citing 22 papers, only 6 of which used econometric methods.

In the 21st century, researchers have maintained the intensity of their attention on analyzing the impact of devaluations on output while expanding the range of tools used. Authors often attempt to use modern econometric techniques to evaluate not only the short- and medium-term effects but also the long-term effects of devaluations on output. However, the results have been as controversial as those of previous findings. Studies identified neutral effects of nominal devaluations on output in less developed countries between 1970 and 1990, both short-term and long-term (Bahmani-Oskooee, 1998). Indeed, following this, a number of papers confirmed that; the finding also applied to Asian economies[7] (see Upadhyaya, 1999; Upadhyaya and Upadhyay, 1999; Chou and Chao, 2001). Simultaneously, Upadhyaya (1999) even identified a restrictive impact on output from devaluations in Pakistan and Thailand, the impact having been registered by Christopoulos (2004) in a sample of 11 Asian economies from 1968 to 1999. It was later shown that, over the long-term, devaluations impeded economic growth in Indonesia and Malaysia but encouraged it in the Philippines and Thailand and that Korea's output was neutral to exchange rate changes (Bahmani-Oskooee et al., 2002). As a general conclusion, we can note the controversy between estimates close in time to each other within the same countries. Indeed, this indicates that the results are sensitive to the tools used and highlights the importance of taking this fact into account in further studies regarding the general effects of devaluations on output.

Another conclusion drawn from the analysis of papers written over the past several years is that the results are country-specific. In their work, Gupta et al. (2007) described changes in output caused by 195 cases of devaluation in developing countries from 1970 to 2000. The authors showed that, in 60% of

---

[7] India, Sri Lanka, Malaysia, and the Philippines.

the cases, exchange rate crises restricted output growth but had a positive effect on output in the remaining 40% of devaluations. Kalyoncu et al. (2008) modelled the correlation between real output and real exchange rate, using the model previously proposed by Christopoulos (2004) and co-integration methods to study the long-term impact of national currency devaluations on output in 23 OECD countries from 1985 to 2005, based on quarterly data. They found a clearly defined long-term impact of devaluation on output in nine cases, with six being negative and three being positive. Equally diverse results were produced by analyzing devaluations in 22 African countries based on annual data from 1971 to 2009 (Bahmani-Oskooee and Gelan, 2013).

As the literature reveals, the stimulating effect of devaluations on the economy is heavily based on high export and import elasticities against exchange rate movements and on the devaluing country's macroeconomic policy, ensuring a stable real devaluation, i.e., having an anti-inflationary focus. The failure to meet these two conditions will cause devaluations to be restrictive on output in the best case and destructive in the worst case. Then, before the price-driven stimulating effect of a devaluation is exhausted, GDP will either barely recover to pre-crises levels (and crisis typically accompanies devaluation) or stay below them.

On the whole, empirical studies assessing the aftermath of exchange rate shocks and devaluations, based on data from 1969 to 2015, proved that they often have a restrictive effect on short-term economic growth. This effect may be caused, inter alia, by the fact that devaluation typically leads to a financial crisis, which is manifested through degraded credit ratings. Moreover, it increases uncertainty and undermines investment activity, particularly due to the nearly doubled probability that the heads of financial and economic authorities will be replaced during the first year following the devaluation, in addition to a likely abrupt shift in the political course of the country (see Cooper, 1969; Frankel, 2005; Levy-Yeyati and Sturzenegger, 2007).

Meanwhile, as the analysis of the literature shows, theoretical arguments in favor of the adverse impacts of devaluation on economic growth are linked: *first,* to the effect from redistributing income from economic agents with a high propensity to consume to agents with a low propensity, thereby leading to a decline in aggregate demand and output (see, e.g., Diaz-Alejandro, 1963); *second,* to the effect of accelerating inflation, where a nominal devaluation may cause a reduction in aggregate demand due to uncontrolled price growth (Frankel, 2005); and *third,* to low export and import price elasticity, where the balance of trade, expressed in the national currency, may decrease, causing a recession (Blank et al., 2006; Kalyoncu et al., 2008). In the latter case, the government of a country where the national currency devaluation is probable may show pessimism with respect to its potential consequences and show a desire to postpone it; in developing countries, this pessimism is often justified.

Fourth, in addition to the negative impacts on demand, devaluations may have an adverse effect on supply due to the appreciation of imported intermediate goods, increases in real interest rates, and increases in wages caused by the accelerating inflation. Krugman and Taylor (1978) focused on this aspect in their well-known work, where they were the first to study the conditions under which devaluations have no stimulating effect on GDP, as had been asserted in most papers during the 1970s and 1980s.

3. Income redistribution and a low propensity to invest as factors in the negative impact of devaluation on output

One of the theoretical arguments in favor of the negative impacts of devaluations on output is the redistribution of income from employees to the owners of production factors, i.e., from labor to capital. Considering that employees typically have a higher propensity to consume than owners of capital goods, devaluation may result in reduced consumption and lower aggregate demand (Diaz-Alejandro, 1963; Bahmani-Oskooee and Hajilee, 2014).

An analysis of the current crisis and its comparison with the situation in 2008 and 2009 shows that the redistribution of income is not as clearly defined in 2015 as it was during the previous crisis because the ratio of wages to total output is not decreasing. From this perspective, the current crisis differs substantially from the 2008–2009 crisis. Then, the number of people employed in the industrial sector dropped by nearly 10% y-o-y, causing a reduction in the ratio of wages to total output. Today, however, the decrease has not exceeded 2%.

Thus, can we conclude that the employment reserves have been exhausted or that we have returned to the situation — normal for many countries — in which employee redundancies are the last to be made during a recession? In any case, as the falling exchange rate for the ruble significantly contributes to the reduction of unit labor costs in currency terms, enterprises still refrain from "internal devaluation," i.e., engaging in mass redundancies and/or abruptly slow down the growth of wages in nominal terms relative to the growing shipments. Unlike 2009, when the ratio of wages to total products shipped by the industry evened out after many years of growth and even contracted substantially in the manufacturing sector for some time, today the ratio is still growing steadily, albeit slowly (see Fig. 3).

A distinctive feature of the current situation in Russia is the noticeable growth in pre-tax profits in 2015, which appears paradoxical, given the stable ratio of wages to total output in the industrial sectors. Apparently, the revaluation of exporter accounts in currency terms may have had its effect, as may the decrease in prices for electricity and gas for industrial consumers by half in currency terms in 2015, which made them the cheapest in the world, at least among the major economies. According to Rosstat, pre-tax profits grew by 40% in nominal terms in the industrial sector in the January–July 2015 period compared to the same period last year, i.e., from RUB 4,170 billion to RUB 5,730 billion. As a result, according to our estimates, the profit margin on shipments (the ratio of pre-tax profit to goods shipped) increased to 13.3% during the first half of 2015 compared to 9.7% during the same period in 2014. Simultaneously, the potential for a scenario based on recovered growth in investments due to self-financing by enterprises seems to be suggested by the fact that, in early 2015, due to the devaluation, profit margins on shipments in the manufacturing industry approached the interest rate on bank loans (Fig. 5).

