

November 2009

Occasional Paper

Russia to 2020

*Prof. Philip Hanson
Associate Fellow, Chatham House
Russia and Eurasia Programme*

With "Russia to 2020" the Occasional Papers of Finmeccanica, edited by the Research Department of the Company, continue the publication.

The initiative is based on the consciousness of Finmeccanica that one of its institutional duties is to help in raising awareness of themes of general interest relating to the economy, technology and industry.

With the Occasional Papers, Finmeccanica aims to provide a practical contribution to current schools of thoughts and to spark debate between the various players in the public and private sectors, in order to contribute to the country's growth, making it more "conscious".

Past issues:

Riccardo Varaldo, Alberto di Minin, "A new form of entrepreneurial capitalism based on innovation and research in Italy", October 2009.

Paolo Guerrieri, "The need for the network. Internationalisation as a strategy to compete in the global economy", May 2008.

Keith Hayward, "Changing seasons in defence industry and technology strategies: the United Kingdom, and beyond", October 2007.

"Impartiality is a pompous name for indifference,
which is an elegant name for ignorance"
(Gilbert K. Chesterton)

During the Cold War, the Soviet Union was able to express technological and industrial excellence as a direct consequence of the development of the military sector in the arms race against the United States. The Soviet conquests of outer space are proof of this – on 4 October 1947, the Soviet Union beat the United States in the race to space, putting into orbit the Sputnik, the first artificial satellite in history. Other firsts soon followed: Gagarin was the first man in space; Valentina Tereskova the first woman; Leonov carried out the first extravehicular spacewalk, to cite only the most important ones.

In the end, the United States won the race to the moon, but the Soviet Union continued to be a great space power, specializing in long-duration orbits with the Salyut stations, and then with the MIR. In a few months time, the US Space Shuttle will come to the end of its operational life, and Russia, thanks to Soyuz, will remain the only country capable of providing links with the International Space Station.

Even though Russia has inherited some of the technological excellence of the Soviet era, the transition phase to a market economy in the 1990s showed the serious state of the country's economy. Between 1990 and 1998, the GDP in Russia fell by 45% and industrial production went down by 60% – Russian industry, with the exception of energy, was in a disastrous condition, incapable of competing on the free market.

The 1998 crisis was the most critical moment in post-Soviet history – the crisis of Asian markets, the fall in crude oil prices, and the marked weakness of Russian institutions led to the collapse of the rouble and the insolvency of the Russian State with its partial default on debt.

The incredible recovery from the 1998 crisis was in large part due to the strong devaluation of the rouble which enabled domestic businesses to breathe again, to the increase in the price of gas, crude oil and raw materials, but also to the policies of liberalization and privatization which started in the 1990s.

At the outbreak of the financial crisis in 2008 Russia seemed to be in better condition than many of his peers. Nine consecutive years of economic growth, eight years of budget surpluses, low inflation and a positive trade balance. In spite of this, the country is feeling the effects of the crisis very severely.

In addition to energy resources, what are the key elements of the Russian economic structure which explain the incredible performance recorded over the last ten years? What are the peculiarities of the Russian economic system that make the country more vulnerable than others to the financial crisis? Will the economic model developed over the last few years be sustainable in the near future?

By commissioning this study from Prof. Hanson, Finmeccanica intends to offer a scientific contribution to the discussion that is taking place on these subjects.

Russia is emerging forcefully onto the international arena both economically and strategically. Understanding the mechanisms and the peculiarities behind this resurgence is essential for Italy (and for Europe as a whole), since we are linked to Moscow by ever stronger economic and diplomatic ties.

Alessandro Pansa
Co-General Manager & CFO
of Finmeccanica

summary

Occasional Paper

RUSSIA TO 2020

Introduction 5



THE RUSSIAN ECONOMY IN THE PAST DECADE 6

The 1998 crisis and the inter-crisis period that followed 6

The sources of Russian economic growth in the inter-crisis period, 1998-2008 8

The condition of the Russian economy on the eve of the 2008 crisis 12

Russia and the rest of the world 19



RUSSIA AND THE ECONOMIC CRISIS: WHAT'S RUSSIAN AND WHAT'S GLOBAL? 21

How bad is the situation in 2009? 21

Some alternative ways of accounting for Russia's current fragility 23

Anti-crisis measures 28

Departing in style from the crisis? 30



PROSPECTS 33

Scenario A. Return to business as usual after a "short" crisis 34

Scenario B. A longer crisis leading to radical, systemic reform 38

November 2009

summary

	IV	
CONCLUSIONS: RUSSIAN PROSPECTS AND WESTERN INTERESTS		40
The energy superpower		40
Diversification		42
Final thoughts		43
	APPENDIX	43
ILLUSTRATIVE CALCULATIONS OF PROJECTED RUSSIAN GDP GROWTH TO 2020		
A. Return to business as usual after a comparatively short crisis		44
B. A longer crisis followed by systemic reform		45
References		46

Introduction

The purpose of this paper is to explore Russia's economic prospects over the next decade. The aim is to identify two contrasting paths of development and the patterns of activity and policy that would put Russia on one or the other of these trajectories. At the very least, the exercise should help us make judgements on what is more and less likely.

In 2009 long-term projections for any country are subject to particular uncertainty. This is because an exceptional margin of error surrounds any forward look at near-term prospects for the whole world economy. In 2008-09 the International Monetary Fund (IMF), the World Bank (WB), the Organisation for Economic Cooperation and Development (OECD) and other international institutions repeatedly and sharply lowered their projections for most countries for 2009 and 2010. They were not supposed to be extrapolating the latest couple of months' figures, but it often looked as though they were. In other words, we cannot be confident about the duration of the crisis and about the condition in which countries will emerge from it. That widens the range of plausible trajectories over a longer period.

To contend with this slippery state of affairs, I pay particular attention to Russia's development over the past decade and its fortunes during the crisis up to the time of writing. The idea is to identify the factors underlying recent performance and the policy options that are available. Therefore the first part of this paper is a review of Russian economic performance in the inter-crisis period between Russia's financial collapse of summer 1998 and the onset of the current global crisis. The second part of the paper is an assessment of Russia performance in, and policy responses to, the international crisis. That allows us to select two broad, alternative scenarios for post-crisis development. They are set out in the third part of the paper, before the conclusions.

I. THE RUSSIAN ECONOMY IN THE PAST DECADE

The 1998 crisis and the inter-crisis period that followed

There was very little optimism about Russia at the time of the 1998 crisis. Measured output (GDP) had fallen by about 45% between 1989 and 1998. There had been the beginnings of an upturn in 1997 but then the Asian crisis of that year, falling oil prices and the extremely fragile state of Russian public finances came together to undermine confidence (both Russian and foreign) in the rouble and in the sustainability of Russian fiscal policy. There was a collapse of the currency and a partial default on debt.

At that point, in the summer and autumn of 1998, nobody had any experience of growth in the post-communist Russian economy, apart from the brief flicker of life in the previous year. Russian industry, with the exception of oil, gas and metals, looked to be in near-terminal condition, unable to compete with imports.

Exchange rate policy, keeping the rouble in a corridor of around R6 to the US dollar, had seemed a good idea to most economists in the mid-1990s: it was supposed to operate as a “nominal anchor”, sustaining expectations that inflation would be brought under control. Unfortunately, the nominal anchor was attached to a ship in distress: the public finances were an extraordinary combination of pyramid schemes and Potemkin villages. Non-monetary payments proliferated, both between companies and between the state and the economy: barter settlements and a variety of IOUs, including unpaid wages and de facto unpaid taxes, kept the tottering edifice just about upright. The budget was funded in part by a form of Treasury bill, the GKO (Gosudarstvennoye Kratkosrochnoye Obyazatelstvo - Government Short-Term Commitments), which offered yields that were sometimes over 100% a year, and in which non-residents were allowed, on IMF advice, to invest.

The recovery after the crisis took most observers by surprise. The initial impulse came from the forced devaluation of the rouble. This was a massive reduction from about 6 to about 24 roubles to the dollar in a few months. Given the opportunity to compete with suddenly-more expensive imports, Russian industrial producers responded. Industrial output had fallen by 60% between January 1990 and the summer of 1998. The following year it grew 13% year on year (derived from Yasin 2002: 418), and the recovery was under way.

That ability to respond was, in the judgment of most economists, the product of the liberalization and privatization pushed through earlier in the decade (and now denounced by the Putin leadership as the source of all evil).

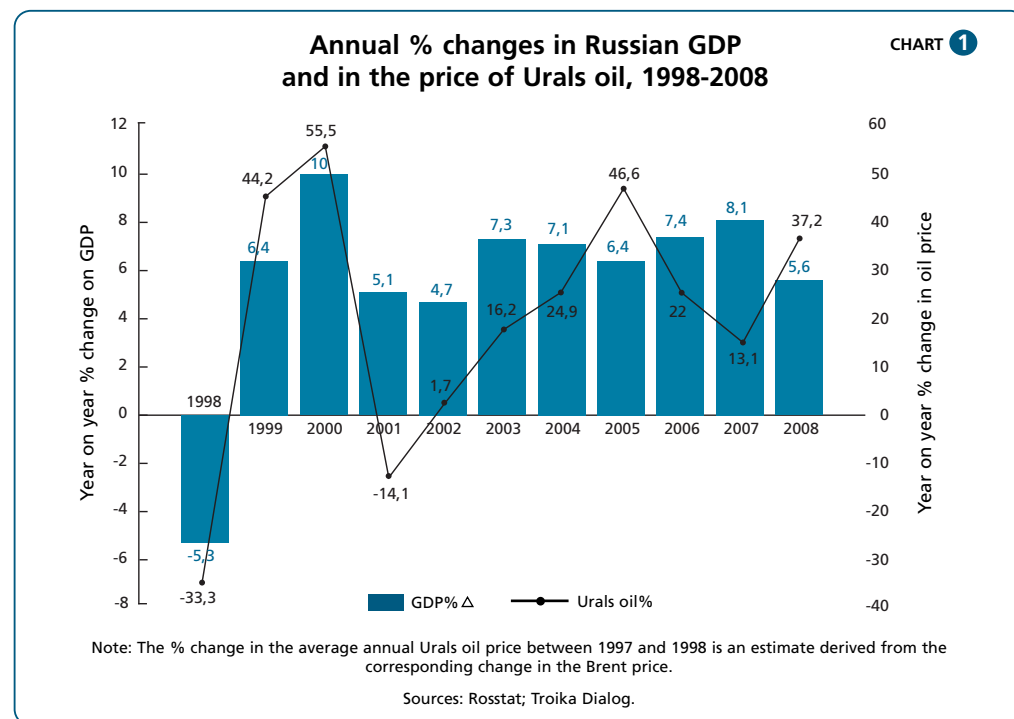
Soon after, oil prices began to rise. The rise was not smooth and continuous, but over ten years from 1998 it was massive. From a low point of \$8 a barrel in December 1998 (Yasin 2002: 407), the monthly average price of Urals crude rose to \$130.8/b in July 2008 (Central Bank of Russia - henceforth CBR - data).

The relationship between the oil price and the overall level of Russian economic activity has been strong. This is not because a change in the export price of oil has any direct effect on the level of real, that is, inflation-adjusted, GDP. Logically, it cannot. Nor is it much to do with the level of oil production. Oil and gas accounted, for most of the past decade, for somewhat under 20% of GDP; the whole extractive sector (oil, gas, coal, metals) accounts for only 1.5% of employment¹, less than the Russian railways. Moreover, gas production has grown slowly and oil production rose rapidly only in 1999-2004. Rather, the reason is that rising world oil prices drive gas export prices (because of the formulae in long-term gas supply contracts); metals prices have on the whole risen along with the prices of hydrocarbons; oil plus gas plus metals have been accounting for about four-fifths of Russian export earnings, and those earnings have boosted domestic incomes, of firms, households and government.

