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From Blind Faith in the Market to Market Planning

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Abstract—The long-term dynamics of industrial output and the specifics of industrial growth in the Russian Federation are considered. Trends toward simplification of the production structure are identified, showing that the quality of economic dynamics, which the existing model ensures, does not correspond to the long-term goals of Russian economic development. The authors prove that the hope for the beneficial effect of market forces, artificially set against consciously formulated goals of economic development, has failed and led to attenuation of the investment process. Since production growth rates with a roughly four-year lag depend on the growth rates of capital investments, which critically depend on the current market situation, a sharp decrease in the growth rates of investments in recent years has set rigid limitations on economic development at least until 2020. The authors conclude that it is necessary to activate substantially investment progress, including state-run development programs, and analyze the financial potential of investment sources such as an increase in the rate of accumulation and repatriation of domestic capital. It is estimated that the current financial resources will be sufficient at least for the launch of this process if not for the full-fledged creation of an innovative economy in Russia.

Keywords: industrial production, investments, industrial growth, monetary aggregate M2, inflation, monetary incentives, state-run programs.

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INDUSTRIAL PRODUCTION: A DROP DISGUISED AS GROWTH

The current situation in the Russian economy is well described by the words of Ostap Bender, a character momentous for our country: "How did that happen? We were having fun .... life was exhilarating, the Earth rotated just for us—and suddenly...." [1, pp. 594, 595]. Indeed, in 2001–2007, the average annual GDP growth rates were 6.7%; those of mining, 5.1%; and those of manufacturing, 7.1%, inconceivable today. In 2012–2016 (leaving aside the 2008–2009 crisis and the 2010–2011 postcrisis recovery), the above indicators turned out to be quite different: 0.46, 1.01, and 1.0%, respectively. Since the 2012 values were just slightly higher than the 2008 precrisis maximum, it is safe to say that the economy has been milling around for at least eight years (Fig. 1).

The eight-year stagnation cannot be explained by external circumstances, no matter how significant they have been. It indicates a different thing: the model that underlies the Russian economy cannot ensure its growth any longer. This is even more vexing since the model worked brilliantly in the previous eight years (2000–2008): the GDP grew by 1.66 times,

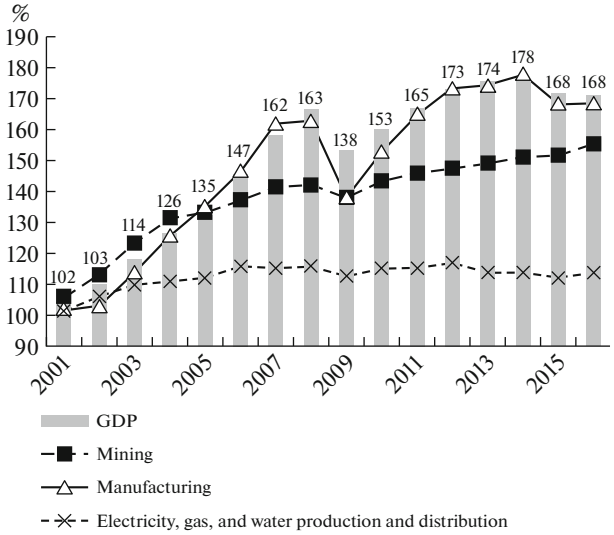

Fig. 1. GDP and production by type of economic activity in Russia, %. The 2000 values were assumed as 100%. *Source*: Rosstat. www.gks.ru (cited June 10, 2017).

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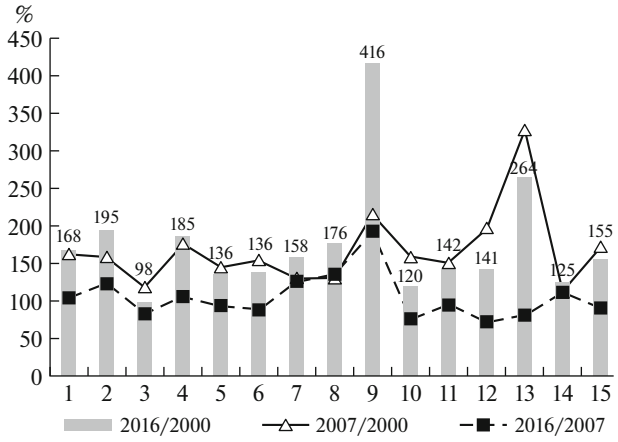