However, the increasing profits and sales margins notwithstanding, investment growth is not accelerating. On the contrary, our estimates show that, during the second quarter of 2015, falling investment rates by large and medium companies increased roughly fivefold y-o-y, from 2% in the first quarter of 2015 to nearly 11%. In agriculture and manufacturing, where there seems to be hope for import substitution, investments fell by more than 5% and 8%, respectively, y-o-y in real terms during the second quarter (following a positive increment in the first quarter).
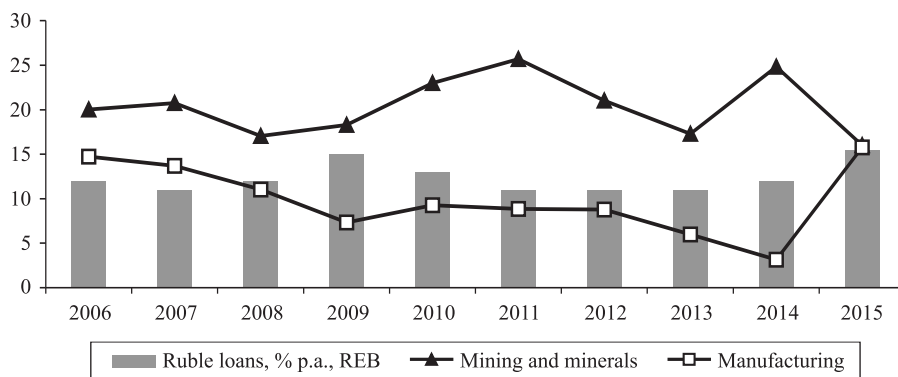
Fig. 5. Profit margin on shipments in industrial sectors and ruble lending rates
for industrial borrowers (%).

Note: 2015 — 1st half of the year.
Sources: CEIC Data; Russian Economic Barometer (REB); author's calculations.

Simultaneously, the propensity to invest, i.e., the ratio of nominal investments to pre-tax profit (see Table), has dropped sharply in most sectors of the economy: from 200% over the period spanning 2013–2014 to 50% in the first half of 2015 across the economy in general; from nearly 100% to 67% in mining and minerals; from 43% to 6% in commerce, etc. Does this drop mean that profits are being allocated elsewhere rather than for investments, accumulating in corporate reserve funds? This is not necessarily the case, particularly given the fact that it could have been the source of funds which were used (at least partly) to repay foreign debts of Russian companies. According to our estimates, the increase in nominal pre-tax profits in 2015, less the nominal increase in investments in fixed capital, is close to the amount repaid by Russian companies on their debts in foreign currencies (according to the payment schedules on the Bank of Russia website) in their current ruble equivalent.

The deterioration of companies' financial condition due to heavier debt payment burdens in foreign currencies is typical for post-devaluation periods and negatively affects output in the short run.[8] For example, unlike the effect produced by transferring a devaluation to prices (the pass-through effect), its influence on the economies of devaluing countries has not diminished over the past few decades and remains very significant (see Frankel, 2005). In 2015, in Russia, the post-devaluation syndrome of "financial starvation" is particularly manifested in a considerably greater reduction in the foreign currency debts of companies in the real sector than during the devaluation in 2008 and 2009. Possible explanations include the more abrupt drop in the foreign exchange rate and the increased risks caused by the ruble's free float, in addition to the financial sanctions, which are hindering debt refinancing and forcing companies, for debt repayment, to use their own foreign currency reserves or to borrow from the Bank of Russia. According to the Bank of Russia, since its peak in July 2014, the total foreign currency debt of Russian companies, banks and the state has decreased by nearly USD 177 billion to approximately USD 556.2 billion at the beginning of July 2015. In the banking sector, it dropped by USD 60 billion and in the non-financial sector — by USD 89 billion. Between

---

[8] Apparently, this phenomenon was first noted by Gylfason and Risager (1984).

Table. Ratio of nominal investments in fixed capital to pre-tax profit over the period (%).

	2003	2007	2009	2010	2011	2012	2013	2014	2015 Q1	Q2
Total economy	150	117	183	151	152	163	207	229	62	41
Agriculture	−1261	366	559	421	441	376	694	274	74	59
Mining and minerals	178	103	125	92	77	101	117	82	71	46
Manufacturing	98	57	117	76	75	81	126	229	39	25
chemicals	189	96	194	79	66	77	149	1505	36	25
metallurgy	38	32	108	50	65	73	106	98	13	10
machinery and equipment	152	162	151	155	133	128	179	492	169	100
electrical equipment, electronic and optical equipment	59	92	141	67	70	89	100	87	88	31
transport vehicles and equipment	120	−453	−104	748	133	155	215	−1574	127	71
Heat and power	261	389	311	221	843	579	919	719	86	99
Wholesale and retail trade	26	29	22	26	17	25	28	43	7	5
Transportation and communication	221	226	375	325	405	360	421	996	153	90

Sources: Rosstat; CEIC Data; authors' calculations.

July 1, 2008, and April 1, 2009, foreign currency debt decreased by USD 89 billion, USD 46 billion, and USD 34 billion, respectively. Thus, the outflow of foreign currency resources from the economy turned out to be nearly USD 90 billion higher than during the previous exchange rate shock.

4. The threat of a devaluation-inflation spiral and macroeconomic policy in the aftermath of a foreign exchange crisis

In the economic literature, the impact of devaluations on GDP growth (apart from the effects of income redistribution between labor and capital owners described in the previous section) is analyzed in terms of a number of other micro- and macroeconomic effects. Although the effect of devaluations at the micro level is viewed in the context of meeting the Marshall-Lerner condition, i.e., a certain ratio of export and import price elasticity (detailed below), at the macro level, it is considered to be based on meeting two other important economic policy principles. Indeed, in order to meet these principles, it is necessary to pay special attention to anti-inflationary measures and measures for improving the investment attractiveness of the economy.