As Russia's terms of trade have strengthened from late 1998 to mid-2008, the country's spending power has risen even faster than its GDP. In other words, gross domestic income was rising faster than gross domestic product. This was an entirely sustainable process so long as Russia's terms of trade kept on improving. The growth in income pulled up domestic demand both for imports and Russian production, and thus drove the growth of GDP. Chart 1 illustrates something of the relationship. It brings together year-on-year percentage changes in Russia's GDP and in the average-annual level of the Urals oil price between 1997 and 2008. Changes in the oil price tended to be proportionately much larger than those in GDP: hence the use of two axes in the chart for ease of visual presentation. The tendency is for GDP growth to accelerate when the oil price rises, at any rate up to 2004. The stabilization fund (*stabfond*) was created in 2003, and it has weakened that

¹ Rosstat, http://www.gks.ru/bgd/regl/b08_11/lss/VWWW.exe/Stg/d01/06-03.htm, accessed 22.05.09.

relationship. One reason for establishing it was precisely to “sterilise” a substantial part of the inflow of petrodollars: that is, to take them out of the domestic flow of funds. That was done to help bring down inflation. The other aim was to build up a reserve fund that could prop up the budget in the event of a fall in the oil price².



The sources of Russian economic growth in the inter-crisis period, 1998-2008

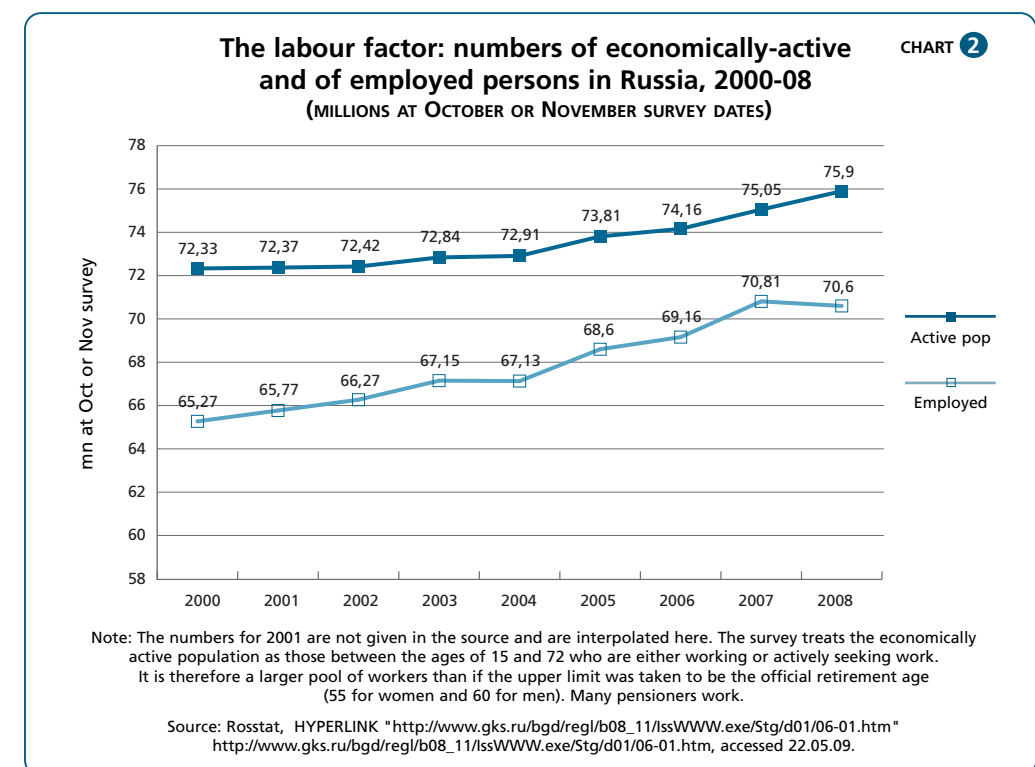
The resumption of growth, then, was triggered by the very large devaluation of the rouble and subsequently sustained by the rise in oil prices. Those influences are not, however, the whole story. Growth was made possible, given that the old Soviet order had collapsed, by

² From February 2008 the *stabfond* was split into a Reserve Fund and a Fund of National Prosperity: the former for the budget-support purpose and the latter more in the mode of a sovereign wealth fund – aimed at longer-term investment and not restricted to low-risk securities. In the event, both have been pressed into service to support state finances during the global crisis.

the presence in Russia of a population of profit-seeking firms, and assisted by a number of other factors:

- a growing labour force;
- an initially large margin of unemployed workers;
- an initially large margin of under-used capacity;
- new investment;
- scope for the re-allocation of labour and capital from less to more productive uses.

Labour force growth was significant, even though at the same time total population was declining. The numbers estimated in annual household surveys show a rise both in the economically active population and in the numbers actually employed or self-employed, with the numbers unemployed falling in most years, from 2000 through 2008. Chart 2 illustrates.



Between 2000 and 2008 the economically active population, as estimated from the annual surveys, grew very slowly, at about 0.6% per annum. Those estimated to be working grew in number rather faster, at 1.0% p.a., as unemployment fell³.

It follows that the growth of the labour force and the reduction in unemployment accounted for only a small part of the overall growth of output: probably between a tenth and, at most, a quarter⁴. Therefore Russian labour became substantially more productive between 2000 and 2008. The utilisation of previously under-used capacity contributed to this. One estimate is that, for the economy as a whole, capacity utilisation rose from about 45% in 1998 to about 80% in 2007 (McKinsey Global Institute 2009: 12, citing a range of Russian sources).

Figures on capacity utilization in Russian industry, let alone figures for the whole economy, must have a wide margin of error. How well, if at all, is small business allowed for? How much of estimated capacity is in fact still useable?

But if we take those numbers at face value, leave aside net new capital formation, and postulate that capital in use rose by a third over seven years from increased capacity use alone, then one plausible guesstimate would be that this accounted for about a fifth of output growth⁵.

It is possible to go a step further and bring new investment into the picture. In this way we can try to “account for” Russian inter-crisis growth in a broader way. Professor Masaaki Kuboniwa of Hitotsubashi University has produced estimates of Russian capital stock growth for the whole economy between 1995 and 2008 (Kuboniwa 2009a).

In the following calculations I use these estimates, focussing on the period 1998-2008. It cannot be stressed too strongly that these (mine, not Kuboniwa’s) are very rough estimates. They cannot be said to do more than illustrate one plausible view of the factors driving recent Russian growth.

³ The Rosstat source gives 1995 data on workforce and employment but not for the years between 1995 and 2000. In subsequent illustrative calculations for the whole inter-crisis period 1998-2008 I assume growth rates equal to those for 2000-08.

⁴ Using a conventional Cobb-Douglas production function approach with a labour weight of 0.7, I get a figure of 11% of the increase in output 2000-08 attributable to the increase in labour inputs. Using factor analysis McKinsey Global Institute comes up with 23% for 2000-07 (my interpretation of Exhibit 1 in McKinsey Global Institute 2009: 11). Their measure of GDP growth differs from mine.

⁵ Cobb-Douglas production function again, with a weight of 0.3 for capital, applied to an annual growth rate of 4.2%, produces a 1.25% per annum increase in output, around a fifth of the total.

Box 1. Illustrative calculation of the sources of Russian GDP growth, 1998-2008

We take a conventional Cobb-Douglas production function approach in which the sources of output growth are the effect of increased labour inputs, the effect of increased capital inputs and other influences (the so-called residual, which could include changes in a variety of influences, including the efficiency of resource allocation, the efficiency of management of given activities, the effects of the introduction of new products and processes, and other factors).

We assume constant returns to scale and a standard weighting of labour inputs (0.7) and capital inputs growth (0.3). In the case of Russian GDP between 1998 and 2008, we have the employed labour force growing at an average annual rate of 1.0%, and we split the effect of increments to capital in use equally between the estimated increase in capacity utilization (5.9% p.a. if spread across the period 1998-2008, using the McKinsey estimate for 1998-2007) and capital stock growth (averaging 3.2% p.a. on Kuboniwa’s preferred estimate).

With GDP growth averaging 6.7% p.a., we have:

$$6.7 = 0.7 \times 1.0 + 0.15 \times 5.9 + 0.15 \times 3.2 + R$$

$$\text{So } R \text{ (the residual)} = 6.7 - 2.0 = 4.7 \text{ (\% p.a.)}$$

(Derived from Rosstat; McKinsey Global Institute 2009; Kuboniwa 2009).

If we conjecture that the capital stock in use may, in Russian circumstances, have been a more important constraint on growth than employment, and reverse the coefficients attached to the two factors of production but continue with the same growth rates of capital and labour, we still arrive at a substantial residual, or rate of total factor productivity growth, of 3.3% a year.

These rough calculations suggest that as much as three-quarters of Russia's output growth from 1998 through 2008 came from some combination of:

- reallocation of resources towards more productive uses;
- technological progress in a narrow sense;
- improvements in management and in labour skills in existing lines of production.

This is a rosier picture of the Russian inter-crisis economy than is often put forward. But a moment's reflection will suggest that it is not unreasonable. There really has been a huge re-allocation of resources, particularly out of an over-expanded and mostly uncompetitive heavy industry and into a hitherto underdeveloped services sector. Industries that scarcely existed in Soviet times – mobile phones, applications software, property development, travel agencies – have grown fast. Inward foreign direct investment has brought in management methods and technological applications that are likely to be improvements on previous Russian best practice. Significant amounts of foreign machinery and equipment are being imported (equivalent to about 6% of GDP in 2008)⁶. They will mostly, if not always, incorporate productivity-enhancing technology not available domestically.

We should not be surprised therefore if Russia's rapid growth after 1998 included a strong increase in total factor productivity. What was going on was much more than a mere pressing into service of under-used capital and labour to feed growing demand financed by petro-dollars.

The condition of the Russian economy on the eve of the 2008 crisis

The rapid growth of the inter-crisis years left Russia established, in the World Bank's classification, as an "upper-middle-income country". It was, however, an upper-middle-income country that appeared, on World Bank indicators, to be worse governed and to have a more difficult business environment than most of its economic peers. Table 1 lists some World Bank indicators.

⁶ Derived from Russian Customs data (http://www.customs.ru/ru/stats/arhiv-stats_new/trfgoods/popup.php?id286=512) for imports of machinery, equipment and means of transport from non-CIS countries, less the 11% of imports reportedly for cars (Kuboniwa 2009b).

TABLE 1. The World Bank view of Russia in 2007- 08

Gross national income per head, 2007, at purchasing power parity	US \$ 14,330
Governance rankings, 2007, quartile ranking out of 212 countries:	
Government effectiveness	3rd quartile (below the halfway mark)
Regulatory quality	3rd quartile
Rule of law	4th (lowest) quartile
Control of corruption	4th quartile
Ease of doing business ranking out of 181 countries	120
Ease of doing business ranking out of 35 upper-middle-income countries	32

Source: World Bank.

The World Bank's rankings of Russia on governance and on ease of doing business (EODB) are based on a substantial number of surveys and are widely accepted as putting Russia in a reasonable international comparative perspective so far as its institutions and business climate are concerned. They provide a plausible background to the many instances of unpredictable, often corrupt, actions of state organs that have been recorded in recent years. These include in particular the use of administrative means to take assets away from owners deemed by the political leadership to be unsuitable.