Fig. 2. Production in Russia by type of economic activity, %. (1) Manufacturing; (2) food production, including beverages and tobacco; (3) textile and clothing manufacture; (4) leather, leather goods, and footwear manufacture; (5) woodworking and wood-based manufacture; (6) pulp and paper manufacture, publishing, and printing; (7) production of coke and petroleum derivatives; (8) chemical production; (9) production of rubber and plastic goods; (10) manufacture of other nonmetallic mineral products; (11) metallurgical production and finished metal products; (12) machinery and equipment manufacture; (13) manufacture of electric, electronic, and optical equipment; (14) manufacture of transportation vehicles and equipment; (15) other manufactures. *Source:* Rosstat. www.gks.ru (cited June 10, 2017).

mining, by 1.42 times; and manufacturing, by 1.63 times. Individual industries achieved obvious breakthroughs: the production of electrical, electronic, and optical equipment in 2007 exceeded the 2000 level by almost 3.3 times; that of rubber and plastic products, by 2.2 times; and the production of machines and equipment, by almost two times. Significant growth was also observed in other industries, except for textile and clothing manufacture and the production of transportation vehicles and equipment.

The crisis of the second half of 2008 and 2009, disregarding its depth, could be explained by the model's "annoying" failure. In 2010–2011, the situation began to improve quickly. However, the relevance of high growth rates should not be overestimated: they just made it possible to reach the precrisis level. Full-fledged economic growth occurred in 2012, but already in 2013, the economy stalled, and, despite every effort, it cannot move out of the stagnation to this day. More detailed statistics reveals very unpleasant processes that give grounds to state that stabilization is not the right term to describe the current situation. Only six manufacturing industries out of the 14 present in the Russian Federal Statistics Service (Rosstat) data exceeded the 2007 output level in 2016. In addition, a reduction in output affected industries that are key in terms of national security and economic innovation, such as the production of machines and equipment and the manufacture of electrical, electronic, and optical equipment (by 28 and 20%, respectively) (Fig. 2).

The situation becomes even more dramatic when we probe deeper into the Rosstat data. Reporting on the growth rates of industrial output for about 700 items (the number of output items differs in individual years) in 2000 reveals negative values for 25% of product types in mining and for 12% in manufacturing; in 2001, for 45% and 26% of items, respectively. In 2002, when the total growth rates of industrial output comprised a quite safe 103.1%, the manufacture of machines and equipment decreased for more than half of the items.

The reduction in the output of product items itself is a normal phenomenon for a developing economy. Abnormal can only be the measure of this reduction. For example, if the production of 58 out of 494 product items in manufacturing (12%) decreases, as happened in 2000, this situation may be considered normal. However, if, as in 2002, the reduction is already observed for 216 items (44%), it is serious grounds for concern. The norm of overall industrial production was an annual decrease in one-fifth to one-third of items during 2000–2007, quite safe years for the Russian economy.

However, many falling items in individual years do not yet indicate a mass reduction in production over a certain period. Thus, for seven years (2000–2007), production in Russia decreased for one out of five product items. This value cannot be called insignificant, but considering the fact that 80% of product items showed growth, it may be accepted as a norm. However, in 2013, the number of falling items stabilized at a level that was by no means acceptable (over 50% of items in manufacturing, Fig. 3), and in 2016, 56% of items in manufacturing and 68% of items in the production of machines and equipment suffered reductions compared to 2007. Overall, *the production of one-fifth of the items in mining, one-third of the items in manufacturing, and 40% of items in machines and equipment decreased over the 16 years of the new millennium*.

The measure of the revealed reduction is by no means symbolic. Production halved, on average, in 2016 compared to 2000. True, the mean growth rates of increasing items looked impressive: they were 171% in manufacturing, 75% in mining, and almost 200% in machines and equipment in 2016 compared to 2000 [2].

In addition, the above figures show asymmetry, unfortunately. While the data on output reduction are trustworthy with certain reservations (the unweighted mean), the assessment of production growth rates is much less reliable and, obviously, dramatically overstated. For example, only one gas compressor unit for main gas pipelines was manufactured in 2000, and 18, in 2009. The growth rate is very high and affects the mean value of integral estimation by the type of eco-

nomic activity, incomparable with the real contribution of this type of equipment to the total industrial growth. In estimating the mean growth rates, such numerous discharges are disregarded; nevertheless, a low basis for estimating many product items is a problem. The overstatement of the indicator considered is confirmed indirectly by the results of production growth by the corresponding types of activity, which are far more modest than could be expected relying on the unweighted mean by growing production (see Fig. 2).