By following these principles, inflation can be kept relatively low after a devaluation (compared to the dynamics of nominal foreign exchange rate) for long periods of time, making the real devaluation stable and effective, i.e., sufficient for the real sector to increase exports and substitute imports (Kataranova, 2010). Moreover, to sustain a positive impact of devaluation on output at the macro level, it is important to ensure its positive effect on the inflow of capital, particularly because the nominal GDP, which grows during a period of devaluation while spurring demand for money, encourages an increase in interest rates and, consequently (all other conditions being equal), the inflow of foreign capital and an improved balance of payments in general.

Given that meeting the latter condition poses a problem due to the financial sanctions, another condition is gaining in importance, according to which the increase in nominal output must exceed the increase in the so-called "absorption," i.e., aggregate domestic spending (consumption by households, investments, and government spending). Indeed, this allows inflation to be kept stable and the trade balance to eventually improve. This result is possible if devaluation occurs when the output gap of the economy approaches zero, i.e., when production factors are fully loaded. If there is underutilized production capacity, then domestic output and absorption may grow at the same rate.

In our opinion, given the current state of the Russian economy, in terms of production capacity load, one must apply more stringent conditions, i.e., follow from the assumption of non-existent idle production factors. Indeed, although the data on production capacity utilization in the industrial sector suggest a cyclical decline, the data on workforce utilization do not support this hypothesis. In other words, on the one hand, according to our calculations, taking into account the selected data published by Rosstat regarding capacity utilization for 59 types of products in 2013, the weighted average level in the industry[9] in this sample was only 74%, whereas in 2014 and 2015, the cumulative output in the industry was negative.[10] On the other hand, however, with actual unemployment at 5.3% in the summer of 2015 and taking into account that the full employment indicator is roughly the same for the Russian economy (Goryunov et al., 2015), there does not seem to be many unused production factors in the labor market.

Fig. 6 shows that the output follows the principle of not exceeding absorption, which provides for accelerated growth in the foreign trade balance in nominal terms and enables inflation control. The Russian government's tight macroeconomic policy, although not saving the economy from recession, helped stabilize the situation: in 2015, government spending stagnated in real terms, whereas household spending and investments decreased faster than industrial output. However, the rates of production decline slowed down sharply by mid-summer compared to the same period of the previous year (Fig. 7) or approached zero in seasonally adjusted form.

However, judging by the countries that have experienced monetary and financial crises, a tight macroeconomic policy is a necessary but insufficient condition in order to overcome the consequences of a crisis regarding output and remove the threat of degradation from recession to depression. To overcome the recession as quickly as possible, in addition to having a tight fiscal and budgetary policy and targeting aggregate spending (based on the principle of output not exceeding absorption), another important aspect is a relevant monetary policy.

On the one hand, due to high inflation (as measured by global standards) in the 2000s, which dramatically lowered the competitiveness of Russian products and predetermined devaluation, Russia's monetary authorities declared

---

[9] The calculation was based on the share of production for each of the 59 separate types of goods in the added value of total industry.

[10] Simultaneously, according to Rosstat's data for 2013, out of the 59 types of products, the utilization of production capacity was below 85% (which can be considered as the full load) for 55 of them, whereas for 22, it was even below 50%. However, according to our estimates, the overall share of all 59 types of products for which data are available is only approximately 27% of the aggregate added value in the industry, whereas the proportion of products for which the utilization is below 85% does not exceed 15%. Thus, the assertion regarding low capacity utilization in the industrial sector can only be considered a hypothesis requiring further verification.
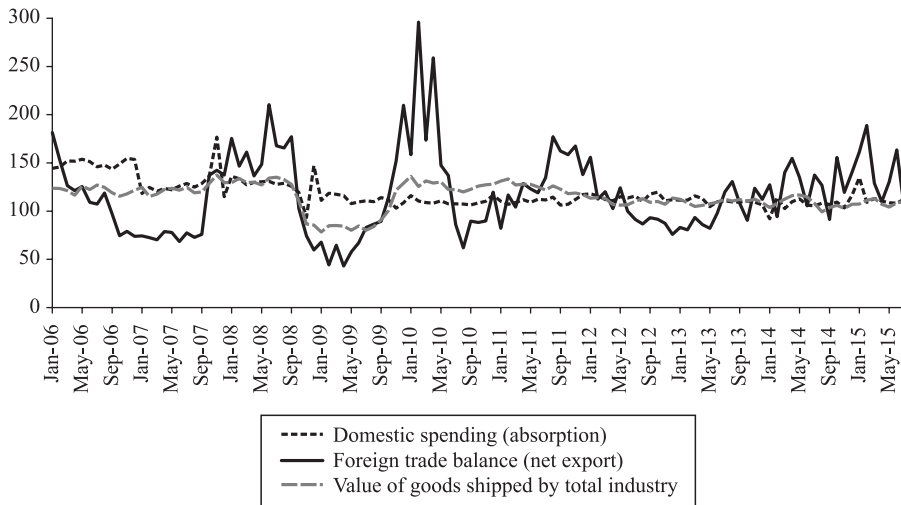
Fig. 6. Nominal output, domestic spending (absorption), and foreign trade balance, from January 2006 through July 2015 (in ruble terms, y-o-y growth rate, %).

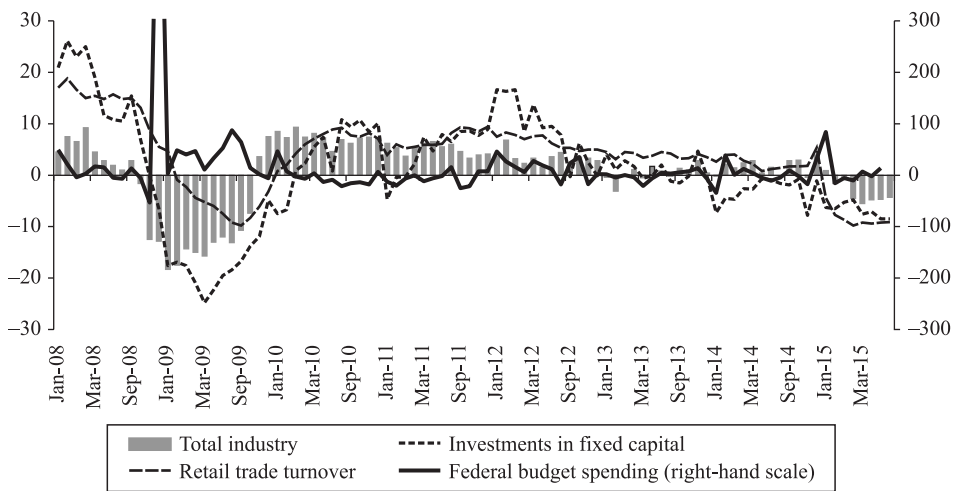*Sources:* CEIC Data; author's calculations.