These incidents usually involve purchase of the assets in question, but the sales have to varying degrees been forced by the manipulation of tax, environmental or other regulations, often in a quite brazen way: above all the *de facto* state expropriation of the assets of the Yukos oil company (2003-06), but also, albeit less flagrantly, the removal of the Kovykta gas field from the control of TNK-BP, the insertion of state control over Sakhalin Energy at the expense of Shell, Mitsui and Mitsubishi, the hounding out of Mikhail Gutseriev, the former owner of the Russneft oil company (2007), and the state acquisition of the titanium producer VSMO-Avisma (2006), to take some of the most conspicuous examples.

A case can be made, even for the oil industry, that what has been going on is not so much the pursuit of a policy of nationalization as the development of a network of firms controlled by the political leadership, sometimes as state concerns and sometimes as the nominally private businesses of cronies. In the words of Evsei Gurvich, the head of the Ministry of Finance's Economic Expert Group, "The authorities went from building a market economy (in Putin's first term) to building a business" (Gurvich 2008). I have set out elsewhere the arguments for interpreting recent Russian "statism" as primarily to do with the grabbing of assets by members of the political leadership (Hanson 2009).

At the same time it should be said that a substantial part of the Russian economy has developed beneath the top politicians' radar. It would be difficult to account for the development of Russia in the inter-crisis period if the economy was nothing but disputed turf among clans of politicians and their business allies.

It is true that being under the top politicians' radar does not make a business invulnerable to depredations by state officials. Regional and local officials will also want to take their cut. But that might be labelled "routine corruption". Such rent-seeking is none the better for being routine, but businesspeople in Russia did not regard corruption as their biggest problem, even before the onset of the crisis in 2008.

Another assessment of the Russian business environment, by the World Economic Forum (WEF), gives a somewhat kinder view than that of the World Bank. The WEF *Global Competitiveness Report 2009-2010* ranks Russia 63rd out of 133 countries (WEF 2009). This rather more benign view of Russia is not incompatible, however, with World Bank (WB) governance and EODB rankings. These are based on measures of the time and cost entailed in conducting a range of business activities: starting a business; getting a warehouse (legally) built; hiring and firing staff; registering property; getting credit; paying taxes; protecting investors; trading across borders; enforcing contracts through the courts; closing a business. These measures all reflect the quality of the institutions that the business has to deal with. The WEF assessment includes a number of other considerations that have tended in recent years to be in Russia's favour. These include market size, macro-economic stability, rate of growth and education and skills.

So far as the quality of institutions is concerned, the WEF assessments, based for some

indicators on hard data and for others on responses (worldwide) from a survey of 13,000 business leaders, broadly correspond with those of the EODB surveys. Out of 133 countries, in the 2009 WEF report, Russia is ranked 108th on the effectiveness of its goods markets, 110th on the effectiveness of state administration, 116th on judicial independence and 119th on property rights and on the effectiveness of its financial markets.

The last of these indicators is worth pausing over. Russian bank credit to firms and households rose very fast in the inter-crisis period. So did stock-market capitalization. The share of foreign-owned banks in total bank assets rose to around one-fifth. The Russian financial sector was taking shape and growing, albeit from very low levels. Yet the perceived quality of the country's financial institutions was very low. On the soundness of its banks, Russia was ranked 123rd, on stock-market regulation 113th, on ease of access to bank loans 99th, and on restrictions on international capital movements 122nd. So far as the overall workings of its financial sector were concerned, Russia was placed well behind the so-called "BRIC" countries – the leading large-middle-income countries, as Table 2 shows.

TABLE 2. The WEF view of "financial market sophistication" in Brazil, China, India and Russia in 2009-10

	Rank (n = 133)	Score (range 1-7)
Brazil	51	4.5
China	81	4.1
India	16	5.1
Russia	119	3.3

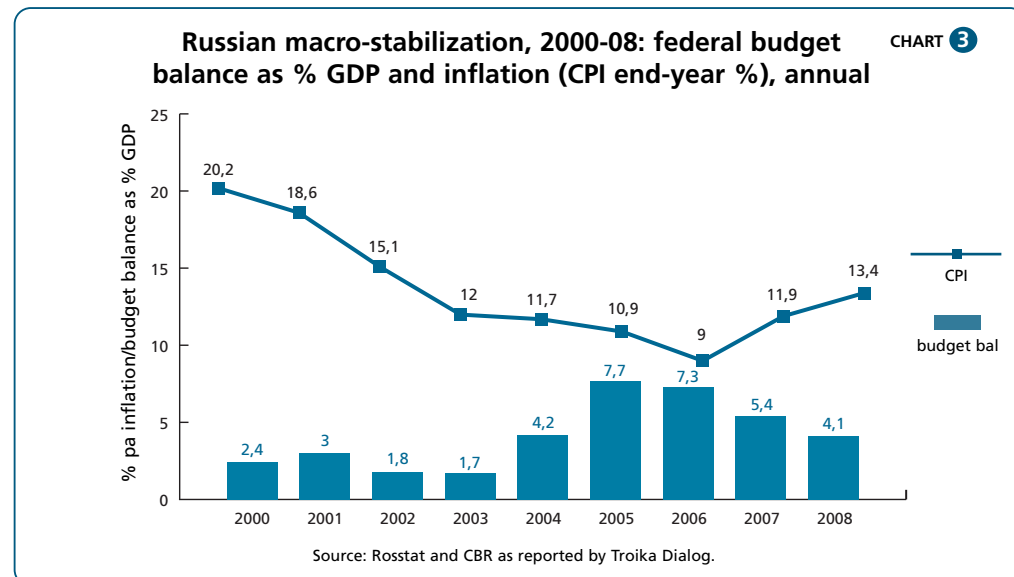
Source: WEF 2009.

The banking system is dominated by state-controlled banks (Sberbank, VTB, Gazprombank and others). There is still a long tail of under-capitalised small banks, much of whose lending is relational. The stock-market is dominated by a rather modest number of large companies, mostly based in natural-resource sectors and in many cases either closely-held or majority-state-owned. Turnover is comparatively thin. The central bank and the Federal Financial Market Service (responsible for non-bank regulation) have worked hard to improve Russia's financial markets, but it has been uphill going.

It is therefore not surprising that in the inter-crisis period Russian banks and non-bank companies alike borrowed abroad heavily and placed Initial Public Offerings of shares on foreign stock-markets. Most of the external borrowing was denominated in foreign currency. Just as a great many investors in the West came to believe that property prices could never fall, so many Russian businesspeople apparently came to believe that the rouble's real exchange rate against the dollar and the euro could not decline.

Nonetheless, Russian policy-makers in this period achieved a great deal in financial stabilization on the macro level. In particular, the Minister of Finance, Aleksei Kudrin, worked assiduously, and against much political pressure, to contain state spending and build up financial reserves. He appears on the whole to have been backed, when push came to shove, by Putin. Only in the case of the 2007 federal budget, ahead of parliamentary and presidential elections, was he forced to concede an unwise growth of spending, which duly re-ignited inflation in 2007-08⁷.

Chart 3 shows the gradual reduction of inflation until budgetary control was weakened in 2007.



⁷ It may seem odd that there should be an electoral cycle in public spending in an authoritarian state. The explanation is that Russian political leaders, though not subject to political competition, are paranoid.

Against a broadly helpful macro-economic background, with petro-dollar inflows large but partly sterilised and inflation mostly coming down, business flourished. No doubt it would have flourished even more in a better business environment. But the growth and development were real enough.

The level of Russian labour productivity is still modest. A recent study of five industries in Russia puts it between a fifth and a third of US levels in four of them, and below that range in one. Table 3 gives the numbers.

TABLE 3. Estimated labour productivity in Russia as % US, c. 2007, selected industries

Steel	33
Retailing	31
Retail banking	23
House/apartment building	21
Electric power	15

Source: McKinsey Global Institute, 2009: 11.

The McKinsey study notes that Russian labour productivity, though still modest, is on the whole higher relative to that of the US than McKinsey found in a study a decade earlier. The still-modest level means that there is plenty of room for catch-up growth in productivity. At the same time, it raises the question why productivity levels in particular lines of business have not already grown much faster than they have, during a decade of rapid growth in total GDP – and in overall labour productivity.

We suggested above that there were three likely sources of aggregate productivity growth in Russia in the inter-crisis decade: the re-allocation of labour and capital from less to more productive lines of activity, the introduction of more advanced technology, and improvements in management and in labour skills in particular lines of production.

Of these, the re-allocation of resources, or at any rate of labour, between lines of production has certainly been substantial. Chart 4 illustrates the shifts for eleven sectors between 2000 and 2007, with the roughly comparable US sectoral distribution of employment in 2008 for comparison.

There is no reason to regard the US sectoral allocation of labour as some kind of end-state to which Russia should, over time, approximate. But it does at least provide a rough indication of the likely shape of a highly-developed, territorially large, resource-rich country.



The major shifts between 2000 and 2007 in Russia are out of agriculture and, to a lesser extent, out of manufacturing, and into construction, trade and financial and property services. Taking the US as at any rate a rough guide, one might expect in the long term to see further shifts out of agriculture and manufacturing and into trade, healthcare and education. Of course, reallocations within these sectors could also be important for overall productivity growth, but are out of sight in these data.

It would appear that the role of structural change in Russian growth is likely, on balance, to be rather less after the present crisis than it was in the previous decade⁸. We already know that labour force growth, at any rate in the sense of growth in the population of currently-ordained working age, will not contribute to growth over the next decade. To maintain or accelerate GDP growth compared with the inter-crisis period will require some

⁸ A raising of official pension ages, a *de facto* increase in numbers of working pensioners or substantial net immigration – or some combination of these developments – could keep the labour force close to its present level during the next decade, but a decline is the most likely prospect.

combination of faster investment growth, more rapid increases in skills and management methods and more rapid introduction of products and processes new to Russia. The prospects for any or all of this occurring will be discussed in section III. To complete the background on inter-crisis development, we turn to Russia's economic involvement with the rest of the world.

Russia and the rest of the world

In comparison with other BRICs, Russia's economy is if anything rather strongly engaged in international business. Table 4 shows some leading indicators of global links, from World Bank data, for the four countries.

TABLE 4. Measures of global linkage, Brazil, Russia, India and China, 2007 (% of GDP)

	Exports of goods & services	External debt	Net inward FDI flows
Brazil	14	18.1	2.6
Russia	30	28.7	4.3
India	21	19.8	2.1
China	42	11.7	4.3

Source: derived from World Bank, World Development Indicators (henceforth WDI).

These numbers show Russia to be, in several respects, well integrated into the global economy in comparison with other large, middle-income countries. Some caveats are worth adding, however.

Russian exports are dominated by natural resources to a greater degree than those of Brazil, India or China. In 2008, 65.9% of merchandise exports consisted of crude oil products and natural gas (CBR data from www.cbr.ru/statistics/, accessed 13.07.09). A further 15% or so came from coal and metals. And within the modest total of exports of manufactures – in other words, excluding farm and other natural-resource exports – Russia's share of high-technology products is closer to India's than to the higher shares of high-tech products in manufactured exports for Brazil and China.

On the debt figures, it should be noted that in Russia's case this was overwhelmingly private-sector debt, and that the debt/GDP figures for all BRICs are modest by world standards. On IFDI, it should be added that the net inflows are for the most part rather recent.

The stock of IFDI in Russia at the beginning of 2009, according to the CBR, was a modest 10.8% of GDP.

Russia's trade and investment activities, overall, might be deemed to be at a healthy level. That has the perverse effect of making Russia unhealthily vulnerable to an international crisis, as described in section II below. In the long run, however, over good times and bad, Russia benefits and will continue to benefit from this involvement.

Russia's global links have developed despite the severe defects in its business environment. These have already been summarised. They extend to the mechanics of trade itself.

