

BY CLIFFORD G. GADDY AND BARRY W. ICKES

In the final months of 2013, before the confrontation created by the annexation of Crimea, Russia's leaders were focused on a different crisis: the surprising and disturbing fact that an economy they thought was going to grow at 4 percent might not even expand by 1 percent. This "growth crisis" sparked heated exchanges – but no consensus – about how to restore momentum to the economy.

Since March, the debate about reform and growth has, of course, been overshadowed by the threat posed by Western sanctions. But the fact remains that even if the economy escapes unscathed from U.S. and European censure, Russia will still face a growth crisis, which is still poorly understood. And without getting to the bottom of what happened in 2013, it won't be possible to sort out either the short- or long-term prospects for Russia's economy.

The problem with much of the discussion of what's needed to sustain growth is that it is missing an explicit model of what drives growth. Here, we go back to basics, identifying the factors responsible for the slowdown using a simple model familiar to every undergraduate who has sat through a course in economic theory. Our conclusions may come as a surprise to those inclined to prescribe conventional remedies for what ails the Russian economy.

CLIFFORD GADDY is senior fellow at the Brookings Institution. BARRY ICKES is professor of economics at Penn State University and director of its Center for Research on International Financial and Energy Security.

MARCHING TO A DIFFERENT DRUMMER

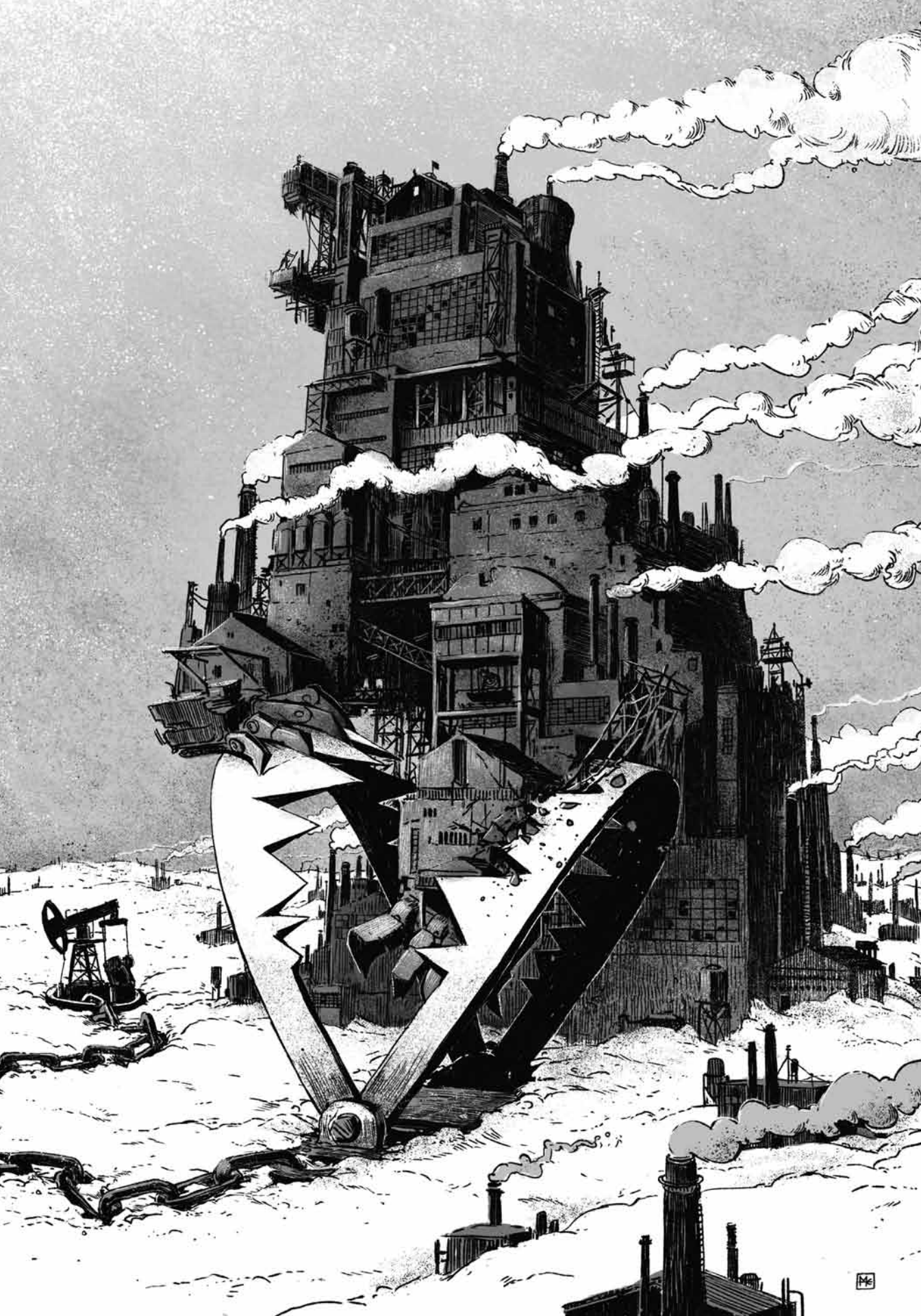
Russia's economic performance in 2013 was quite different from anything experienced since the collapse of Communism and the Soviet system. It's true that from 1992 through 1998 the Russian economy imploded, suffering negative growth averaging 7 percent a year. But that came as the Soviet system collapsed and economic ties within the highly integrated Soviet bloc dissolved. Most important, the transition to markets wiped away much of the fictitious value that had been ascribed to the Soviets' massive investment in manufacturing capacity and infrastructure.