Fig. 7. Output and domestic demand in real terms from January 2008 through August 2015 (y-o-y growth rate, %).

Source: CEIC Data.

a transition from targeting the foreign exchange rate to targeting inflation and the free floating ruble rate regime to curb the distorting impact of the focused exchange-rate policy on inflation. On the other hand, in the resource-based Russian economy, many predict a near future reduction in the inflow of foreign currency, meaning that it could well approach zero relative to GDP (while the noticeable capital flight will remain). However, this notion is pregnant with increased volatility on the foreign exchange market, as demonstrated by the situation from the second half of 2013 to mid-2015. Indeed, macroeconomic volatility is viewed by many experts as the main negative manifestation of the resource curse for the real sector of resource-based economies, even under relatively stable condi-

tions (see, in particular, van der Ploeg, 2011). In light of this, the question seems to be, is it possible to combine inflation targeting and a quick economic rebound under conditions of high volatility in the Russian economy?

In our opinion, during a transition to inflation targeting within a resource-based economy, it is also necessary to consider that targeting the consumer price index (CPI), including imported goods prices, will enhance the pro-cyclicality immanently inherent in an economy of such type. In this case, the Bank of Russia will be forced to pursue a tighter monetary policy, i.e., to raise the key rate, while companies in the real sector will especially be in need of a lower key rate, given that it is highly likely that the economy will be in recession at that moment. The problem is that accelerating inflation and, consequently, an increase in the key rate by the Bank of Russia can be expected in the event of an abrupt worsening of trade conditions, i.e., lower global oil prices. Following oil prices, the ruble exchange rate will also drop, with a rise in imported goods prices, whose share in the consumer basket is high due to the Dutch disease of the Russian economy. Consequently, consumer inflation will increase, followed by interest rates. Thus, the real sector will be hit by a double negative effect from falling oil revenues and from the monetary restrictions introduced by monetary authorities to target consumer inflation (Fig. 8).

The economic literature states that, for resource-based economies, there is no universal foreign exchange regime or monetary policy approach that will fit all countries (Frankel, 2012). Consequently, inflation targeting may be used by monetary authorities in such economies, but only if they take into account that both the government's policy (fiscal and monetary) and private capital influx have a tendency towards more pro-cyclicality in resource-endowed countries (van der Ploeg and Venables, 2012). Simultaneously, CPI targeting, a standard for commodity-based economies, only makes it worse.
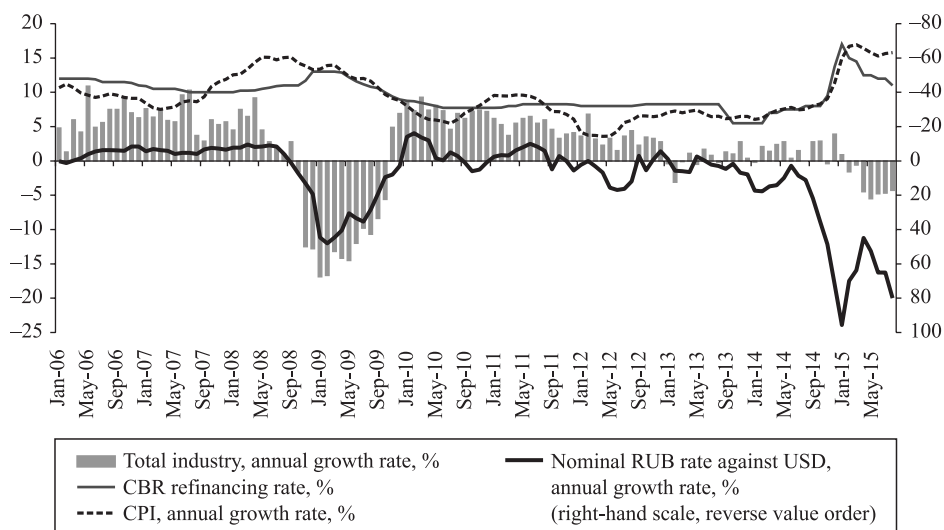

Fig. 8. Industry and monetary policy indicators from January 2006 through August 2015.

Note. The refinancing rate line on the graph beginning September 2013 is represented by the key rate of the Bank of Russia.

Sources: Rosstat; Bank of Russia; author's calculations.

So, what can be done to overcome this situation? First, we can consider replacing CPI targeting with the quantitative regulation of another price aggregate, not including the price component of imported goods. Such an aggregate may be represented, for example, by the producer price index (PPI); however, this index would require Rosstat to restructure its activities because, unlike the CPI, it is calculated monthly rather than weekly, which will strongly reduce the promptness and efficiency of monetary policy measures.

Second, the Bank of Russia could continue targeting the CPI, and mandatory budgetary interventions may be used to eliminate the pro-cyclicality factor. This would require the automatically linking of the key rate increase and the inclusion of some automatic economic stabilizers based on, for example, reducing rates for the most important taxes or increasing government procurement. Here, we could build on the experience of South Africa, where in the first half of the 2000s, the monetary policy targeted the improvement of confidence among economic agents by emphasizing targets of decreasing and stabilizing inflation, while the task of stabilizing output was assigned to the ministry of finance (Frankel et al., 2008). However, opportunities for the government to support the manufacturing industry will only remain if there are state-funded reserve funds, which should be preserved over a long period for guaranteed budget compensation to the real sector, in the event that there are consequences from intervention by the Bank of Russia to stabilize inflation.

Moreover, and as noted in the literature, inflation targeting is a process of maintaining a stable low level of inflation that has already been reduced, whereas reducing inflation (disinflation) is a completely different process that requires other methods. Low inflation is often regarded as a prerequisite for inflation targeting due to the "complexity of forecasting inflation and achieving inflation targets under conditions of high inflation volatility" (Hammond, 2012). Simultaneously, global experience argues that a floating exchange rate is an attribute for targeting an already low inflation, while at the stage of reducing inflation to a target level, a floating rate may be unacceptable, given that it will complicate disinflation, especially in a resource-based economy because frequent and unpredictable changes in commodity prices will lead to exchange rate and inflation upsurges. Thus, for the current state of the Russian economy, which is going through a period of disinflation, a free floating exchange rate may be far from the optimal policy regime.

5. On the subject of devaluation pessimism and the impact of devaluations on output

In developing countries, authorities very often exhibit so-called "devaluation pessimism" when, fearing the adverse impacts of a national currency devaluation on the economic situation, they try different means to prevent an exchange rate from collapsing, thus postponing an inevitable wreck. The reasons for this pessimism are not only the usual political and economic consequences of the exchange rate shock but also the weak response of exports and imports to changes in relative prices, i.e., their low price elasticity. In the standard case (under stable foreign trade conditions), devaluation is considered effective, i.e., it improves the trade balance if, under a zero trade balance, the export and import price elasticities are more than one in absolute terms (the Marshall-Lerner condition). Therefore, the devaluation pessimism of authorities is also called "elasticity pessimism."