The World Bank's EODB exercise ranks Russia 161st out of 181 countries (2009 ranking) for trading across borders (<http://www.doingbusiness.org/ExploreEconomies/?economyid=159>, accessed 13.07.09). That is one of Russia's worst business-environment rankings; it came 120th overall. In summer 2009 the WEF ranked Russia 114th out of 121 countries for the ease of conducting trade with it (*Wall Street Journal*, 8 July 2009: A7). The WEF ranking is assessed from the point of view of a firm outside the country selling to customers within it, while the World Bank ranking is about doing business from inside the country. In the WEF ranking, as in other business-environment rankings, Russia fares particularly poorly for an upper-middle-income country. Thus Russia comes 44th in the WEF ranking of per capita GDP yet 114th on ease of trading. China comes 77th on per capita GDP but 49th on ease of trading (*ibid.*).

In short, Russia is quite strongly integrated into the global economy but would be even more integrated if its institutions were in better shape. Its natural resource wealth, the size of its market and its rapid growth in the inter-crisis period have generated a great deal of international business, but they have done so against the deterrents of high corruption, uncertain property rights, weak administration and a weak rule of law.

Russia's trade has been heavily focussed on Europe. Table 5 illustrates.

The pattern of Russia's trade by partner-countries has come increasingly to reflect two standard influences on such patterns: wealth and proximity. In the case of Russia, it is mostly proximity to Moscow that matters, since the bulk of Russian population and economic activity is west of the Urals. Hence the minor role of the US and the modest roles of China and Japan. The CIS countries form a small and declining part of Russia's international trade flows. The legacy of CIS countries having all been part of the USSR contributes to many existing commercial links, but that influence has succumbed, since external trade was ope-

TABLE 5. Shares of selected countries and groups of countries in Russian merchandise trade in 2008 (% of exports plus imports)

EU 27	52.0
<i>of which</i>	
Germany	9.2
Netherlands	8.4
Italy	7.2
CIS countries	14.5
China	7.6
Japan	3.9
US	3.7

Source: Russian Customs data (www.customs.ru).

ned up in the early 1990s, to the gravitational pull of Europe. Not only is the enlarged EU a huge market and source of supply. It is also only a little more "distant" than the CIS⁹. So Russia is globally quite well connected. That has made it correspondingly vulnerable to the global economic crisis.

II. RUSSIA AND THE ECONOMIC CRISIS: WHAT'S RUSSIAN AND WHAT'S GLOBAL?

The economic crisis has hit every country in the world. Even such nearly-autarkic economies as North Korea and Burma are not untouched. Among large, middle-income countries, however, Russia has been suffering more than most. In this section I review the situation and prospects in 2009; then consider the most likely state of affairs as Russia emerges from the turmoil, and the implications for the longer term of different timings and modes of exit from the crisis.

How bad is the situation in 2009?

There are two respects in which Russia's experience in the crisis looks worse than that of other large economies. First, the decline in economic activity in early 2009 was compara-

⁹ One way of assessing this is to compare Moscow's distance from Frankfurt (representing an EU centre of commercial gravity), which is 2,039 km, with an average of the distances to Kiev, Yerevan and Tashkent, weighted by the combined GDPs of the western CIS countries, the Transcaucasus countries and the Central Asian countries; that works out at 1,554 km (author's calculation, using 2002 GDP data).

tively steep. Second, the most authoritative projections for 2009 as a whole show Russia facing a steeper decline than either the developed West or other leading “emerging markets”. Box 2 shows some indicators of the decline in activity in the early part of this year.

Box 2. Russia: bad news in early 2009

Unemployment before the crisis (% of labour force)	5.6
Unemployment in July 2009 (% of labour force)	8.3
Year-on-year change (%) in GDP in first half 2009	-10.4
Year-on-year change (%) in industrial output, Jan-July 2009	-14.2
Year-on-year change (%) in rail freight in Jan-July 2009	-16.3
Year-on-year change (%) in fixed investment in Jan-July 2009	-18.8
Year-on-year change (%) in average real wage in Jan-July 2009	- 3.0

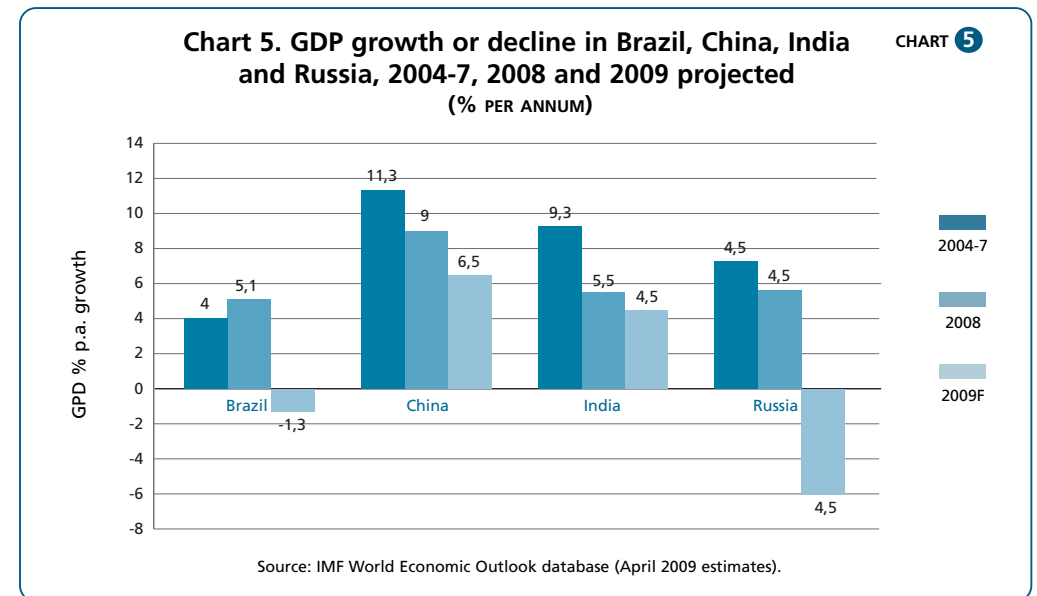
Sources: Rosstat; www.gks.ru/bgd/B09_00/IssWWW.exe/Stg/d07/1-00.htm, accessed 23.08.09.

The immediate effects of the crisis have been even worse than this in the Baltic and Balkan states, but not in other large countries.

So far as the prospects for 2009 are concerned, the International Monetary Fund (IMF), the World Bank (WB), the Organisation for Economic Co-operation and Development (OECD), and Russia’s Ministry of Economic Development (MinEkon) concur in projecting a year-on-year fall in GDP of 6% or worse. There is no guarantee that they are right. Every major forecaster has been lowering projections for world economic activity levels every couple of months for about the last year. Evidently, nobody has any firm understanding of what the future holds. Still, these are the heavyweight forecasts, and they are an influence in their own right. Chart 5 shows Russia among the other BRIC countries.

All the BRICs have slowed down, and in the case of Brazil and Russia growth was projected to change to decline. The short-term outlook for Russia, however, was worse than for its peers.

The steepness of the fall in economic activity is one measure. Another is the scale of the deterioration in economic performance. Thus, Russian output grew by 5.6% in 2008 and was projected by the IMF to fall by 6% this year (MinEkon projected a fall in the range of



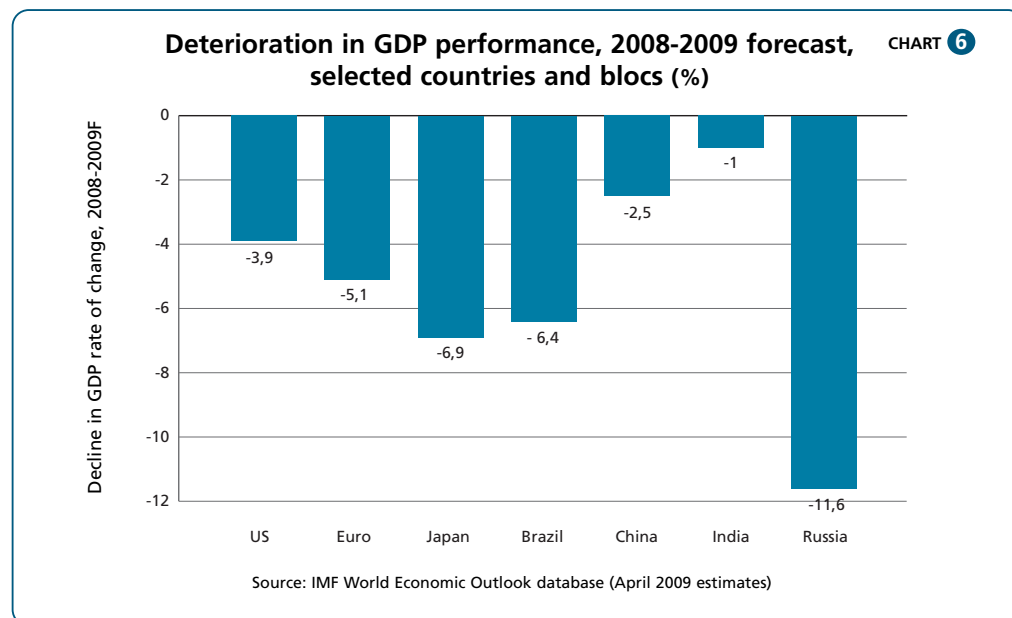
6 to 8%). So the deterioration in Russia’s performance, on the IMF’s projection, is 11.6%. In the case of the US, the numbers go from 1.1% in 2008 to -2.8% in 2009, so the US deterioration is -3.9%. And so on.

Chart 6 shows this measure of deterioration for leading developed countries or blocs, as well as the BRICs. Again, Russia stands out in the most unwelcome way.

It looks as though there really is a specifically Russian problem. What is it? Russia entered the crisis with nine years of rapid growth behind it, eight years of budget surpluses and the third-largest foreign-exchange reserves in the world (\$598 bn in early May 2008). So the question is: what has produced such an especially sharp contraction in a country with these advantages?

Some alternative ways of accounting for Russia’s current fragility

One story put forward is that Russia is now paying the price of “not diversifying” its economy and being too reliant on oil and gas. If this were the explanation, we would expect other significant oil exporters to be in similar difficulties. But that is not the case. In Saudi



Arabia the oil and gas sector makes up about half of GDP, against just under 20% in Russia¹⁰. Yet Saudi economic performance was projected by the IMF to worsen from 4.6% GDP growth in 2008 to a fall of only 0.9% in 2009.

It is true that the crisis has induced, across the world, a “flight from risk” and a reduction in lending, and this has entailed a withdrawal of investments and credit from emerging markets. These include Russia. But they also include the other BRICs. And Brazil, India and China, as is suggested in charts 5 and 6, are not suffering as much as Russia.

Levels of foreign debt should not be a problem. At mid-2009 the external debt of the Russian state (measured in dollars) was 3.1% of projected 2009 GDP. Russian banks and corporations, on the other hand, have been on a borrowing spree, mostly in dollars and euros. Their foreign debt outstanding at mid-2009, on preliminary CBR estimates, was about 35% of projected 2009 GDP. That is modest by international standards. It includes a substantial chunk of debt owed by state-controlled concerns: at the beginning of 2009 state-controlled banks and companies had foreign debt equivalent to somewhat over

¹⁰ The official Rosstat figures show value added in extractive industries to be substantially less than this, but see Tabata 2006 for improved measurements.

10% of projected 2009 GDP, while the “real private sector” had debt equivalent to just under 26% of GDP. There are problems for individual companies, but nothing menacing in overall levels of Russian foreign debt; quite the contrary, in fact (debt data from the statistics pages of the CBR website, www.cbr.ru; 2009 GDP in dollars as projected by Troika Dialog in June 2009).

