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How Russia could be more productive

The way out of the economic slowdown is a more effective use of the country's resources—not just *more* resources.

Vitaly Klintsov, Irene Shvakman, and Yermolai Solzhenitsyn

Russia's economy, like the world economy as a whole, fell off a cliff during the first half of 2009, with GDP down roughly 10 percent.¹ It's a movie the country has seen before: GDP fell more than 40 percent following the Soviet Union's collapse, in 1991, and in 1998 Russia defaulted on its debt, the ruble plummeted, and economy-wide capacity utilization fell below 50 percent.

Last time around, Russia experienced a dramatic economic turnaround: GDP grew at an average annual rate of 7 percent between 1998 and 2007, vaulting the country to 53rd (from 72nd) in the world rankings of wealth. Wages increased strongly as well, with disposable income rising 26 percent a year in nominal terms.

Pulling off a similar rebound will be more challenging now. Even before the global downturn, capacity utilization was approaching 80 percent, and the days of relatively easy expansion through better use of the existing capital stock were drawing to a close. An increase in the size of Russia's workforce, which accounted for almost one-third of the growth in real per capita GDP over the past decade (Exhibit 1), was going into reverse. In fact, Russia's labor force could shrink by as many as ten million people by 2020. The financial crisis has made raising

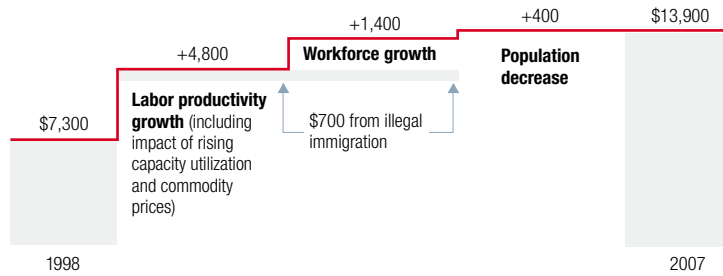
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¹ On July 15, 2009, the economic-development minister, Elvira Nabiullina, estimated that Russia's gross domestic product contracted by 10.1 percent in the first half of 2009, compared with the same period in 2008.

Exhibit 1: **On the fast track**

Russia's economy has been growing rapidly over the past decade.

Russia's per capita GDP growth¹



¹ At purchasing-power parity; 2005 real dollars.

Source: Global Insight; Ministry for Economic Development of the Russian Federation; McKinsey analysis

capital for investments more difficult and has battered commodity prices—including those of oil, metal ores, and coal. Commodities collectively represented around 20 percent of Russia's GDP in recent years. Now Russia must grow by making better use of labor and capital resources—in short, higher productivity. The McKinsey Global Institute (MGI) has twice studied Russian labor productivity: first in 1999 and now in 2009.² During the intervening years, economy-wide labor productivity increased to 31 percent of US levels, from 22 percent.

To make another leap in productivity and economic performance, Russia must tackle deep structural challenges, such as boosting its competitive intensity, making nuts-and-bolts improvements in operations and business processes, simplifying and clarifying regulations (including those for urban planning and permissions), and allocating financial capital more efficiently. There's also a human dimension: raising productivity will require a more skilled and mobile workforce.

But Russia has some advantages. It can grow robustly without the need for rapid urbanization and social transformation—needs that are so acute in other emerging markets, notably China and India, countries whose productivity lags behind Russia's significantly. And there's a silver lining to Russia's massive investment requirements: as demand for capital outstrips domestic supply, competition for foreign funds will probably make it necessary to speed up the implementation of Russia's productivity agenda. Finally, the country's government, which must play a critical role, has a powerful incentive to move quickly.

² For a synopsis of the 1999 report, see Alexei Belyukov, M. James Kondo, William W. Lewis, Michael M. Obermayer, Vincent Palmade, and Alex Reznikovitch, "Reflections on Russia," *mckinseyquarterly.com*, February 2000. For the full MGI report, see *Unlocking Economic Growth in Russia*, available free of charge online at mckinsey.com/mgi.

In recent years, oil-related taxes represented a third to half of federal revenues. If these receipts shrink, Russia will need new ones. Broad-based, productivity-led growth, while far from easy to realize, is an achievable way to create new revenue sources while improving the lives of Russia's people.