Even considering the above reservations, we see that the Russian material sphere has undergone serious structural shifts since the beginning of the century: a significant share of manufactured products, especially machines and equipment, has sharply decreased. In addition, explicit growth has been observed in the list of items produced. It is difficult to answer the question on the decrease or increase in production of items (including innovations) important for the economy. Rosstat furnishes information on the manufacture of high-tech products but in an aggregated form (Table 1). On the basis of the available data, we can conclude that the situation was very favorable before 2014 but worsened drastically beginning with 2015. Switching to the level of specific product items is unproductive. It is impossible to speak positively about the progressiveness or, on the contrary, regressiveness of the structural shifts without an expert opinion on the national economic relevance and technological complexity of a specific product item. Thus, the discussion whether the almost tenfold growth in the manufacture of process monitoring and control instruments, which lasted from 2000 through 2016, will compensate for the almost threefold reduction in the manufacture of metal-cutting machines over the same period inevitably reaches a "book-accounting" level: is there an integral (the entire range of items produced) gain in creating a value added or not? The question about what will happen to the GDP if for any reasons the national economy loses the ability to purchase foreign metal-cutting machines remains unanswered.

INVESTMENT DYNAMICS: FALLING FROM OLYMPUS

Investment dynamics at the beginning of the 21st century showed results amazing by the current standards: two-digit growth rates (except for one year) for eight years in a row are perceived as unbelievable compared to today's 1–2% and even –3%. This growth is partially explained by the weak basis of the 1990s, ill-fated in many respects, including investments. Nevertheless, a record-breaking 23% growth was observed in 2007 after seven years of continuous and vigorous growth. For comparison a 1% growth in investments in 2016 followed a 3% drop in 2015, being, in fact, just a partial compensation for this drop.

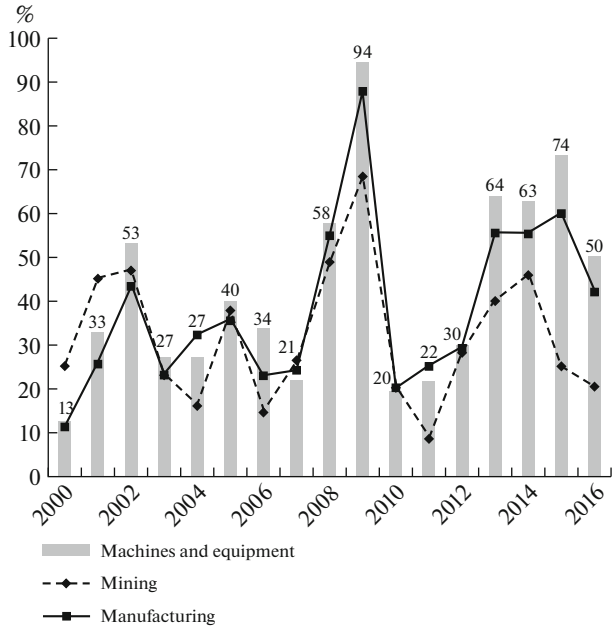

Fig. 3. Decrease in production by type of economic activity in Russia for 2000–2016, % of total items. *Source*: Rosstat. Central statistical database. www.cbsd.gks.ru (cited June 10, 2017).

Investments are the basis for industrial growth, and it would be strange to expect any significant increase in industrial output without the development (extensive or intensive) of the production system. The relationship between annual industrial growth rates and annual investment growth rates within the time frame 2000–2016 is recorded using a correlation ratio of 0.88. The age-long problem of correlation analysis, what is the cause and what is the effect, is irrelevant in this case. Obviously, investments cannot turn into production assets to implement output within one year; therefore, output dynamics predetermined investment dynamics. The unmet demand to which the production sphere responds with a corresponding increase in supply reveals limitations in the existing system of production capacities, and they, in turn, are removed through investing (Fig. 4).