One clue to the sharp deterioration in performance can be found in the CBR’s figures on the net flow (into or out of the country) of private capital. This had been negative (that is, a net outflow) for years but turned positive in 2006, 2007 and the first half of 2008. Then it went sharply negative in the second half of 2008 and the first half of 2009. Foreign loans were being called in, foreign portfolio investors were getting out and Russian businesses and, some of the time, households were putting their assets offshore. (“Putting assets offshore” includes switching out of roubles into dollars or euros, as many Russian citizens did late last year and early this year, even if they don’t literally place the funds outside the country).

My guess is that the flight from risk was particularly sharp and had particularly severe consequences in Russia.

This is not simply a reaction by foreign investors. What changed was the economic behaviour of Russian banks, corporations and households as well as that of foreign banks and companies.

Why should business confidence be especially fragile with respect to Russia? I suggest that confidence in Russia is particularly shaky for two reasons. First, all those involved, whether Russian or foreign, are aware that in Russia the rule of law, protection of property rights, consistency and predictability of state regulation and state economic policy are all in poor shape. Second, this perception is accompanied by the knowledge that domestic financial markets are weak, so that the incentive to place funds offshore is reinforced.

For Russia, this scepticism about institutions is reflected in a particular set of arrangements: the use by leading Russian corporations of offshore holding companies, registered in tax havens. This is not an arrangement unique to Russia, but in the Russian case it is combined with a prevalence of business control by individual tycoons. A Russian steel or aluminium company will typically transmit dividends to its main owner by paying them to an offshore holding company.

In 2008 leading Russian metals companies paid out more than usual in dividends: generally speaking, most of their profits; in some cases the dividends exceeded the year's profits (Krichevskii 2009; Krichevskii and Inozemtsev 2009). These dividends went, typically, to Cyprus or the British Virgin Islands. Krichevskii studied mainly the metals companies Rusal, Evraz, Metalloinvest, Mechel and MMK, with passing references to the retailers X5 and Sed'moi Kontinent, the bank-based conglomerate Alfa Group and another metals company, NLMK, but he argued, plausibly, that the arrangement was typical for Russian big business in general¹¹.

This outflow of funds, Krichevskii suggests, was in some cases even at the expense of working capital. Therefore inventories would have been squeezed more than would have been the case, other things equal, in an economy with dispersed company ownership. In 2009 Q1 the fall in inventories accounted 8.6 of the net overall GDP fall (year-on-year) of 9.8%; the equivalent figures for 2009 Q2 were 9.5 and 10.9% (Ol'ga Kuvshinova in *Vedomosti*, 2 October 2009).

What I am suggesting is that banks and corporations, both Russian and foreign, take the problems of operating in Russia in stride during the good times; but when there is a general downturn, they take the familiar institutional weaknesses much more seriously. For many leading Russian companies, their ownership arrangements lead logically, in bad times, to particularly large outflows of funds, producing *inter alia* steep falls in inventories. For foreign direct investors, the story will have been somewhat different. For them there were several alarming developments in 2007 and early 2008, even in what they thought were still good times. British and Russian partners in the TNK-BP joint venture were locked for months in a struggle over control of the company. What role the state played in this struggle was not clear, but there was at least a question about its neutrality. Prime Minister Putin wiped several billion dollars off the New York stock-market value of the Russian steel company Mechel in one afternoon by publicly rebuking its owner. And Russian troops invaded Georgia.

Meanwhile two long-running cases of harassment of foreign direct investors continued through 2008 into 2009. Russian police officers operated, probably from 2007, with

¹¹ Was this study commissioned by someone who wanted to get one or more tycoon into trouble? That is possible. But the bottom line of the report is about "the oligarchate" as a whole, and Sergei Chemezov's Rostekh is added to this category as "a quasi-state oligarchic group".

others in an attempt to steal funds from William Browder's Hermitage Capital Management (Browder 2009). The Norwegian telecoms company Telenor was for several months at risk of having most of its 29.9% stake in the mobile phone operator Vimpelcom taken away by extremely dubious legal proceedings (*Oxford Analytica Daily Brief*, 26 March 2009). A deal in which Alfa and Telenor pool their Ukrainian and Russian telecoms assets may possibly have lifted the threat¹².

In an environment like this, both Russian and foreign businesspeople involved in or considering involvement in Russia react very sharply to danger signs. When the oil price falls, the direct damage to the Russian economy may well be containable, but that is not the end of the matter. A falling oil price is a signal that a tough environment is about to get a good deal tougher. It is one thing for a business to cope with the corruption, insecure property rights and absence of a rule of law when Russian markets are growing fast; when the economy contracts, the costs and risks of being there loom larger.

One such heightened risk is of acts or threats of confiscation by the state. In July 2009 Aman Tuleev, the governor of Kemerovo region, threatened the owner of ArcelorMittal, Lakshmi Mittal, with a state takeover of two coal mines owned by Mittal in Kemerovo if production levels, and therefore employment, were not restored. Reportedly, Mittal had paid \$714 m for three coal-mines in the region in April 2008. By July the price of coal was a quarter of its level at the time of purchase, down to around half unit cost (*Reuters* from Moscow, 10 July 2009; *Vedomosti*, 10 July 2009). In the same vein, Vladimir Putin said that Renault, which owns 25% of the AvtoVAZ car works at Tol'yatti, must invest more in the ailing plant or face having its stake diluted; AvtoVAZ had bank debt of R40bn, nearly all of it short-term; was expected to lose R30bn, and had been told by the state that its plans to cut its workforce by 27,800 could not go ahead (*Vedomosti*, 2 and 5 October 2009).

Politicians everywhere do not want to see jobs being lost when they are in office. In countries with a rule of law they may intervene in the sense of offering subsidies to some of the firms involved. Simply ordering a private firm to subsidise loss-making production from its own funds, however, is not an option. That Russian political leaders do issue such orders reveals a fundamental feature of the Putinist system: an understanding that the state is the real boss, and private businesses operate only on sufferance.

¹² See www.telenor.com, accessed 05.10.09.

Anti-crisis measures

In a country where relations between the state and business are so unlike those prevailing in OECD countries, it might be expected that anti-crisis measures would also be quite distinctive. In a formal sense, however, they have not been. Public funds have been assigned to the re-capitalization of banks, to guaranteeing credits to non-financial corporations and to plugging holes in regional budgets. The different character of the Russian state shows up elsewhere: in the public lambasting of well-known tycoons by Prime Minister Putin, followed by direct instructions to resume production and restore jobs and pay, regardless of the losses entailed, as in the case of Oleg Deripaska's employees at Pikalevo, mentioned above¹³.

Still, fiscal and monetary measures to counter the crisis have been conventional enough in their general outline. Fiscal policy, for example, has included a large package of discretionary tax cuts and additional spending.

Overall, the changes in the Russian federal budget, both planned and actual, have been dramatic. They are illustrated in Table 6 in the next page. Between 2008 and the expected outcome for 2009 the budget balance fell by 14% of GDP. Most of that is the outcome of automatic stabilisers. Discretionary anti-crisis spending in the 2009 budget plan is 3.4% of GDP. There were at the same time some crisis-induced cuts in state investment, leaving an estimated net increase in federal spending of 1.6% of GDP. On the revenue side, cuts in profits tax, changes in tax rules on depreciation and concessions on small-business taxation were estimated to cost 1.2% of GDP (OECD 2009: 42-44). So the "gross discretionary stimulus package" can be put at 4.6% and the net package at 2.8% of GDP. As discretionary packages go, that is relatively large.

It has led the Ministry of Finance to push hard to hold down future spending commitments. Unfortunately, those who frame the budget plans have been landed with a political commitment to raise state pensions substantially in 2010 and to defer to the following year the rise in the "social tax" that would help to finance the pension hike. Kudrin and

¹³ There can be an element of theatre in such public actions, hiding cosier relationships offstage. Deripaska had already received \$4.5bn refinancing of some foreign debt from the state in the form of Vneshekonombank (VEB). He was to receive \$630m in state loan guarantees soon after this public humiliation. Still, the theatrical display of (apparent) state power was entirely at odds with due process and property rights.

his MinFin staff have therefore borne down heavily on practically all other items of expenditure, including on health, education and infrastructure, in the budget plan for 2010-12. This could cause problems during the recovery. The other strategic error was the CBR's deliberate slowing of the fall in the rouble in December 2008-February 2009. This lowered the foreign exchange reserves by some \$200bn, much of the outflow of funds being a re-routing of state assistance to the banks.

TABLE 6. RF Federal budget plans at 01.10.09

	2008A	2009E	2010P	2011P	2012P
Nominal GDP R tr	41.54	38.46	43.19	48.07	53.71
Real GDP $\dot{\epsilon}$ % yoy	5.6	-7.5	1.6	3	4.3
Ave Urals oil p (\$/b)	94.7	57	58	59	60
<i>Federal budget (% GDP)</i>					
Revenue	22.3	17.1	16.1	15.5	15.
Expenditure	18.2	25.4	22.9	19.5	18
Balance	4.1	-8.3	-6.8	-4	-3
Balance (R tr)	1.7	-3.19	-2.94	-1.93	-1.61
Balance (\$ bn)	68.5	-99.6	-85.2	-52.2	-41.1
<i>Deficit finance</i>					
<i>Internal (R tr)</i>					
From Reserve and Nat Welfare funds			2.25	0.67	0.83
Other internal			0.25	0.75	0.24
<i>External (R tr)</i>					
External (\$ bn)			14.7	16.2	17.4

Notes: Numbers in italics are author's estimates
A = actual; E = expected; P = planned

Sources: MinFin 09; www1.minfin.ru/ru/press/speech/index.php?pg4=2&id4=8175, accessed 12.10.09.

The OECD (*loc. cit.*) has criticised the fiscal anti-crisis measures for tending to distort prices (e.g., interest-rate subsidies) and competition (increased barriers to car imports; a concentration of aid on large firms). These objections are fair but could be levelled against many other governments during the crisis.

Domestic critics assert that the process of providing aid to banks and companies has been particularly opaque and under-scrutinised. They compare the amount of parliamentary scrutiny in, for example, the United States ("Razoblachenie oligarkhov", *Izvestiya*, 21 August 2009). Krichevskii and Inozemtsev (2009) argue that "the oligarchate" has been

exploiting the Russian state and the Russian taxpayer.

This is true as far as it goes, but in fact the rescue act did not, in 2008-09, go all that far. Nearly four-fifths of the \$50bn assigned to refinancing Russian companies' foreign debts was withdrawn by the government and not distributed. The realization dawned on Russian high officials and tycoons alike¹⁴ that large, unpayable debts are as much the banks' problem as the debtors'.

For example, more of Oleg Deripaska's overall business debt of some \$25bn seems to have been restructured by existing creditors than was re-financed by the Russian state. The state, through Vneshekonombank, re-financed \$4.5bn and helped in other ways (see above). The \$7.4bn of Rusal debt (debt of the world's largest aluminium producer, the spine of Deripaska's business empire) was due in September 2009 to be re-structured over seven years with 73 creditors. Before end-July 2009 a number of leading Russian firms, including Mechel, Evraz and Pik Group, had secured substantial debt restructurings or agreed debt freezes (*Financial Times*, 27 July 2009).

Moscow's anti-crisis measures, in short, have been larger, in fiscal terms, than in most other countries, not unusual in their basic elements, but open to particular criticism for the lack of public scrutiny that has attended them, and for holding desirable future spending hostage to an arguably rash, under-financed pension hike in 2010. Many of the other criticisms levelled against them, such as that state-assisted re-capitalisation of banks has not generated new credit for firms and households, have been voiced in many other countries; such criticisms do not indicate a specifically Russian problem. Meanwhile, long-established structural characteristics of the economy make the crisis particularly painful for Russia.

Departing in style from the crisis?