The Russian economy also suffered a deep, but brief, recession in 2008-9, with GDP falling by 8 percent. But that was explained easily enough by plummeting prices for Russia's dominant export, oil.

GROWTH RESUMES

Growth resumed in 2010. At just a bit more than 4 percent a year, though, the rate was well below the boom years of the previous decade.

The regime was nonetheless optimistic that the economy would expand at a rate of 5 to 6 percent once the European recession was



REALITY CHECK

over. This was why 2013 came as such a shock – and not only to Russian policymakers. The evolution of the forecasts by the International Monetary Fund in its biannual World Economic Outlook is typical. As late as the spring of 2013, the IMF was predicting growth of 3.4 percent for 2013. By October, the figure had been revised down to a sobering 1.5 percent – which was still slightly higher than the actual 1.3 percent.

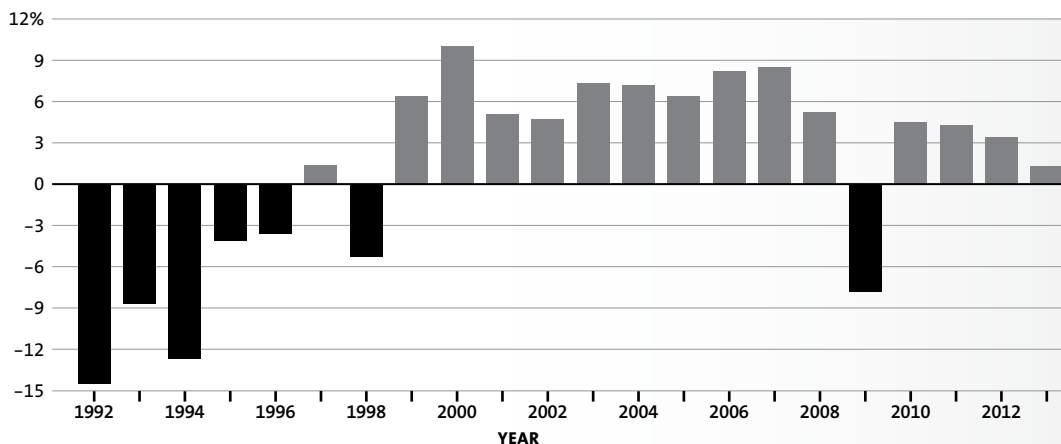
The Russian government blamed this slowdown on the external environment, notably the European Union's weak recovery from the financial meltdown. Some, including Prime Minister Dmitry Medvedev, embraced another argument. Russia, they suggested, was the latest victim of the “middle income trap” – the idea that once a country reaches a per capita income of about \$15,000, its growth declines sharply. This notion suited the regime well, absolving it of blame: the disappointing performance wasn't caused by policy failure, but by ill-understood forces that affected many countries in the same stage of development. In fact, in one speech,

Medvedev spun the bad news into ersatz gold. The slowdown, he argued, was a sign of success. After all, not every country makes it to middle-income status, where it is vulnerable to the middle-income trap.