In Russia's case, the effect of devaluation on the trade balance in ruble terms is defined, in addition to the exchange rate, by trading conditions (by oil prices), which have become twice as bad. However, although, in the first half of 2015, Russia's commodity exports decreased by almost 30% and imports by approximately 40% in currency terms, the nominal net exports in ruble terms, taking into account the devaluation factor, increased by at least 40% (the average RUB-USD rate changed from 34.7 to 57 rubles per US dollar over the same period), which, undoubtedly, should encourage GDP growth. Nevertheless, this factor alone does not provide a way out of the recession in the near future because the share of net exports in the GDP is not large (below 10%), and the deflator is high (due to the significant appreciation of imported goods).

In quantitative terms, the extent of impact from growing exports and imports on GDP following a devaluation is known to be defined, on one hand, by their price elasticity and, on the other hand, by the presence of the so-called J-curve, i.e., a lag in the growth in exports due to the need for producers to adapt to new conditions and new markets. To calculate Russia's export and import price elasticities, we used quarterly data provided by the OECD on national accounts with seasonal factors removed for the period from 1995 to 2014, in addition to data provided by the Bank for International Settlements (BIS) regarding trends in the nominal and real effective exchange rates of the national currency (Fig. 9). Elasticity was calculated in normalized first-order differences, i.e., in growth rates against the previous quarter.[11]

Although the calculations showed that the Marshall-Lerner condition was not met, given the trends in the physical volumes of exports and imports (the sum of the price elasticities is less than 1.0 and equals 0.6 in absolute value), there should be no elasticity pessimism in Russia. Indeed, this is because, under conditions of a positive foreign
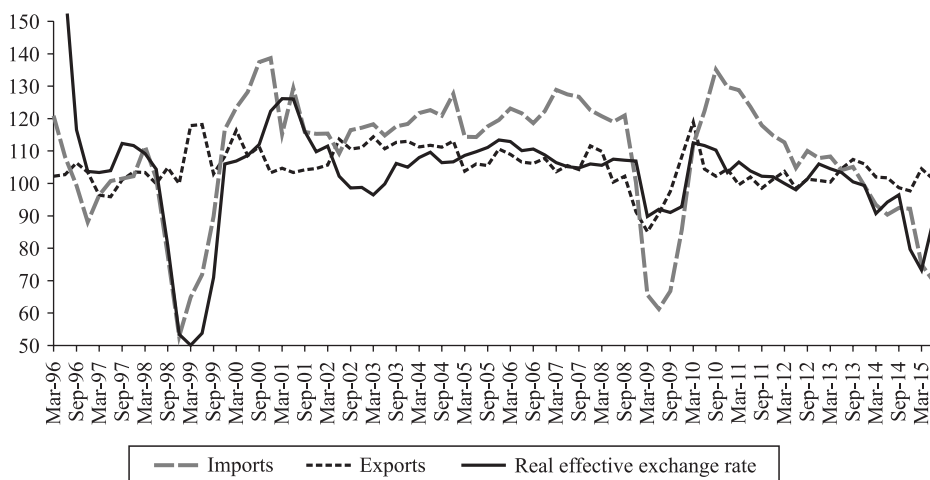
Fig. 9. Real effective exchange rate of the Russian ruble, physical imports and exports, 1996Q1 — 2015Q2 (on a quarterly basis, y-o-y, %).

Sources: CEIC Data; BIS; author's calculations.

---

[11] Testing the data in absolute levels demonstrated their non-stationary nature and, simultaneously, their lack of co-integration.

trade balance before the devaluation, the influence of net exports on GDP growth will also be positive after this; moreover, in the event of a decreasing real effective exchange rate by an annual average of 20% in 2015, it can be estimated at roughly 3.5 p.p. of GDP in annual terms. The implication is that the changes in 2015 rate account for approximately half of the actual positive contribution of net exports to GDP (approximately 7 p.p. in the first half of 2015, according to our estimates).

Simultaneously, during the first half of 2015, exports in physical volumes increased by approximately 3% y-o-y, which, although pointing to a very prompt response by exports to the devaluation, is considerably lower than the increase observed in Russia after the devaluations in 1998 and 2008–2009.[12] Meanwhile, to date, there is no noticeable growth in Russia's manufacturing goods exports,[13] and the dominant raw materials in Russia's exports prevent growth in net exports from ensuring an economic rebound.

The considerable excess of bank loan rates over profit margins for both shipments[14] and assets[15] served as a significant factor in the slowdown of economic growth before the crisis. For this reason, the potential positive effects of the devaluation on export profit margins and import substitution activities are difficult to overestimate, especially considering the increase in lending rates in 2015 to at least 16% p.a. (on ruble loans, according to REB) and the financial sanctions.

Our calculations based on Rosstat data show that the devaluation is having a positive impact on export margins in currency terms across most segments of the manufacturing industry (Fig. 10), given that the proportion of imports in total costs did not exceed 9% on average across the manufacturing industry before the devaluation. Following from a 50% drop in the nominal ruble exchange rate, in the best-case scenario, i.e., in the event that costs formed in Russia are cut in half in currency terms (and the simultaneous doubling in currency terms of expenses for imported commodities, materials and components), we may observe an increase in profit margins for exported goods in currency terms by 38 p.p. on average across the manufacturing sector (from 8.8% in January-September 2014 to 47% after the devaluation). This conclusion follows on from the calculations based on the data from Rosstat statistical Form 5-z, given the hypothetical assumption of the full mutual replaceability of Russian and foreign products and equality between domestic and foreign prices and sales in currency terms before and after the devaluation. The number of products with a negative profit margin on export markets before and after the devaluation drops sharply from 36 (the top and bottom left-hand quadrants on Fig. 10) to 3 (the bottom two quadrants on Fig. 10).

---

[12] It was noted in the World Economic Outlook (IMF, 2015) that in 1998, Russia experienced a pronounced positive response in real exports to the ruble exchange rate depreciation, which is not typical for a strong devaluation accompanied by a banking crisis. In the standard case, exports hardly grow under such conditions .

[13] An analysis of the Federal Customs Service data shows that during the first half of 2015, physical exports increased for 20 products y-o-y. Simultaneously, 5 products demonstrated growth in both physical and value terms, with most being raw materials goods: refined copper, raw aluminum, potassium-based fertilizers. In addition, we can also name coke and electricity.