When Russia emerges from the crisis, and in what condition, depends far more on the rest of the world than on Russian policies. Russia, as was pointed out above, is a comparatively open economy; imports and exports are quite large in relation to GDP; it is also extremely sensitive to world energy prices.

What sort of global recovery can be expected, and what follows for Russia? It is widely

¹⁴ Some of them are widely believed to be the same people.

expected that recovery in the developed West will be slow and protracted, while Asian countries show early signs of a return to rapid growth. This geographical pattern does not help Russia. In the first half of 2009 only 16.1% of its merchandise exports and imports were with non-CIS Asian countries. If Japan, a likely exception to the Asian renewal of vigour, is excluded, the Asian share falls to 12.4% (Russian customs data from <http://www.customs.ru/ru/stats/stats/popup.php?id286=563>). For several years to come, Russia is stuck with sluggish trade partners.

This may go some way to justify the current (summer 2009) Russian government projections. As the GDP figures in Table 6 above indicate, the chosen scenario has a slow recovery over three years. In 2012 real GDP has just crept back to 1% above the level of 2008. That scenario is probably tilted downwards by design, to discourage further surges in public spending. It can serve nonetheless as a starting-point for a discussion of Russia's exit from the crisis.

The interaction between longer-term policies and the duration of the crisis is neatly analysed by Sergei Aleksashenko, a former first deputy chairman of the CBR and former head of Merrill Russia (Aleksashenko 2009). Aleksashenko is respected for his ability; his judgments also reflect his substantial policy-making and business experience. Box 3 provides a summary of his analysis.

Box 3. Reform and the crisis: the Aleksashenko version

Two factors will decide how Russia fares in the next few years:

- 1) whether the crisis is long or short;
- 2) whether the authorities continue to exercise "manual control" of the economy or adopt systemic reforms.

Exit from the crisis can be treated as a point when GDP is growing at 3% p.a. or more and the budget deficit is 3% of GDP or less. If such a point is reached by summer 2011, the budget becomes sustainable (the deficit can be financed by borrowing on the market and spending cuts are not too severe). If this point was not reached in time there would be a damaging intra-elite fight over resources.

Aleksashenko, relying simply on intuition, assigns the following probabilities (%):

Long crisis: 60

Short crisis: 40

Continued manual control: 90

Systemic reform: 10

He argues that the authorities are solidly against reform. “Systemic reform” means above all the introduction of both economic and political competition, the establishment of independent courts, greater openness to inward foreign investment, control of corruption and the entry on to world markets of non-raw-material sectors of the Russian economy.

He goes on (verbally) to describe a 2 x 2 matrix of possible combinations of developments, with percentage probabilities for each combination (Aleksashenko does not specify all the numbers, but the logic is evident, and they are set out here).

	Long Crisis	Short Crisis
Manual Control	54	3
Systemic Reform	6	4

A long crisis with continued “manual control”, he says, is both the most likely (54% probability) scenario and the worst for the country.

What is needed is an effective reformer for the present situation, such as Chubais was in the 1990s.

Source: Aleksashenko 2009.

Like Russian liberals and many western observers including the authors of the OECD Economic Survey cited above, I take the view that reform in the radical sense used by Aleksashenko would promote long-run growth. In other words, I consider that such reform would be not only necessary but sufficient (other things equal) to promote growth. In section I above Russia’s institutional shortcomings were set out (see especially Table 1). As upper-middle-income countries go, Russia is unusually corrupt and poorly governed,

and has a particularly difficult business environment with a weak rule of law. It prospered despite these deficiencies during the inter-crisis period. How will it fare in the longer run, after the current crisis? The prospects with and without such radical reform are considered in the next section.

III. PROSPECTS

The longer the crisis lasts, the greater the pressures for radical change of some sort. This would not necessarily mean the systemic reform envisaged by Aleksashenko. A prolonged state of economic weakness could lead the political elite to intensify control from above. That would probably be accompanied by an official attitude towards the outside world that would be even more combative than it has been in 2007-09. The volume of talk about external threats would be turned up. Cooperation and compromise on matters such as EU-Russia relations and WTO accession would become even more difficult. Inward foreign direct investment would still be officially encouraged, and would continue, but the practical environment for foreign investors would not improve, and might be allowed to deteriorate.

It is plausible to argue, however, as Aleksashenko does, that a prolonged crisis also increases the chances, however slim they may be, of systemic reform. In general, a prolonged crisis not only does more economic damage in the medium term (say, three years) but also increases the likelihood of radical change, whether market-friendly or the opposite.

Conversely, a comparatively short crisis, with global recovery starting in late 2009 or early 2010, sits more easily with a continuation of business as usual in economic policy and management.

To simplify things, I will concentrate on two opposite scenarios: a comparatively short crisis with no radical change in policies, and a prolonged crisis that provokes systemic reform in a liberal direction. It is convenient to define a short or long crisis along the lines of Aleksashenko’s account: the crisis is short if by 2011 the Russian economy is growing at 3% year on year or better. To illustrate some of the issues we will experiment with a grimmer view than the MinEkon/MinFin projections of the next few years (Table 6 above).

Most scenario exercises for the Russian economy have treated world oil prices as an important variable, and for good reasons. I shall not, however, follow that practice here. My operating assumption is that the average annual price of Urals crude rises to about \$80/barrel once global recovery gets under way, and stays at around that level through 2020. The difference between the two scenarios is that this price level is reached earlier if the crisis is short. A comparatively strong recovery in Asia will tend to push up oil prices globally, but the more sluggish recovery anticipated in Europe will keep Russian oil and gas export volumes picking up only rather slowly. The idea is to focus on the major influences that differentiate the two scenarios. Over the period in question, oil is not one of them.

Scenario A: Return to business as usual after a “short” crisis

In the event of a comparatively short crisis, year-on-year improvement begins to be visible in 2010, the financing of the federal budget is sustainable without acute conflicts within the elite, and pressures to modify policies are mild, at most. Month-on-month and quarter-on-quarter growth (with seasonal adjustments) would be visible perhaps in 2009. The main point is that the recovery is clearly established by 2011.

This would be happening chiefly because the global economy was also recovering. However, that recovery is widely expected to be rather sluggish in the West and Japan. Impeded by its commercial focus on Europe (see the previous section), Russia would not display the buoyancy of China and (probably) India. On the other hand, world energy demand would be growing at a time when cutbacks in investment in oil and gas development had held back supply capacity. The oil price would be higher than in the MinEkon/MinFin baseline scenario (Table 6); Russia would continue to control up to a third of the European gas supply¹⁵. Russia’s flow of hydrocarbons revenue would be back up. It is unlikely however to be at early 2008 levels.

The cultivation of large, state-controlled concerns in the name of high-tech development and diversification could once more be afforded, with slender real benefits, if any. President Medvedev’s efforts to amend the legal status of the state corporations introdu-

¹⁵ Gazprom’s market share fell dramatically in the first quarter of 2009, because of the gas conflict with Ukraine, but had been recovered by May (*Vedomosti*, 13 August 2009). The Nabucco pipeline, by which some Caspian-area gas could bypass Russia, is not scheduled to start operating before 2014.

ced in 2007 might well have succeeded by 2011; but those efforts do not address the basic problem: the ineffectiveness of top-down innovation¹⁶. If Rostekhnologii is still running over 400 enterprises and pouring budget funds into wherever it pours them, its becoming a state-controlled joint-stock company will not save the day.

What are the implications for Russian economic development over the next decade?

The best starting-point is GDP growth. In section I Russia’s inter-crisis growth was considered in the light of the growth rates of inputs of capital and labour. The growth of productivity of capital and labour combined looked to be highly respectable: between 3.3 and 4.7% a year from 1998-2008, or a half or more of the overall reported GDP growth rate of 6.7% p.a. This, admittedly very roughly estimated, growth of total factor productivity was composed of shifts in resource allocation, improvements in management and skills and technological progress proper.

What can be said about likely trend rates of growth in a business-as-usual scenario? First of all, demographers tell us that the numbers of people employed are likely to decline. Table 7 gives one authoritative estimate.

TABLE 7. UN estimates of the Russian working-age population (15-59 inclusive), 1990-2050 (medium variant)

Year	(thousands)	(%)
1990	90 327	61.0
1995	92 037	62.0
2000	93 056	63.4
2005	96 953	67.7
2010	93 977	67.0
2015	87 974	63.8
2020	82 354	60.8
2025	78 649	59.4
2030	77 026	59.8
2035	74 499	59.4
2040	70 788	58.0
2045	65 527	55.0
2050	60 449	52.1

Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, *World Population Prospects: The 2008 Revision*, <http://esa.un.org/unpp>, accessed 09.07.09.

¹⁶ Ineffectiveness, that is, across any wide range of technologies; it can work on a very small number of priority projects: the US developed nuclear weapons and ICBMs in this way, and the USSR was soon able to match it; a whole range of other technologies, including the electronic revolution, were developed in an open and competitive environment, and these the USSR was unable to match.

Between 2010 and 2020 the estimated working-age population falls at 1.1% a year, after marginally increasing in the preceding decade. Numbers employed rose in the decade to 2008 rather more than the working-age population did, at about 1.0% a year. For a few years after 2010, in the short-crisis scenario, the employed proportion of the working-age population can again be expected to grow as unemployment falls – say, by about 3% (from 8.5 to 5.5% unemployment). If that drop in unemployment was spread evenly over the years 2011-13 inclusive, and was followed by a decline in numbers employed equal to the decline in the UN-projected working-age population, that is, a decline at 1.1% a year over seven years, the net result would be an employed labour force in 2020 about 4.6% below the 2010 level, or a rate of decline of just under 0.5% a year spread over the whole decade.

It might be objected that changes in numbers employed can deviate from changes in the working-age population: the proportion of working-age persons who seek employment can rise or fall, as can the unemployment rate; the proportion of pensioners who work can also change. In addition, the state can alter the age at which pensions become available – something that Russia would be well-advised to do. I make the simplifying assumption that, from 2013 to 2020, the numbers available for employment and actually employed change in line with working-age population.

A declining workforce entails a decline in one input into production. It has other effects, notably a reduction in the rate of inflow of young persons into the workforce. That in turn has two consequences that are likely to be adverse for growth: it will slow the rate at which the allocation of labour between lines of production alters, since differential rates of recruitment are part of the mechanics of structural change; and it slows down the rate at which new skills are acquired by the workforce as a whole, since young workforce entrants are the cohort most likely to undergo training.

If, as seems almost inevitable, Russia faces a fall in labour inputs and a slowdown in the rate of labour reallocation across activities plus some slowdown in the rate of acquisition of skills, a deceleration of output growth looks likely. What might offset these influences? In the business-as-usual scenario the two main sources of growth not affected by the demographics look unlikely to be helpful. They are the rate of growth of the capital stock and the introduction and diffusion of new products and processes¹⁷. If the present busi-

¹⁷It can be argued that the sort of growth accounting employed here can capture improvements only in processes (for producing established products) and not the introduction and diffusion of new products. I shall ignore this caveat.

ness environment remains in place, it will not favour an acceleration of the growth of fixed investment and of the capital stock. The most plausible assumption would be that capital-stock growth would resume at something like the rate observed in the inter-crisis period: 3% a year. As for success in diversification and the acceleration of technological change, the reasons for scepticism on this score, absent systemic reforms, have been given above.

Table 8 shows some indicators of technological progress and innovation capacity for Russia, compared with the other BRICs, mainly in 2007-08. It appears that Russia has a comparatively large research and development establishment. But that establishment, as it was in Soviet times, is remarkably unproductive of patented inventions. It appears also that the Russian research, development and innovation system delivers only a rather modest flow of internationally competitive high-technology products (note that these exports are measured here as a percentage of all exports of manufactures, not of all exports, so that Russia's large exports of crude oil and gas do not affect the measure). Finally, Table 8, in its listing of highly ranked universities, casts doubt on the conventional wisdom that the Russian educational system is strong – at any rate at the tertiary level. Cooper's source for this indicator is the widely-accepted THE-QS World University Rankings.