By the logic of the simple scheme considered above, the current demand sets the ceiling of the future supply through the current level of investments, and

Table 1. Production index by high-tech manufacture type of economic activity in Russia, 2012–2016

Year	2012	2013	2014	2015	2016
High-tech products by manufacture type of economic activity, %	113.1	109.3	117.4	100.7	96.8

Source: Rosstat. Central Statistical Database. www.cbsd.gks.ru (cited July 4, 2017).

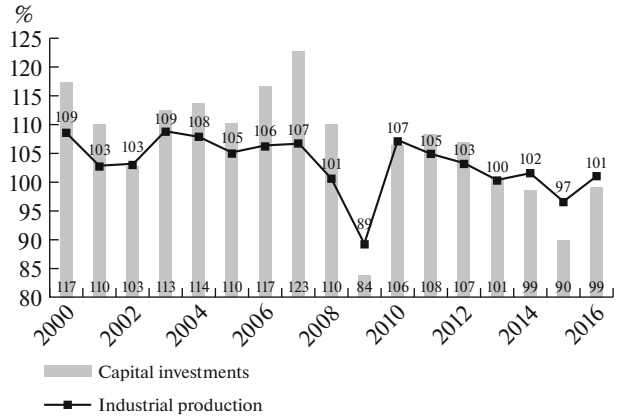

Fig. 4. Growth rates of industrial production and investments in Russia's capital stock, %. *Source:* [3, p. 423; 4, pp. 35, 36].

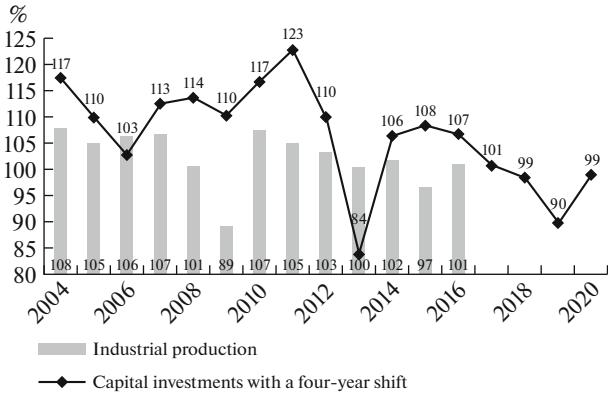

Fig. 5. Growth rates of capital investments (with a four-year right shift) and industrial production in Russia, %.

this means that stabilization (absence of growth) in investments in 2013–2016 formed substantial limitations if not thresholds to industrial growth at least for the period 2018–2020. The softness of the formulation (*limitations* and not *thresholds*) is because the existing capacities are hardly used fully. According to the Rosstat data, in 2016, the capacity utilization rate was about 67% in mining and 64% in manufacturing. However, there is no use in revaluing the reserves that appear substantial in the Russian production facilities. The low intensity of their utilization is decisively associated with the moral and physical obsolescence of the fixed assets: they are unable to manufacture competitive products. Figure 5 shows limitations well: the echo of low investments in 2013 limits the growth rates of output in 2017. The annual growth rates of industrial products, with some rare and specific exceptions, are always noticeably lower than investment growth rates. As a rule, the recurring hope that industrial growth will finally recover disappears after the appearance of statistics for the latest month. Thus, a slight growth in production for four months and a reduction for another four months were observed during January–August 2017. The situation will worsen in 2018, and an optimistic option is that it will not become a disaster in 2019 and will improve marginally in 2020. Thus, Russia is at best doomed to low economic growth until 2020 or—and these are realistic alternatives—to stagnation or a further drop in production.

The overall industrial indicators appear as the notorious "mean temperature in the hospital," and each "ward" is unhappy in its own way. For example, the domestic subindustry "the production of machines and equipment," which is the backbone for any large economy, including the Russian economy, is well past its best days. However, the subindustry's significance for the country under sanctions, when access to state-of-the-art technologies becomes more complicated every year, is growing objectively. One should not be deceived by a slight recovery in production in 2016: it is nothing but the effect of substantial investment growth in 2012. The prospects here are most grim, especially on the 2019–2020 horizon, if the logic of the already imposed investment limitations will be continued (Fig. 6).

In addition, we should also consider the trap of low industrial growth rates, which lead to a decrease in investment rates, which, in turn, will drag down the indicators of economic development in the near future. It is not just a vicious circle, but a downward spiral appears, leading the economy to disaster.