[14] Our calculations based on Rosstat data show that profit margins of shipments were 8.6% across the industrial sector, nearly 24.8% in mining and minerals, 3.1% in manufacturing, and 3.7% in the production and distribution of electricity, gas and water in 2014.

[15] In 2014, profit margins on assets were 2.3% in Russia's manufacturing industry (against 4.9% in 2013), 14.6% (12.7%) in mining and minerals, and 1.4% (1.3%) in the production and distribution of electricity, gas and water (based on Rosstat data).
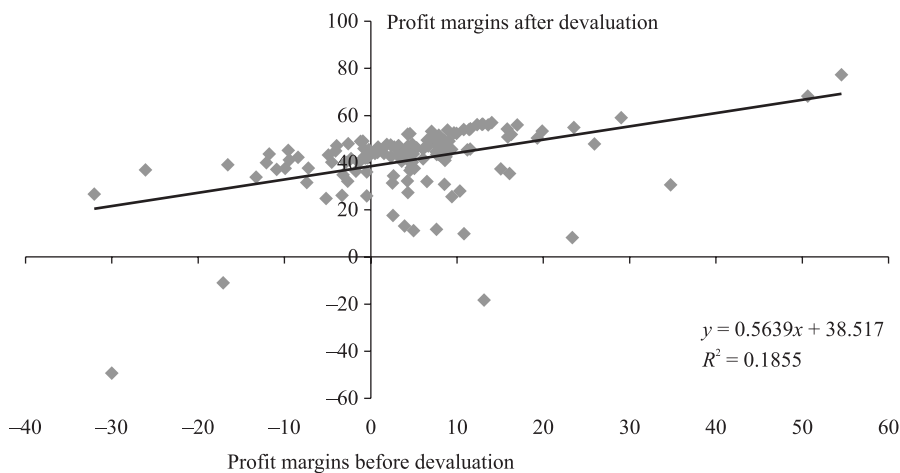
Fig. 10. Profit margins on sales before (January–September 2014) and after the devaluation
in industrial sectors recorded by Rosstat in Form 5-z (%).

Sources: Rosstat; author's calculations.

From the perspective of the needs of the real sector of the economy, the level of the ruble's foreign exchange rate as of September 2015 may be classed as "equilibrium" because it ensures positive profit margins for exports in an absolute majority of manufacturing segments and decreases the need for selective government support. In three sectors, the proportion of imports is over 50% of the costs, and the profit margin of exports is negative even under the two-time ruble devaluation: these include producers of devices for receiving, recording and reproducing sounds and images, producers of pesticides and other agrochemical products, and producers of machinery and equipment for agriculture and forestry. However, one should not forget that, even with this type of growth in export profit margins and a small number of those negatively affected by the appreciation of imported raw materials and components, the real positive effect of the devaluation on output is not significant, given that the share of manufactured goods in overall Russian exports is low (approximately 10%) and increasing it will require investments and time.

Speaking of the positive impact of devaluations on import substitution, one should bear in mind that the exchange rate shock is accompanied by increased inflation and lower purchasing power for households and enterprises, which partly offsets the positive result of the growing price competitiveness of Russian producers in the domestic market. The strong devaluation incentive notwithstanding, only four major industrial sectors increased their output in January–August 2015 compared with the same period last year. Regarding minor segments, accelerated growth rates (over 3% y-o-y) were calculated for 14 segments. In 8 of them (out of approximately 100 identified at this classification level) Russian producers competed with imports, whereas the rest were oriented towards exports. This finding suggests that the growth rate in manufacturing exports and import substitution remains somewhat low. It is important to sustain the positive contribution of net exports, whose upward momentum typically disappears after devaluation in Russia (see Fig. 9) with an increase in investment, which began to contract even before the crisis. Consequently, the reasons for their slowdown are not only

caused by devaluation. The recovery process for personal income and household consumption, which has a share in the GDP approximately 2.5 times greater than that of investments, will not be fast and should follow an improvement in the economic conjuncture as a whole and the restructuring of production. At least earlier in the Russian economy, judging by our calculations,[16] it was GDP growth that "led" personal consumption, not vice versa (although the trajectories of these indicators are very similar).

6. Structural problems as a factor in the Russian devaluation of 2014 and 2015

The clearly visible slowdown in the Russian economy, even with a stable global oil prices from 2011 to 2013, may have been caused by structural problems. This type of slowdown, according to the facts described above, could have been a type of leading indicator, predicting, with a 1–2 year lag, the devaluation of the national currency and the ensuing additional slowdown in economic growth rates by approximately 2 p.p. against the pre-devaluation level. Thus, the slowdown of Russia's GDP in 2013, when the growth rate decreased to 1.3% compared to 3.4% and 4.3% in the previous two years, could have been a type of leading indicator of devaluation, which, in a certain form, would have occurred regardless of the falling oil prices and financial and other sanctions. In principle, there could have been no recession in Russia in the event of stable oil prices because the drop in GDP during the devaluation year is half as probable as its growth in general (Bussière et al., 2012). This phenomenon makes economic growth even more probable in the year following the exchange rate shock. Another argument in favor of the hypothesis concerning structural and institutional causes behind the Russian economic slowdown is that, in other resource-based countries with a floating exchange rate, where the rate is not artificially fixed (unlike many countries in the Middle East), after the sharp decline in oil prices in 2014, the nominal and real effective exchange rates experienced a much smaller decrease than they did in Russia.[17]

In our opinion, given lower oil prices, the rates of Russia's GDP growth can hardly recover without accelerating the manufacturing industry because the services sector, which was the main contributor to growth in the Russian economy in the 2000s, has lost its "feed" from oil-and-gas business rent for a long time to come (if not forever) and thus will find it hard to remain an independent factor in economic growth (Fig. 11). In any case, for Russia, endowed with natural resources, it is their deep processing and the development of the complementary services sector that appear to be suitable areas for diversifying the economy, increasing demand for innovations and removing resource dependence.

However, restoring the competitive strength of the manufacturing industry is far from simple. Although the latter developed rapidly during the first half of the 2000s after a failure in the 1990s, it began to show clear signs of slow-

---

[16] In particular, this finding is based on the Granger causality test that we ran.