Economists inside and outside Russia (including those at the IMF) began to talk of the need for a “new model of growth” for Russia. The old model, in which growth was driven by a combination of the use of previously underutilized productive capacity and the wind-fall from high oil prices of the last decade, was exhausted. There was a flood of proposals for how to restore growth, ranging from the obvious to the utopian. They include structural reforms, stronger institutions, privatization, deregulation, innovation, modernization, diversification, more secure property rights and investment in human capital – the list goes on and on.

One can't help but be reminded of the old Soviet joke about the collective farm director and his chickens. The chickens are dying at an alarming rate, so much so that Moscow sends in its top expert. “I have an idea,” the expert says. “Switch out the rectangular troughs for

ANNUAL GDP GROWTH, 1992–2013



SOURCE: IMF, World Economic Outlook Database; Russian Federal State Statistics Service

triangular ones.” He promises to come back in two weeks to monitor the progress.

“So?” he asks on his return.

“It didn’t work,” the director replies. “The chickens kept dying.”

“I have a better idea,” the expert says. “Paint the coops green.”

Two weeks pass, and he’s back. “The chickens kept dying,” the director says. Again, a new idea.

Again he returns to hear that the chickens keep dying.

One day, the expert comes back, and the director announces, “All the chickens are dead.”

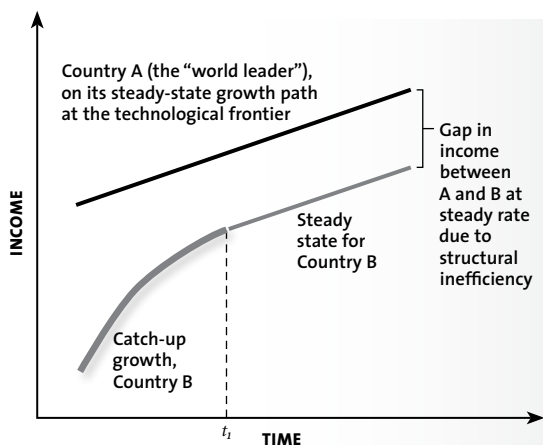
“What a shame,” the expert says. “I had so many more great ideas. ...”

Today’s experts pose no similar threat, since their “great ideas” will never be put into practice. Vladimir Putin won’t implement them – though not because he thinks they threaten the health of the economy so much as they threaten political and social stability. The bad news is that Putin, too, lacks a plan to cure the ills of the economy. He apparently will maintain business as usual, based on mega-projects and tens of trillions of rubles for defense industry modernization and industrialization of Russia’s coldest and most remote regions in the East. Meanwhile, there is still no clear recognition of what has happened to the economy or what could be done to fix it.

STEADY STATE AND CATCH-UP

Some basics. It is crucial to distinguish factors that affect the level of the country’s GDP from those that affect the rate at which GDP changes. This distinction is needed because the upper bound on how fast an economy can grow depends on how far it is from its “steady state” level of income – the level at which it can no longer grow by increasing the amount of capital per worker and borrowing technol-

GROWTH AND CONVERGENCE



EDITOR'S NOTE: The y axis is really (log y), but we hope you get the idea

ogy. In the steady state, growth will largely be constrained by the rate of technological progress at the world frontier.

This implies that the differences we see in countries’ growth rates stem not only from government policies and the quality of economic institutions, but from the size of the gap between current output and the steady-state level of output. The further from the steady state, the greater the potential for faster growth via catch-up.