The only way out is, obviously, the following: it is necessary to increase investments. However, the current economic model makes this impossible: low demand tells negatively on production, reducing its investment appeal. A belligerent solution to the problem—an increase in investments against the backdrop of the stagnating demand—does not fit at all into the populistic scenarios of solving current problems. Indeed, if the market does not signal the necessity of

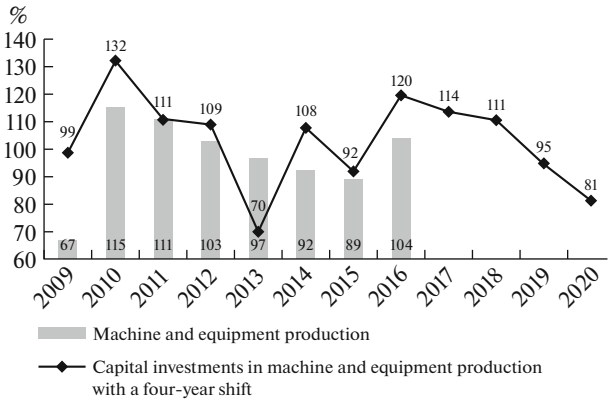

Fig. 6. Growth rates of capital investments (with a four-year right shift) and machine and equipment production in Russia, %.

Table 2. Capital investments by economic activity type covering the entire range of organizations in Russia, 2016

Type of economic activity	Mln ₽	Mln $	Mln $, PPP
All types of economic activity	14639835	218391	583958
Agriculture, hunting, and forestry	611254	9118	24382
Mining	2830355	42222	112898
Manufacturing (all types)	2123645	31680	84709
Food production, including beverages	226771	3383	9046
Textile and clothing production	9473	141	378
Chemical production	411334	6136	16407
Metallurgic production	288105	4298	11492
Machine and equipment production (without weapons and ammunition)	98956	1476	3947
Production of electric, electronic, and optical equipment	84917	1267	3387
Production of transportation vehicles and equipment	203983	3043	8137
Electricity, gas, and water production and distribution			
Construction	445045	6639	17752
Transport and communications	2726707	40676	108764
State administration and military security; social security	278855	4160	11123
Education	210627	3142	8402
Health care and social services	181786	2712	7251

Source: Rosstat. Central statistical database. www.cbsd.gks.ru (cited March 26, 2017).

investments and production, that of a financial flow sufficient to find these investments, investment mobilization is only possible when the existing resources are redistributed, and this is always associated with the pronounced resistance of stakeholders. The generation of financial resources for investment programs is possible, but this way corresponds poorly to the theoretical ideas and monetary practice of the Russian Central Bank.

The situation is aggravated by a negative economic background in the medium term, specified by, mildly speaking, not the strongest investment decisions of the previous four years. A closer look reveals that, considering the investment failure of 2009, the three years of "creeping out" of it, and the following degradation of the investment process, we may speak about an *investment stupor*, which our country has been experiencing since 2009. Seven years of the investment stagnation (2009–2016) are a term that is too long for the Russian economy, which has not yet recovered after the disintegration of the Soviet Union.

Note that the production growth rates over all contemporary history (since 2000) exceeded the growth rates of the corresponding investments only twice (recall the four-year lag), which in 2013 was associated with a force-majeure reduction of investments in the crisis of 2009, which was not at all a norm for the Russian economy. Therefore, regardless of whether the Central Bank is consistent in conducting a rigid financial policy or not, there is hardly any substantial economic recovery in sight.

OPTIONS TO RESTORE THE INVESTMENT PROCESS

Economic growth in the next few years is a hostage of investment decisions already made, but a more remote prospect depends on whether we will be able to build up investments today. Let us look into the price of the issue involved. According to Rosstat data, capital investments in all types of economic activity covering the entire range of organizations in 2016 was ₽14.6 trillion (Table 2) or 21.1% of the country's GDP [5]. This is 1.2 percentage points (pp) smaller than in 2008 (the year when the indicator considered reached its maximum for the period 2000–2016).

Note that 14.6 trillion is not much. Thus, capital investments in the United States in 2016 were $3.6 trillion, being 242.3 trillion by the average weighted ruble-to-dollar exchange rate in 2016 (67.03 ruble/dollar). The US population is about 2.2 times larger than Russia's population. However, even if the American investments are converted considering the difference in demographic indicators, the American investment program will exceed the Russian one by about 7.5 times. When estimated by the PPP, the contrast is less striking: a 2.8 times excess, but it is not correct to use the PPP by the GDP for investment goods. The Rosstat data show that the PPP by investment goods, initially very close to the market rate, almost caught up with the market rate by the last available date (2008).