[17] For example, according to the Bank for International Settlements, in 2015, the nominal effective exchange rate of the Russian ruble fell by 39.4% and the real effective exchange rate by 29.4% against June 2014, whereas the same indicators in Australia, Norway and Mexico were −13.7%, −16.5% and −16%; and −11.7%, −11.8% and −14.1%, respectively.
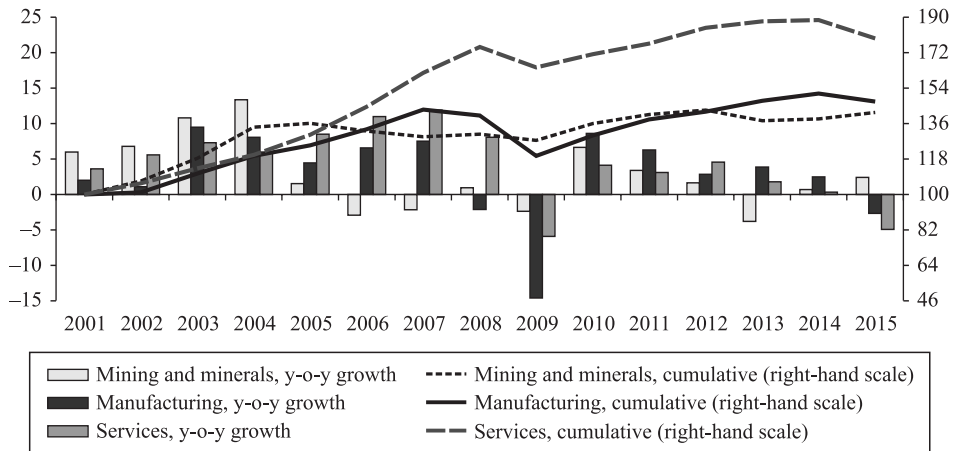
Fig. 11. Dynamics of output in the sectors of the Russian economy from 2001 to the first half of 2015.

Sources: Rosstat; author's calculations.

ing down after the 2008–2009 crisis. The 2015 data provide new evidence of deindustrialization. Whereas the entire industrial production declined by 3.2% y-o-y in January–August 2015 and the extracting industry and power sector preserved almost all of their output (growth rates of 0.1% and –0.3%, respectively), production decreased by 4.5% in the manufacturing industry.

It is sometimes said that the resource curse and accelerated deindustrialization, i.e., the Dutch disease, actually mean a transition of the economy from one equilibrium to another (Graham, 1995). We could agree with this proposition if an export boom was indefinite. However, that is not the case. In reality, the beginning of an export boom is accompanied by one set of problems (deindustrialization of the economy and degradation of agriculture), whereas its ending is accompanied by another, in particular the inability to quickly restore the degraded manufacturing and agricultural industries due to technological backwardness, while the contribution to economic growth from the resource sector contracts dramatically. Thus, the economic backwardness can be fixed for a long period of time, even despite the considerable amount of natural resources (Sheng, 2011).

As shown long before the current crisis, based on a calculation of the long-term co-integration ratio for the Russian economy, a 1% increase in oil prices leads to 0.175 p.p. increase in Russia's GDP (Algieri, 2011). As is presumed in these calculations, the positive influence on GDP of increasing oil prices due to growing demand outbalances the negative impact on the economy due to the strengthening real ruble exchange rate and the decreasing competitiveness of the manufacturing industry. By assuming the symmetrical nature of the response of macro indicators to changes in oil prices, their current decline may lead to a recession because lower demand will not be fully offset by growing competitiveness due to a lower real effective exchange rate of the ruble. In this case, the cumulative decline in GDP may be 8.5–9.0% of GDP, regardless of the impact of the inventories factor, which accounted, recall, for approximately $^3/_4$ of the 7.8% decrease in Russia's GDP in 2009. As such, we cannot hope for an automatic and quick stimulating effect from the devaluation of the Russian ruble in 2014 and 2015. In the event of inertial developments, further postponement of

structural reforms aimed at the de-bureaucratization and de-monopolization of the economy, and a lowering of the rigidity of the labor market, the recession in the Russian economy could last for at least two or three years.

This estimate qualitatively corresponds to our calculations based on the mid-term econometric model of the Russian economy, which, in forecasts as late as September 2015, predict a continued recession in 2016 and 2017 (although with the GDP falling at lower rates than in 2015).[18] We will also observe a decline in wages, which (even despite the recession), in 2015, are still growing in nominal terms. Employment will contract more considerably than in the first half of 2015, possibly leading to social implications.

To increase exports and promote import substitution, even with the most favorable price ratios resulting from the devaluation, the industry requires additional labor resources, new production capacities, and infrastructure. They will hardly be available due to the labor market rigidity, low intensity of the investment process before the crisis, and imperfect "rules of the game" in the Russian economy. Without resolving these issues, we cannot build an economic system that would be more resilient and less exposed to price and exchange rate shocks.

7. Conclusion

The article uses a review of the literature regarding the effect of devaluations on output and other macro indicators in order to identify four conditions that determine the restrictive impact of devaluation in terms of GDP dynamics. Three of these are associated with the impact of the devaluation on aggregate demand and the fourth one—with its effect on aggregate supply. The first three include: the redistribution of income from economic agents with a high propensity to consume to agents with a low propensity (from owners of labor to owners of capital goods); the effect of outstripping inflation, where a nominal devaluation may lead to a decline in aggregate demand due to uncontrolled price growth; and the effect of low export and import price elasticities, where the balance of trade expressed in the national currency may decline due to devaluation, leading to recession. The fourth condition is that devaluation may have an adverse effect on supply due to the appreciation of imported intermediate goods and to higher domestic interest rates and wages caused by accelerating inflation.

This article shows that although only two of the four conditions of restrictive effects from devaluation are present in one form or another in the Russian economy (the redistribution of income from labor to capital and the low export and import price elasticities), devaluation may still lead to recession, at least in 2015 and 2016. The reasons for this are the low propensity of economic agents that own capital goods to invest and structural problems in the economy, which are possibly indicated by the devaluation of the Russian ruble in 2014 and 2015. The oft-quoted case (see, e.g., Frankel, 2005) describing how, after the British pound devaluation in 1992, the Chancellor of the Exchequer (British finance minister) was so happy that he sang in the shower is hardly likely to have any bearing on the current situation in Russia.

---

[18] See the mid-term forecast for the Russian economy development by the Centre of Development Institute, National Research University Higher School of Economics. http://dcenter.ru/category/periodicheskie-obzory/nep/.

Acknowledgements

References

Algieri, B. (2011). The Dutch disease: Evidences from Russia. *Economic Change and Restructuring*, *44*, 243–277.

Bahmani-Oskooee, M. (1998). Are devaluations contractionary in LDCs? *Journal of Economic Development*, *23* (1), 131–144.

Bahmani-Oskooee, M., Chomsisengphet, S., & Kandil, M. (2002). Are devaluations contractionary in Asia? *Journal of Post Keynesian Economics*, *25* (1), 69–82.