A sector-based view

Our research is grounded in an analysis of five important sectors: electric power, retailing, steel, residential construction, and retail banking. Their labor productivity now ranges from 15 percent of US levels, in electric power, to 33 percent, in steel (Exhibit 2).

Three shortcomings are common to all of these sectors: inefficient business processes, obsolete capacity and production methods, and structural problems attributable to economy-wide factors, such

Inside perspective: Analyzing the bottlenecks

Vladislav Baumgartner

President and general director of the potassium fertilizer producer Uralkali

We've been working to improve productivity for nearly two years, and my experience is that the major constraints are internal.

The biggest scope for productivity improvement is in our business processes, which are redundant, and in the level of automation, which is pretty low. Some time ago, we did some benchmarking research in the potassium industry and saw that the productivity of labor in Russia is about nine or ten times below that of our foreign competitors. We also looked at logistics, procurement, quality management, and so on. In all of these areas, productivity was several times below that of our foreign competition.

a lot of management layers between the general director and the people actually on the ground. In our case, we sometimes find up to nine or ten management levels between the blue-collar worker and the director general.

The next constraint is that, "genetically," we are used to increasing production by, let's say, digging an additional mine or buying an extra machine tool—rather than by producing more in the same plant after analyzing bottlenecks. Another vast problem is a lack of motivation. Everything starts from that. Motivation should be present at the top and it should be transferred internally to all management levels and to all blue-collar workers.

"We sometimes find up to nine or ten management levels between the blue-collar worker and the director general"

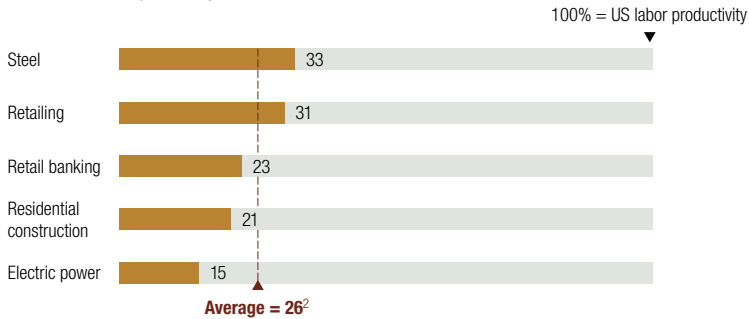
Naturally, one of the main reasons for this is that the standards and technical specifications employed in the construction of our plants are from many decades ago. We also inherited a culture that resists delegating tasks, with

Really increasing productivity consists not in making one or two radical decisions. It involves a long-term process of making hundreds of small-scale decisions that change the corporate culture, the motivation, and the mentality of people who work on the floor level. Making these changes should be on the agenda of senior management.

Exhibit 2: **Coming up short**

Labor productivity in five key Russian industries lags behind that of the United States.

Labor productivity in Russia as % of US labor productivity¹



¹ Latest available data for US labor productivity: steel, 2007; retailing, 2007; retail banking, 2006; residential construction, 2002; and electric power, 2006.

² Weighted based on employment share.

Source: Global Insight; Economist Intelligence Unit; International Monetary Fund (IMF); Federal State Statistics Service of Russia (Rosstat); McKinsey analysis

Russia's electric-power sector is the world's fourth largest, but it suffers from aging assets and labor productivity that is just 15 percent of the US level.

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Leningrad region,
Russia

as income levels that are lower than those prevailing in advanced economies. Depending on the sector, inefficient processes account for 30 to 80 percent of the labor productivity gap with the United States, outdated capacity for 20 to 60 percent, and structural factors for 5 to 15 percent. (For a view of the barriers to productivity from the general director of a Russian potassium fertilizer producer, see the sidebar “Inside perspective: Analyzing the bottlenecks.”)

The underlying causes of these shortcomings are diverse. Differing levels of competition within sectors clearly play a role: retailing and steel are the most productive and competitive of the five sectors

we studied, while electric power and construction are among the least on both fronts. Regulatory procedures and processes may obstruct operational improvements. Complex, opaque rules for planning and permissions make development projects riskier, and the absence of a comprehensive financial infrastructure hampers the efficient raising and allocation of capital. These challenges cut across each sector we studied, but to



make them—and the potential solutions—more tangible, we address them in the context of individual economic sectors.