TABLE 8. Indicators of technological capacity and achievement, BRICs, c.2007

Indicator	Units	Russia	Brazil	China	India
Researchers	/million popn.	3,255	461	926	111
Intl. patent Applicns.	% world total	0.4	0.3	3.7	0.4
Hi-tec exports	% all m'f exp.	6.9	12.4	29.7	5.3
Universities in World top 500	Number	4	5	11	7

Sources: Cooper 2009, Table 4 (original sources given there), except international patent applications from the World Intellectual Property Organisation (http://www.wipo.int/pct/en/activity/pct_2008.html#P1519_49327, accessed 24.08.09).

Under the present political order, Russia has kept in place many of the deficiencies in innovation that characterised the Soviet Union. These include a large workforce of research scientists and engineers, even after the post-Soviet decline in the profession's status and rewards, that appears to be unproductive, and a lack of international competitiveness in advanced-technology products. These defects have in my judgement been held in place by the policy of top-down organisation of research, development and innovation embodied in

the state corporations. These limit internal competition. Another malign policy influence is embodied in the wide range of industries covered by the 2008 law on foreign investment in strategic activities, which restricts foreign competition in the Russian economy.

Even fundamental science is weaker in Russia than is commonly believed. In October 2009 forty-six Russian scientists working in leading universities and research labs abroad sent an open letter to the Russian President and Prime Minister, on “Fundamental science and the future of Russia” (Open Letter 2009). They declared that Russian pure science was lagging behind international levels and was in a “catastrophic” state, and they proposed urgent policy actions. If Russia returns to business as usual after a comparatively short crisis, these impediments to innovation will remain in place.

Turning these qualitative arguments into quantitative projections requires heroic assumptions and entails wide margins of error. The calculations are set out in the Appendix. The reader should be warned that placing these sums in an appendix does nothing to elevate their status: they are speculative in the extreme.

For the business-as-usual scenario, the projected trend rate of GDP growth from 2012 through 2020 is 4.3% p.a. If the outcome for 2009 were to be a year-on-year GDP fall of 7% and the recovery in the short crisis took the form of 2% growth in 2010 and 3% in 2011, increments of GDP would then follow the trend rate of growth of 4.3%.

Scenario B. A longer crisis leading to radical, systemic reform

This is the scenario that Russian liberals would like to see. Aleksashenko is probably right to say that it is far less likely than the return to business as usual, but that reform is somewhat less unlikely to come about after a prolonged crisis than after a short crisis.

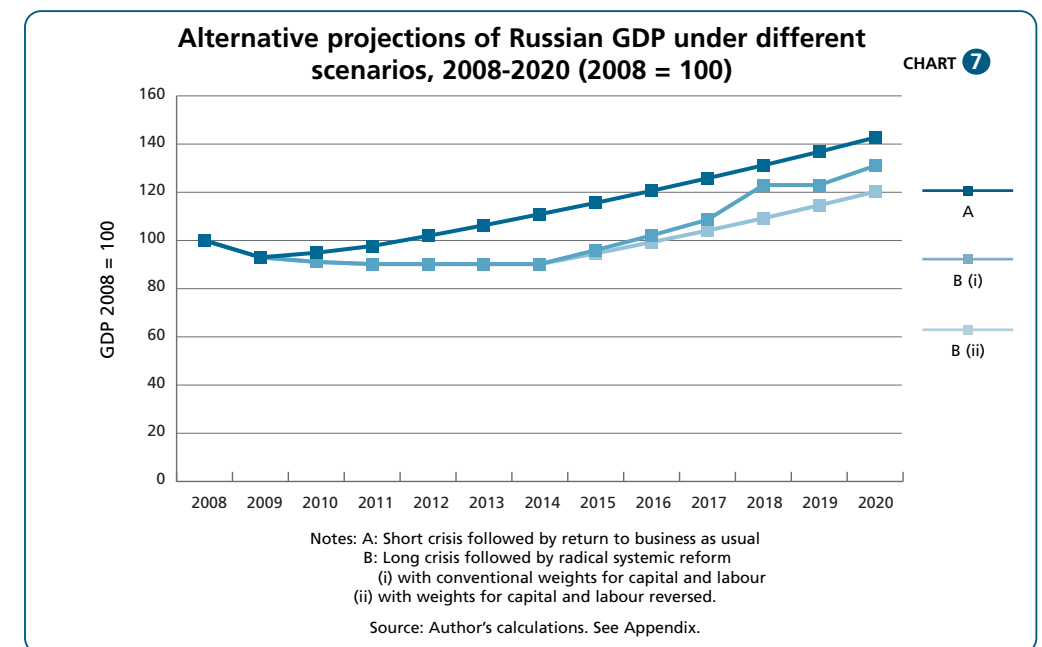
So far as Russia’s growth prospects in the next decade are concerned, this would not be good news. First, the downturn would extend further into the future. Then it can hardly be expected that the introduction of the core changes of economic and political competition would occur quickly and smoothly. To envisage a repeat of the turmoil of the 1990s would be excessive: much of the reformed economy is already in place this time round. But the political incumbents control a large chunk of the available economic assets. They will hardly let the rules of the game be transformed without a fight. So a large part of the coming decade would be taken up with the sequence of recession and then a contest

over the political and economic order.

For purposes of illustration, we take the notion of a long crisis seriously and posit GDP declines in 2010 and 2011, albeit diminishing declines. They are followed by a flat year in 2012. We then assume two years of political and economic adjustment (this is a euphemism) with a net result of zero growth. So the new order takes effect only from 2015, at which point the economy is trailing behind the business-as-usual scenario.

The demographics remain the same. It is plausible to anticipate, however, that from 2015 a regime of better-protected property rights and a genuine rule of law and more openness to foreign capital will begin to nudge investment growth upwards, with a lagged effect on the growth rate of the capital stock. We assume that the capital stock rises at 3.5% a year, rather than the inter-crisis rate of 3%, in 2015-20. We also assume that total factor productivity (TFP) growth accelerates, from the same year. We assumed that under business-as-usual, for the reasons given above, TFP growth would be 1% per annum less than in the inter-crisis period. We assume now that it improves by 1% a year from 2015. We have the new growth sources kicking in only in the second half of the decade.

The results are illustrated in Chart 7.



What one gets out of this sort of exercise depends of course on what one puts in. Given our assumptions, radical reform does not deliver a larger GDP by 2020. That is because we have linked radical reform both with a longer crisis and with a period of stagnation while the struggle is under way between reformers and incumbents. Reform puts the economy on a higher growth path (markedly higher if we use conventional weights for labour and capital [B(i)]) but the acceleration kicks in too late to deliver an improvement over business as usual by the end of the decade.

It would be easy to concoct “liberal” scenarios that are more comforting to the liberal cause. One could imagine reform following only a short crisis, and the liberal order being put in place quickly and painlessly. The point about the assumptions I have chosen is that they are more plausible than these agreeable dreams.

It is worth recalling that a third plausible scenario (or cluster of scenarios) has been mentioned. That is a long crisis leading into an intensification of authoritarian control. From the point of view of Russian and foreign business and of better material conditions for the Russian population, this would be the worst case of all. It is not obviously less likely than our scenario B. The possibility of a regime that is more xenophobic and more hostile to competition than the present regime cannot be ruled out.

IV. CONCLUSIONS: RUSSIAN PROSPECTS AND WESTERN INTERESTS

In the previous section the prospects of Russian economic development have been considered in a narrow way, with the focus on alternative projections of GDP. What would the two main scenarios imply for Russia’s relations with the rest of the world? In this final section I consider, briefly and in broad terms, the prospects for Russian energy leverage and economic diversification.

The energy superpower

The rest of the world will continue to deal with Russia the oil and gas exporter. In either scenario Russia remains a major exporter of energy. Its dependence on oil, gas and metals exports remains little changed through 2020. In the radical reform scenario, this is because

of the late start we have posited for systemic reform. From that reform coming into effect in 2015 to a major role for Russia’s exports of manufactures would take more than six years. In the business-as-usual scenario that diversification would simply not occur (see below).

Meanwhile, both Europe and Russia benefit from East-West sales of hydrocarbons. The sore point in the relationship is gas. In the second quarter of 2009 Gazprom regained its former share (about one-third) of the gas market in the EU plus Turkey, but that market had shrunk in the recession. The prospects of Russian gas supplies recovering as the market recovered began to look doubtful. MinEkon in July 2009 revised downwards its projection of Russian gas production (663.2 bcm in 2008). In the new prognosis for 2012, the end year of the projection, output was put at 621-645 bcm (*Vedomosti*, 9 July 2009). Gas exports outside the CIS, which amounted to 195.4 bcm in 2008, were projected at 189-200 bcm in 2012. The non-CIS exports are almost entirely to Europe and Turkey, but with a small but rising component of LNG sales to Asian-Pacific markets from Sakhalin, so projected sales to Europe are seen by MinEkon as at best flat and probably down.

Russian policies on gas development and trade have three themes. The first is to keep Russian control of flows of Central Asian gas to Europe. The second is to develop gas fields in Eastern Siberia and the Russian Far East with a view to both “gasifying” those regions and developing exports to China, Japan and other Pacific-basin markets. The third is to draw on international oil-and-gas companies’ expertise and financial power in developing new fields without ceding control of the fields in question.

These policies will very likely be successful – up to a point. Since the July 2009 agreement of five governments to support the Nabucco pipeline project, there is rather more likelihood than before that some Central Asian gas, as well as Azeri gas, will flow to Europe around Russia. The cuts in gas supplies to European customers in January 2009 because of yet another Moscow-Kiev gas conflict have provided a stimulus to Europeans’ pursuit of alternative sources of supply. Prospects of stagnating Russian supplies can only increase this stimulus. And the development of eastern gasfields and the Asia-Pacific market is a costly and lengthy process; it may not yield too much in the way of results within our time-frame – beyond what Shell, ExxonMobil and other Western companies have already achieved in Sakhalin.

As an oil and gas supplier, Russia will continue to have political leverage in Europe, but it is not clear that this leverage is going to increase.

Diversification

A return to business as usual would, in my view, make the leaders' proclaimed ambitions for technological catching-up unattainable. Current limitations on competition in product markets and on openness to imports and inward investment hinder rapid technical advance (OECD 2009, chapter 5; McKinsey Global Institute 2009). The current reliance on state-directed, top-down management of innovation is, to put it mildly, unpromising.

A continuation of this style of economic management is not, however, incompatible with large and growing opportunities for Western companies. Even in so-called "strategic" industries cooperation already happens: the Boeing joint venture in titanium with VSMPO-Avisma and Alenia's joint venture with Sukhoi to produce the Superjet 100 are examples. Outside these more sensitive industries the examples abound: almost all major producers of motor vehicles have started operations in Russia; between 15 and 20% of bank assets are held by foreign-controlled banks; IKEA has set up eleven shopping malls in Russia, and plans more. Business as usual would mean, for many of these companies, just that.

There are however limits to such cheerfulness, and they are particularly striking in the business as usual scenario. The economy recovers relatively early, but growth is more muted than in the inter-crisis period, for reasons set out above. There would remain large areas of the Russian economy into which foreign entry remained difficult, if not impossible. Unlike 2003, when a 50-50 joint venture in Russia with a major foreign oil company was possible, such openings would remain unavailable. And even companies operating in more open sectors and building up a significant market share would continue to cope at the very least with the costly harassment of official bribe-seekers that caused IKEA to suspend in June 2009 its development programme (Bush 2009).