The proposal to build up the share of investments in the GDP is, surely, as unoriginal as it is unpopular (an increase in the share of accumulation under GDP

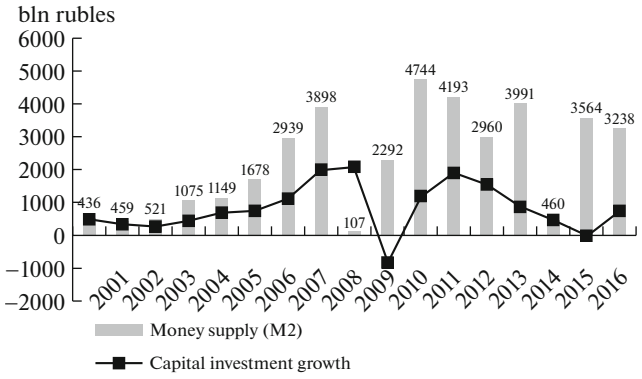

Fig. 7. Growth of money supply and capital investments in Russia, bln rubles. *Source*: Russian Central Bank. http://www.cbr.ru/statistics/?PrtId=dkfs (cited June 12, 2017).

stagnation automatically means a decrease in consumption); nevertheless, it is justified. The share of accumulation in 2008 relative to 2007 increased by 1.3 pp (although under a growing GDP), causing no social tension. The proposed return to the 2008 share of GDP investments, yielding a 5.7% increase in the 2016 investment program, is insufficient but not useless against the investment stagnation of recent years.

Let us emphasize: speaking about the necessity to expand the investment program, we mean investment growth against the current level, which the domestic economy still withstands, although with an ever-greater effort. If a 10% investment growth is taken as the minimum, we will have to find another 4.3%, or about ₽630 billion a year, considering the 5.7% growth owing to the increased share in the GDP investments, at least until 2020. This is not big money at all. Thus, in 2016, the money supply (aggregate M2) grew by 3.2 trillion, and capital investments, by only 743 bln (all in current prices). The comparison of these values is conventional since they are of different origin; nevertheless, their ratio is very spectacular. The investment dynamics (with a one-year lag) depends highly on the M2 dynamics (a correlation ratio of 0.75) (Fig. 7). A shining example is the 2014–2015 situation when almost a nine-times decrease in money supply growth in 2014 led to a reduction in the absolute investment level in 2015. Investments in Russia in the new millennium decreased only in 2009; they grew even in crisis-stricken 2008. Before the 2008–2009 crisis, the ratio of investment growth to M2 growth fluctuated within 40–60% (60–80% considering the annual lag of M2 flowing into investments); after the crisis, it began to tend to 20–25%. In other words, emission continued, but the issued money ceased to be channeled into investments. The situation needs correction: if at least half of the cash issued in 2015 had been channeled into investments, the investment growth would have been ₽1.78 trillion (and not ₽630 bln).

The possibility of funding investment growth by increasing monetary aggregate M2 (i.e., money emission) inevitably degenerates into a useless discussion that emission is associated with inflation and that inflation control is a major objective of a monetary regulator. The position widespread in the academic community that overall economic growth and inflation are better than no inflation without growth [6] is not shared by the banking community [7]. As a result, the Central Bank annually reports its achievements in inflation control and addresses the issue of economic growth to other authorities. Without joining this discussion [8], note that there are other nonmonetary sources to fund the investment program. A well-known but still shadowy fact is that Russia has been a net lender of the global economy for many years. Our country's net international investment position at the beginning of 2017 was $222.3 bln. Recall that the entire investment program of 2016, if adjusted by the average weighted dollar rate over that year, was $218.4 bln. The PPP calculation yields different results (see Table 2), but the use of the PPP by the GDP for investment goods, as was noted above, is not correct. In other words, if Russia were to lend money to the rest of the world to the extent the rest of the world lends money to Russia, the national investment program could be doubled and not increased by the 10% discussed.

Note also that the quality and, consequently, economic advisability of Russian external assets raise serious questions [9]. One of the items—debt securities (mainly of the governments of leading EU countries and the United States)—has long become proverbial in both the academic and business communities. One can explain to Russian citizens for a long time why Russia, with a risk to lose funds at any moment, lends loans to the EU governments and the United States in the amount of 164 annual investment budgets of the unprosperous industry of machines and equipment, but these explanations cannot be accepted.