To be sure, economies also differ in their steady-state levels. That is, there may be a gap between the income level of a particular country and the income of a country at the technology frontier. Japan, say, can catch up completely and then grow at the same rate as the frontier economy but still have a lower level of income than, say, Germany, because it has an economic culture that undermines efficiency.

What is the role for public policy in this setting? Good policies can both raise the steady-state level of income and increase the pace of catch-up growth. Thus, better or worse policies help determine how high GDP



will be in the steady state and how long it will take to reach the relatively slow pace of steady-state growth.

A country's steady-state income is determined by how close it approaches the technology frontier. If its economy has the same level of efficiency as that of the country at the technology frontier, the country's steady-state level of income could coincide with technology leaders. Otherwise, there will be a gap. The relationship between convergence to steady state and the gap with the technology frontier is crucial to what follows, and we illustrate the relationship in the figure on page 89. Country A (which we can think of as the United States) is on a steady-state growth

path at the technology frontier. Because it has reached its steady state, it grows at the rate of technological change.

Initially, Country B (say, Japan after World War II) has a per capita income far below Country A. But in the catch-up phase, its growth rate is higher. At time t_1 Country B has converged to its new steady state, but its income level remains below that of Country A because of structural inefficiencies. If these are not eliminated, both countries will grow at the same rate, but Country A will always have a higher income than Country B.

CHINA VERSUS RUSSIA

This framework, incidentally, applies to China

(and other Asian tigers) as well as to Russia. As recently as 1978, China's per capita income, measured in terms of purchasing power, was a wretched 4 percent (no misprint) that of the United States. This gave China an opportunity for a rapid rise in growth relative to the United States. Until 1978, however, China pursued policies that slowed the catch-up process. Hence, when China's reforms began under Deng Xiaoping, the gap was still huge. When reforms were finally implemented, growth could proceed at a double-digit pace for decades without converging to its steady state.

traps came about. Stalin and his successors did not want the Soviet Union to become a "raw materials appendage" of the capitalist West; the goal was to industrialize to reduce its dependence on a hostile world. But because planning was opaque and prices were set by bureaucrats rather than markets, the true cost of investments made to realize the goals of the Communist leadership was not generally recognized. The result was a vast network of interdependent enterprises that were very inefficient compared with their counterparts in market-based economies.

Factories – and the cities and infrastructure to support them – were often built in cold, remote locations. And the resulting waste was disguised by underpricing inputs in this far-flung industrial empire.

The Soviet experience differed from China's in two key respects that have mattered a great deal in more recent decades, when both countries began the transition to market economies. First, the USSR was surely closer to its steady-state level of income than China on the eve of the collapse of the Soviet state, implying that the gap to be closed was smaller. Second – and this is related to the first point, as we explain below – the USSR was resource-abundant.

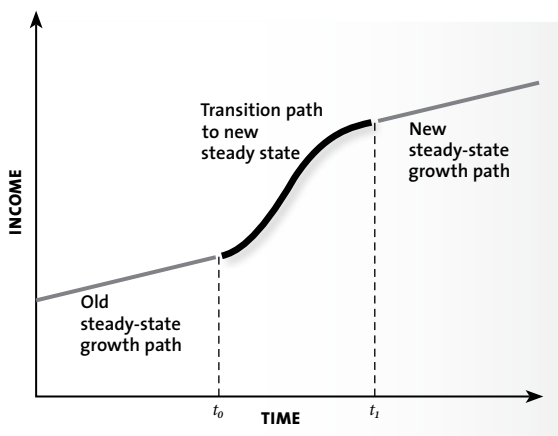
As oil and gas rose in value, Soviet income levels were pushed higher than they otherwise would have been. But the resource wealth also gave the Soviet Union the leeway to pursue policies for ideological and geopolitical reasons that would burden the economy down the road. We refer to these handicaps that lowered the productivity of both human and physical capital as Russia's "bear traps."

It's important to understand how the bear

One big reason for the inefficiency of Soviet industry was its location. Factories – and the cities and infrastructure to support them – were often built in cold, remote places. And the resulting waste was disguised by underpricing inputs to this far-flung industrial empire.