The radical reform scenario, deemed here to be much less likely, would have its obvious attractions: a more open economy, a lower level of corruption, a lower risk of administrative harassment by a predatory state, and, in the long run, a faster-growing market. But we expect that development, if it comes at all, to be much slower in taking shape. It would materialise only after a prolonged slowdown in economic activity. Visible signs of success – for example, increased world-market shares in manufactures in general and high-tech products in particular – would almost certainly show up, if they showed up at all, after 2020.

In either scenario the development of Russia-based multinationals is likely to continue. The economic crisis has put a number of Russian companies' external acquisitions on hold. In some cases, margin calls have forced the surrender of foreign assets: Oleg Deripaska, for example, relinquished his stakes in Magna and Hochtief. But Russian stakes in bauxite, alumina, aluminium, gold and steel production in other countries have generally been maintained. And the Russian state has assisted further acquisitions at a time when there are assets going cheap, as in the Sberbank bid, with Magna, for Opel and other Russian bids for German firms: the Wadan shipyards and Infineon-Qimonda, makers of semi-conductors (Socor 2009).

The internationalization of Russian business, in the sense of the development of Russia-based multinationals, is likely to continue because it is in the interests of successful Russian firms with large shares of the domestic market to expand abroad, and the Russian state is generally supportive. So far as the internationalization of Russian business is concerned, there are two differences between the two scenarios. Both would probably show up only after 2020. In the reform scenario Russian firms from a wider range of industries would be capable of expanding abroad; and the development of foreign-controlled business in Russia would be easier.

Final thoughts

Neither of our two main scenarios is exactly bursting with good cheer. But this is Russia, after all. And it has been a feature of western commentary on Russia since 1991 that we have been prone to surges of extravagant optimism, on the one hand, and of deep gloom, on the other. Both moods have proven, so far, to be exaggerated. Two views of the next decade that lie between these extremes do at least have recent history on their side.

APPENDIX. ILLUSTRATIVE CALCULATIONS OF PROJECTED RUSSIAN GDP GROWTH TO 2020

The following calculations are based on a simple Cobb-Douglas constant-returns growth-accounting exercise, following the calculation of total factor productivity (TFP) growth for 1998-2008 in Box 1 of the main text. See the explanation of the approach given there.

There we had GDP growth averaging 6.7% a year, with inputs of labour rising at 1% a year and capital stock at 3% a year. With conventional weights of 0.7 for labour and 0.3 for capital, plus for the inter-crisis period some adjustment for increased rates of utilization of capital, the calculation yielded TFP growth of 4.7% a year. With unconventional (reversed) weights, TFP growth would have been 3.3% a year. The components of that TFP growth were indicated in Box 1. Among them were shifts in resource allocation between lines of production, improvements in management and workforce skills and “technological progress proper”, that is, the introduction and diffusion of new technology.

In the calculations below we look forward to 2020 under different scenarios.

A. Return to business as usual after a comparatively short crisis

Initial assumptions: Russian GDP falls (year on year) by 7% in 2009 and then rises by 2% in 2010 and 3% in 2011 (the latter being the Aleksashenko minimum criterion for a short recession). We then calculate the trend rate of growth for 2012-20 as follows.

Labour force change (see main text): employment rises at 1% a year in 2010-12 as unemployment falls; it then falls at 1.1% a year in line with projections of working-age population. That gives an overall trend rate of change in employment in 2010-20 of -0.45% per annum, rounded to -0.5%.

The trend rate of capital stock growth is assumed to be 3% p.a., as in 1998-2008 (see Box 1). For reasons given in the text we assume that TFP growth slows somewhat. For illustration, we assume it is 1% per annum less than in the inter-crisis period – an arguably conservative assessment.

Then the projected trend GDP annual growth rate in 2012-20 is calculated:

A (i) on conventional weights for labour and capital as

GDP growth = $0.7 (-0.5) + 0.3 (3.0) + \text{TFP growth rate of } 3.7 \cong 4.3\%$ p.a.

A (ii) on reversed weights for capital and labour it is calculated as

GDP growth = $0.3 (-0.5) + 0.7 (3.0) + \text{TFP growth rate of } 2.3 \cong 4.3\%$.

In A (ii) the lower weight assigned to labour reduces a negative influence on trend growth. This is offset by the lower TFP growth rate derived from giving more weight to capital, so the two calculations come out the same. This is neat, but entirely fortuitous. The resulting growth path is therefore (% change year on year):

2009	2010	2011	2012-20 average
-7	2	3	4.3

B. A longer crisis followed by systemic reform

We take the MinEkon/MinFin projections through 2012 as a starting point except that, as in scenario A, we project only a 7% fall in GDP in 2009. This brings real GDP in 2012 almost exactly back to its 2008 level. We then posit, for reasons given in the main text, a stalling of growth for two years as the political-economic order is transformed. Then new trend rates take hold, starting in 2015. The calculations mirror those for scenario A with the capital and TFP numbers modified as indicated in the main text.

The B (i) calculation of trend growth, with conventional weights, is then:

$0.7 (-0.5) + 0.3 (3.5) + \text{TFP growth} = 5.7$, giving a trend GDP growth rate of 6.4% p.a.

The B (ii) calculation with input weights reversed is:

$0.3 (-0.5) + 0.7 (3.5) + 4.3 = 4.9\%$ p.a. as the trend rate of growth.

This time changing the input weights produces different growth projections.

The resulting growth path is therefore (% change year on year):

2009	2010	2011	2012	2013	2014	2015-20
-7	-2	-1	0	0	0	(i) 6.4
						(ii) 4.9

References

- Aleksashenko (2009), Sergei Aleksashenko, "Kuda katitsya strana: Chetyre stsenariya", *Vedomosti*, 13 August.
- Anderson and Grey (2006), J.H. Anderson and C.W. Grey, *Anticorruption in Transition 3: Who is Succeeding... And Why?*, Washington, DC: World Bank.
- Browder (2009), "Testimony of William Browder, CEO, Hermitage Capital Management", (US) Commission on Security and Cooperation in Europe, 23 June.
- Bush (2009), Jason Bush, "Why IKEA is fed up with Russia," *Business Week*, 2 July.
- Cooper (2009), Julian Cooper, "Russia as a Populous Emerging Economy: A Comparative Perspective", CREES, University of Birmingham (draft).
- Gurvich (2008), Evsei Gurvich, "Dva sroka", *Gazeta.ru*, 4 March.
- Hanson (2009), Philip Hanson, "The Resistible Rise of State Control in the Russian Oil Industry", *Eurasian Geography and Economics*, 50: 1: 14-27.
- Krichevskii (2009), Nikita Krichevskii, *Postpikalevskaya Rossiya: novaya politiko-ekonomicheskaya real'nost'*, Moscow, August.
- Krichevskii and Inozemtsev (2009), Nikita Krichevskii and Vladislav Inozemtsev, "Postpikalevskaya Rossiya: Ideologiya vremenshchikov", *Vedomosti*, 17 August.
- Kuboniwa, Masaaki (2009a), "A Note on Estimations of Capital Stock in Russia", Hitotsubashi University (draft).
- Kuboniwa, Masaaki (2009b), "Present and Future Problems of Developments of the Russian Auto-industry", Russian Research Center of Hitotsubashi University Institute of Economic Research, RRC Working Paper Series no. 15.
- McKinsey Global Institute (2009), *Lean Russia. Sustaining economic growth through improved productivity*, McKinsey.
- MinFin (2009), Ministry of Finance of the Russian Federation, "O federal'nom byudzhete na 2010 god i na planoviy period 2011 i 2012 godov", www.minfin.ru, posted 29 September 2009; accessed 12 October 2009.
- OADB (2009), "RUSSIA: Single-enterprise towns could foment unrest", *Oxford Analytica Daily Brief*, 11 June 2009.
- OECD (2009), OECD, *OECD Economic Surveys. Russian Federation*, vol. 2009/6, Paris: OECD.
- Open letter (2009), "Fundamental'naya nauka i budushchee Rossii. Otkrytoe pis'mo Prezidentu i Predsedatel'yu Pravitel'stva Rossiiskoi Federatsii", http://www.hep.phys.soton.ac.uk/~belyaev/open_letter (accessed 2 October 2009).
- Socor (2009), Vladimir Socor, "Merkel-Medvedev Meeting in Sochi Details Russian Takeovers in German Industries", *Eurasia Daily Monitor*, 18 August.
- Tabata (2006), Shinichiro Tabata, (ed), *Dependent on Oil and Gas: Russia's Integration into the World Economy*, Hokkaido: Hokkaido University Slavic Research Center.
- WEF (2009), World Economic Forum, *Global Competitiveness Report 2009-2010* (see www.weforum.org).
- Yasin (2002), Yevgenii Yasin, *Rossiiskaya ekonomika*, Moscow: Vysshaya shkola ekonomiki.

This study has been supported by Finmeccanica in cooperation with Chatham House, Russia and Eurasia Programme, but the views expressed are those of the author.

Prof. Philip Hanson

Philip Hanson is an Associate Fellow in the Chatham House Russia and Eurasia Programme and Emeritus Professor of the Political Economy of Russia and Eastern Europe, The University of Birmingham, UK. He has also worked in the UK Treasury, Foreign and Commonwealth Office, the UN Economic Commission for Europe and Radio Liberty, and been a visiting professor or research fellow at the universities of Michigan, Harvard, Kyoto and Södertörns Hogskjola. His books include *Trade and Technology in Soviet-Western Relations* (1981); (with Keith Pavitt), *The Comparative Economics of Research, Development and Innovation in East and West: a Survey* (1987); (co-ed with Michael Kirkwood), *Alexander Zinoviev as Writer and Thinker* (1988); *From Stagnation to Catastroika. Commentaries on the Soviet Economy, 1983-1991* (1992); (co-ed with Michael Bradshaw), *Regional Economic Change in Russia* (2000); *The Rise and Fall of the Soviet Economy* (2003).
E-mail: HansonPhl@aol.com

The author is indebted to Paola Savoia for research assistance on demographic issues, to Julian Cooper, Vladimir Kontorovich and Masaaki Kuboniwa for comments on an earlier draft and to Richard Connolly for a discussion of the impact of the global crisis on Russia.

FINMECCANICA RESEARCH DEPARTMENT

Carlo Musso - Head

Graduated in physics, he has been researcher at the Cosmic Physics Institute of the Consiglio Nazionale delle Ricerche and coordinator of the science program of the Italian Space Agency. He is member delegate of the Board of the US-Italy Fulbright Commission. He is author of four novels.

Claudio Catalano - Analyst

Graduated in Political Sciences at the University of Rome "La Sapienza", he has obtained a master degree in Strategic Studies at LUISS and a master at the College of Europe in Bruges, and he is completing a PhD at the IMT High Studies. He is a journalist and he has been visiting scholar at the Universities of Cambridge (UK) and Heidelberg and visiting fellow at the EU-ISS in Paris.

Andrea Mignogna - Analyst

Graduated in Economics of Institutions and Financial Markets at the University of Rome "Tor Vergata", he has obtained the master degree BEST in General Management provided by Finmeccanica in collaboration with IRI Management. He worked in the Strategy Department of Finmeccanica.

Paola Savoia - Analyst

Graduated in Political Sciences at the University of Bologna where she has obtained a master degree in Public and Institutional Relations. In Finmeccanica since 2008, she has been researcher at the "Outpost for Security and Strategic Scenarios" of Nomisma.

Eleonora Nicoletti - Assistant

The Research Department refers to the Co-General Manager
Alessandro Pansa

Finmeccanica

Piazza Monte Grappa, 4 - 00195 Rome - Italy
Tel +39 06 3247321