Therefore, the investment process should be restored. Expectations that the problem will resolve itself and that the invisible hand of the marketplace will put everything in place are illusive. Two ways are possible. The first is to increase (create) demand, which will automatically launch investment programs. This can be done easily by increasing the money supply. Arguments that this remedy is worse than the illness are many. Without discussing the problem in principle (this is a subject to be considered separately), we note that when the growth of money supply was 40–50% a year, the GDP growth rates were 8–9%, and when the M2 growth decreased to 10–12%, the GDP stopped growing (Fig. 8). In addition, the correlation ratio of the data series considered (with a one-year lag) is 0.9.

The traditionally low quality of domestic institutions does not speak in favor of the "quantitative easing" option either. Indeed, certain conditions are nec-

essary to turn savings into accumulations. However, there is no use demonizing the institutional factor. According to the authoritative report *The Global Competitiveness Index*, the quality of Russian institutions in 2004–2005 was rated at 3.54 points (89th place in the world, data about 104 countries) [10]; in 2016–2017, at 3.6 points (88th place among 138 countries) [11, p. 307]. In other words, under "bad" institutions, the GDP growth rates in 2005 were 6%, and under the "improved" ones, they became negative. The above figures do not mean that improvement in the institutional framework does not belong to factors that accelerate GDP growth, but they explicitly favor the fact that the stably bad institutional system in Russia was not such a factor during the past decade. Judging by the nature and duration of the discussion on the necessity to improve domestic institutions, it is not worth expecting any significant breakthrough in the medium term.

The second way to recover the investment process is to stop hoping for miraculous forces of the market and to take command of investments (and thus, the country). It is desirable to increase sharply the funding of the current state-run programs, especially in the block "innovative development and modernization of the economy" [12]. Increased funding will make it possible to reach more quickly the goals set in the programs; give a powerful boost to the development of manufacturing and mining, as well as production and social infrastructures; form the basis for setting even more ambitious goals of national development; and pull the country's economy out of perennial stagnation. In fact, this approach is the issue of reviving planning in the economy, not on an administrative basis but on a market one. The planning economy of the Soviet Union achieved goals set depending on the distribution of material resources in line with administrative resolutions, but under the contemporary conditions, problems of development are solved by mobilizing financial resources. We considered the sources of these resources in this article.

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A major hindrance of Russian economic growth is not the shortage of resources, money, skilled personnel, or the unfavorable external economic situation, but the irrational faith that market forces, if not disturbed, will create a strong, self-sustainable, and efficient economy, capable of withstanding the pressure of the global economy—a well-organized and in many respects deliberately controlled financial system, not interested in a strong Russia. Today, this faith is materialized in a rigid monetary policy, which leads to the extinction of demand and, consequently, economic activity in principle. Without the formulation of strategic goals and their deliberate implementation, sustainable growth is out of the question. Mobilization of forces is a necessary but insufficient condition for the indicators of Russian economic growth to move beyond statistical discrepancy at least after 2020. The first stage of this mobilization should be the restoration of the investment component of state-run development programs.

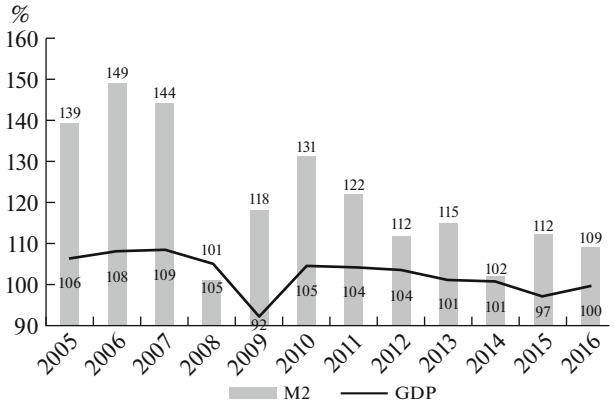

Fig. 8. Growth indices for monetary aggregate M2 and GDP in Russia in 2005–2016, %. *Source:* Russian Central Bank. http://www.cbr.ru/statistics/?PrtId=dkfs (cited July 26, 2017); Rosstat. www.gks.ru (cited July 26, 2017).

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