Bahmani-Oskooee, M., & Gelan, A. (2013). Are devaluations contractionary in Africa? *Global Economic Review: Perspectives on East Asian Economies and Industries*, *42* (1), 1–14.

Bahmani-Oskooee, M., & Hajilee, M. (2014). On the relation between currency depreciation and domestic investment. *Journal of Post Keynesian Economics*, *32* (4), 645–660.

Blank, A., Gurvich, E., & Ulyukaev, A. (2006). Exchange rate and competitiveness of Russia's industries. *Voprosy Ekonomiki*, *6*, 4–24. (In Russian).]

Blecker, R. A., & Razmi, A. (2007). *The fallacy of composition and contractionary devaluations: The output impact of real exchange rate shocks in developing countries that export manufactures* (Working Paper No. 2007-02). American University, Department of Economics.

Bussière, M., Saxena, S. C., & Tovar, C. E. (2012). Chronicle of currency collapses: Re-examining the effects on output. *Journal of International Money and Finance*, *31* (4), 680–708.

Calvo, G., & Reinhart, C. (2000). Fixing for your life. *NBER Working Paper*, *8006*.

Chou, W. L., & Chao, C. C. (2001). Are currency devaluations effective? A panel unit root test. *Economics Letters*, *72* (1), 19–25.

Christopoulos, D. K. (2004). Currency devaluation and output growth: New evidence from panel data analysis. *Applied Economics Letters*, *11* (13), 809–813.

Cooper, R. N. (1969). *Currency devaluation in developing countries: Preliminary assessment* (A.I.D. Research Paper). Yale University.

Diaz-Alejandro, C. F. (1963). A note on the impact of devaluation and the redistributive effect. *Journal of Political Economy*, *71* (3), 577–580.

Domac, I. (1997). Are devaluations contractionary? Evidence from Turkey. *Journal of Economic Development*, *22* (2), 145–163.

Dülger, F., Lopcu, K., Burgaç, A., & Balli, E. (2013). Is Russia suffering from Dutch disease? Cointegration with structural breaks. *Resources Policy*, *38* (4), 605–612.

Egert, B. (2012). Dutch disease in the post-Soviet countries of Central and South-West Asia: How contagious is it? *Journal of Asian Economics*, *23* (5), 571–584.

Frankel, J. (2005). Contractionary currency crashes in developing countries. *NBER Working Paper*, *11508*.

Frankel, J. (2012). The natural resource curse: A survey of diagnoses and some prescriptions. In R. Arezki et al. (Eds.), *Commodity price volatility and inclusive growth in low-income countries*. Washington, DC: International Monetary Fund.

Frankel, J., Smith, B., & Federico, S. (2008). Fiscal and monetary policy in a commodity-based economy. *Economics of Transition*, *16* (4), 679–713.

Gluzmann, P. A., Levy-Yeyati, E., & Sturzenegger, F. (2012). Exchange rate undervaluation and economic growth: Diaz Alejandro (1965) revisited. *Economics Letters*, *117* (3), 666–672.

Goryunov, E., Drobyshevsky, S., & Trunin, P. (2015). Monetary policy of Bank of Russia: Strategy and tactics. *Voprosy Ekonomiki*, *4*, 53–85. (In Russian).

Graham, D. A. (1995). Learning to love the Dutch disease: Evidence from the mineral economies. *World Development*, *23* (10), 1765–1779.

Gupta, P., Mishra, D., & Sahay, R. (2007). Behavior of output during currency crises. *Journal of International Economics*, *72* (2), 428–450.

Gylfason, T., & Risager, O. (1984). Does devaluation improve the current account? *European Economic Review*, *25* (1), 37–64.

Gylfason, T., & Schmid, M. (1983). Does devaluation cause stagflation? *Canadian Journal of Economics*, *16* (4), 641–654.

Hammond, D. (2012). *State of the art of inflation targeting–2012* (Handbook No. 29). London: Centre for Central Banking Studies, Bank of England.

IMF (2015). *World economic outlook: Adjusting to lower commodity prices*. Washington, DC: International Monetary Fund.

Kalyoncu, H., Seyfettin, A., Tezekici, S., & Ozturk, I. (2008). Currency devaluation and output growth: An empirical evidence from OECD countries. *International Research Journal of Finance and Economics*, *14* (2), 232–238.

Kamin, S. B. (1988). Devaluation, external balance, and macroeconomic performance: A look at the numbers. *Princeton Studies in International Finance*, *62*.

Kataranova, M. (2010). Correlation between exchange rate and inflation in Russia. *Voprosy Ekonomiki*, *1*, 44–63. (In Russian).

Krugman, P., & Taylor, L. (1978). Contractionary effects on devaluation. *Journal of International Economics*, *8* (3), 445–456.

Levy-Yeyati, E., & Sturzenegger, F. (2007). Fear of appreciation. *World Bank Policy Research Working Paper Series*, *4387*.

Mustafa, A. (2000). Devaluation in developing countries: Expansionary or contractionary? *Journal of Economic and Social Research*, *2* (1), 59–83.

Nunnenkamp, P., & Schweickert, R. (1990). Adjustment policies and economic growth in developing countries — Is devaluation contractionary? *Weltwirtschaftliches Archiv*, *126* (3), 474–493.

Rodrik, D. (2005). Growth strategies. In P. Aghion, & S. Durlauf (Eds.), *Handbook of economic growth* (vol. 1A, pp. 967–1014). Amsterdam: Elsevier.

Rodrik, D. (2008). The real exchange rate and economic growth. *Brookings Papers on Economic Activity*, *39* (2), 365–439.

Sheehey, E. J. (1986). Unanticipated inflation, devaluation and output in Latin America. *World Development*, *14* (5), 665–671.

Sheng, L. (2011). Taxing tourism and subsidizing non-tourism: A welfare-enhancing solution to 'Dutch disease'? *Tourism Management*, *32* (5), 1223–1228.

Tabata, S. (2013). Observations on Russian exposure to Dutch disease. *Eurasian Geography and Economics*, *53* (2), 231–243.

Upadhyaya, K. P. (1999). Currency devaluation, aggregate output, and the long run: An empirical study. *Economics Letters*, *64* (2), 197–202.

Upadhyaya, K. P., & Upadhyay, M. P. (1999). Output effects of devaluation: Evidence from Asia. *Journal of Development Studies*, *35* (6), 89–103.

van der Ploeg, F. (2011). Natural resources: curse or blessing? *Journal of Economic Literature*, *49* (2), 366–420.

van der Ploeg, F., & Venables, A. J. (2012). Natural resource wealth: The challenge of managing a windfall. *Annual Review of Economics*, *4* (4), 315–337.