Planning performed poorly in China, too. But China did not pursue the Soviet path as long or as doggedly as the Soviet Union. China did create some "panda traps" – for example, farms that grew the wrong crops in the wrong places and state-owned factories that couldn't survive without subsidized capital from government banks. But the problem was less severe. Much less of the economy was mal-industrialized, and location policy was not as defective. Therefore, the political and social costs of reform were lower in China than in Russia. China's reforms thus led to rapid growth through catch-up, as theory

CHANGING GROWTH PATHS



would predict. In the case of Russia, on the other hand, the failure of the economic system was veiled by growing resource wealth.

THE IMPACT OF OIL

The figure above illustrates the impact of a one-time increase in the price of oil on the steady-state level of income for an oil exporter. It is important to understand this connection because many observers conclude (incorrectly) that real income can only grow if the quantity of oil produced increases. We consider an oil price increase at time t_0 and analyze the adjustment to a new steady state. The oil price increase raised national wealth. But since income cannot rise instantaneously, the convergence to the new steady-state growth path is not completed until time t_1 . During the transition, the actual growth rate of the economy is greater than the steady-state level determined by the fundamentals of this economy. Thus, even a one-time rise in oil prices can lead to a rise in the growth rate of income for several periods, perhaps a decade.

Now suppose that oil prices continue to rise for several years. The situation will be similar except that the steady-state level of income shifts up more than once and produces

a longer period of income growth. This is what happened in Russia. As long as oil prices continued to rise, growth rates remained high, and the failure of the old playbook was not readily apparent. Moreover, the oil wealth allowed a structure to develop that produced vested interests in preserving the old system, and it provided sufficient resources to maintain the structure.

Consequently, when Russia finally did discard the Soviet approach, it did so only in a formal way. In practice, the players kept following it even after the collapse of the Soviet Union. Oil and gas wealth continued to be distributed predominantly to the same claimants – the large defense-industry and other machine-building enterprises – as during the Soviet period.

Putin managed this by demanding and getting substantial tax revenue from the energy sector and by creating an informal, but tightly controlled, system for allocating resources in which the owners of large enterprises – the so-called oligarchs – play a key role. Most of the companies in Russia's raw materials sector were privatized in the 1990s. But with few exceptions, Putin has allowed the owners of those companies to keep their property only as long as they supported the production and supply chains linking the enterprises inherited from the Soviet system.

Energy producers transfer wealth directly – either in physical form (as below-market-price fuel) or in money (as excessive payment for orders from equipment manufacturers) – and indirectly, via intermediate production sectors that serve the oil and gas industry, such as transport infrastructure construction, the electric power sector and refining industries. The system shores up the political status quo and avoids the sorts of social dislocation that plagued the country in the 1990s. But they do so by preserving the bear traps and,

more broadly, the economy's dependence on oil as the sole source of growth. It is only now, in an environment of stable oil prices, that we can see how anomalous the high growth rates of the last decade were.

CAN RUSSIA GROW NOW?

Thanks to oil exports, Russia enjoys a level of income that is higher than what we would expect in light of the economy's non-oil fundamentals. But the bear traps present daunting obstacles for future growth.

To analyze Russia's growth prospects, it's important to distinguish between government policies that could increase the nation's rate of convergence to the steady state and policies that determine its GDP in the steady state. Two sorts of factors influence the catch-up rate. The first are factors that relate to raising the technological potential of the economy. And here, the key is the investment rate. Since catch-up is defined in relation to the world technology leaders, acquisition of foreign technology (most effectively in the form of foreign investment) is particularly important.

The other set of factors influencing the convergence rate involves improving the institutional environment – everything from the impartiality of the legal system to the efficiency of regulation. A superior institutional environment makes it possible to raise the level of investment, including investment embodying new technology. In addition, the institutional environment largely determines the extent to which the technology potential is realized. The availability of state-of-the-art technology will not guarantee catch-up if the

institutions of the economy prevent it from being used effectively.

What about the factors determining the income level at which convergence to the steady state occurs? One is the extent to which Russia focuses on its advantages in natural resources. If the nation concentrates on oil and gas development, the steady-state GDP will be larger and catch-up growth will be brisker.

The bear traps will play a big role here, too. As long as the structural legacies of the Soviet era are preserved, Russia will never be as rich as it otherwise could be. It will have to keep

spending to compensate for the geographical handicaps that undermine the productivity of capital.

There is an additional link to consider between investment and the bear traps. As long as the structural handicaps remain, the *return* to investment will be lower than it ought to be. Thus, even if the Kremlin manages to implement policies that speed the adoption of modern technology and make the institu-

tional environment more market-friendly, the bear traps will serve as a drag on growth.

GDP GROWTH RATES IN COUNTRIES WITH A PER CAPITA INCOME OF \$5,000+, 1950-2010

PER CAPITA INCOME	AVERAGE OVERALL GROWTH RATE
\$5-10K	2.72%
10-15K	2.93
15-20K	1.85
20-30K	2.10
>30K	1.52
Average	2.16

SOURCE: Penn World Table

RUSSIA'S NEW NORMAL

What does the historical record of growth elsewhere tell us about Russia's prospects? The Penn World Table, a compilation of data now maintained by the University of Groningen, offers insights. PWT includes data for 167 economies from 1950 to 2010, including the growth records of dozens of countries with per capita incomes over \$5,000. We can use the data to determine the average growth rate for a country at Russia's current income level.

Russia's per capita income today is close to

REALITY CHECK

\$15,000. That suggests it is not likely to sustain growth faster than 2 percent annually. But Russia's income is this high only thanks to oil. Its institutional structure more closely resembles a country with a per capita income in the \$10,000 range. In part, this is good news for Russia – other things equal, the richer a country is, the slower it can be expected to grow. Hence, Russia actually has more room for catch-up than it might appear from its income level alone. By this logic, instead of having an expected growth rate under 2 percent, Russia's potential is closer to 3 percent.

On the other hand, these average growth rates are for countries that aren't locked into bear traps, which amount to a tax on growth. They also impede institutional reforms, and hence they prevent Russia from taking advantage of the extra catch-up growth it could otherwise expect.

REALITY BITES

When we speak of expected growth for countries at various income levels, we are implicitly assuming that the countries adopt “normal” policies. If Russia is to achieve the growth typical for its income level, it needs higher investment rates. But how can this be managed?

To many Russia observers, the answer seems straightforward: improve the business climate. This is a bit misleading, however. First, the investment rate depends heavily on the expected return. And if investment did not boom when oil prices were rising and the return to domestic investment was high, it is hard to see why it would boom now, when oil prices are stagnant.

Second, one has to ask where the increased investment will come from. The end of the oil price boom implies that more investment

must come at the expense of private consumption, government spending or net exports. But no policy agenda exists to induce more private or public saving or, for that matter, to attract foreign capital.

Foreign capital is, of course, the most tantalizing sort since it brings foreign technology with it and demands no immediate sacrifice from Russian stakeholders. But that brings us full circle: with the economy struggling and retail sales slowing, why would foreign investment accelerate? Put another way, how much can the business climate improve to offset the impact of a slowing economy? The evidence suggests that there is just not much leverage.

Indeed, there is probably only one way to attract the needed foreign capital: open the energy sector. Barring the imposition of sanctions, foreign investment in oil and gas would respond briskly to the removal of restrictions. After all, if multinational oil companies are willing to take their chances in environments as hostile as Sudan, Burma and Ecuador, they would no doubt make a bigger commitment in Russia (provided, of course that Western sanctions didn't get in the way). We know from the experience of BP that even companies that have experienced ill treatment want to be in the Russian oil sector. Potential profits are just too high to ignore.

Russia does face a growth crisis. This is just dawning on people. It should have been recognized earlier. It wasn't, because several years of growth produced by the oil-price-induced transfer of wealth to Russia from the outside were mistaken for “normal” growth. Very few people recognize the true explanation of Russia's past boom and current slowdown. Today, many compete in proposing magic solutions to return to growth, proposals that are not feasible economically or politically. Meanwhile, there is one path that is both: the resource track. **M**