The competition problem in electric power

Russia's electric-power sector, a monopoly until 2008, is a poster child for the inefficiencies arising in the absence of vigorous competition. Although the sector is the world's fourth largest, its labor productivity is just 15 percent of the US level. The end, last year, of the electric-

Inside perspective: **Change and transformation**

Vitaly Yakovlev

General director of the electric-power company Mosenergo

We are quite an old company, with old electric stations. Companies created before 1991 differ a great deal from those created afterward. Old companies have an authoritarian style of management, midlevel managers who lack initiative and are reluctant to change business processes, low levels of automation, and other inherent aspects of the old economy.

But the entire system works in harmony, and those companies don't have problems until the new economic order exposes them to a new level of competition. Even then, the personnel and management are reluctant to change; technical upgrades of electric-power stations are very hard, and changing business processes is a challenge.

“Technical upgrades of electric-power stations are very hard, and changing business processes is a challenge”

So we need a full-fledged program of change and transformation—not surgical operations on the infrastructure or business processes. It should be applicable to all aspects of the company, including the culture and the entire management structure, which needs to be more flat, so that lower-level personnel get more responsibility for decision making.

Carlo Tamburi

Head of the international division of the Italian energy company Enel

It was only a year ago that OGK-5 joined the Enel Group, so the process has just started. But this comes after we had a couple of very good success stories in Slovakia and Bulgaria, which from both a technological and a cultural point of view are comparable to Russia. In Bulgaria, we had a coal-fired plant that was very inefficient. We streamlined the organization, “rightsizing” the personnel in agreement with the unions, from 1,100 people to 450 in five years, without suffering any problems, while increasing available generating capacity by almost 10 percent. We've experienced similar ratios in Slovakia, where on the nuclear side our key metrics are now in line with those of best-in-class players.

So that's what we are expecting from the Russian plants. We have four plants—one coal and the other three natural gas. These plants basically were run as four individual companies, with a lot of local power vested in the plant directors. We have changed some processes, like procurement and IT systems. We have centralized and rationalized them. People are quite receptive. And we have found a lot of technical competencies, a lot of technical skills. Actually, we want to leverage local skills and competencies, and we hire local guys with an international mind-set.

power monopoly could stimulate productivity growth, but only if real market-based price competition emerges. (For a view of the electric-power sector from leaders of an established Russian player and a new entrant from Italy, see the sidebar “Inside perspective: Change and transformation.”)

The industry’s central challenge is that Russia must replace much of its aging capacity, but electricity prices don’t cover the full cost of investments in new plants. Without price liberalization, private power companies have little reason to invest in new generating capacity—and the government has historically favored low prices as a social good.

One way the government could help make plants cheaper to build (and perhaps limit the price increases needed to pay for them) would be to relax complex equipment-licensing procedures. These rules—combined with the sector’s suboptimal procurement practices, opaque cost controls, and lack of standardization—make building new capacity pricier than it is in other countries. Coal-fired plants, for example, are 25 to 40 percent more expensive than similar facilities in Europe and the United States.

The sector itself can do much to boost the efficiency of existing operations. Russia’s coal-fired plants are 8 percent less fuel efficient than European ones, and its gas-powered plants are 6 percent less fuel efficient. The low density and long distances of Russia’s high-voltage transmission lines raise technical “leakages” to almost twice the US level. Commercial transmission losses are four times higher because of electricity “theft”—the nonpayment of bills and inaccurate metering. Tackling these problems will make a difference. Nonetheless, productivity won’t leap ahead until competitive pricing gives the sector financial incentives to replace obsolete generating capacity and to reduce operating costs in existing plants.

[The road to operational excellence in retailing and steel](#)

Competition isn’t the problem for Russia’s retailing and steel sectors: both have no government-owned enterprises, and retailers face foreign rivals at home, while the steelmakers contend with global competitors in Russia’s export markets. But although these are the most productive sectors we studied, both still have huge opportunities—for the steelmakers, shutting down antiquated technology; for the retailers, replacing dated store formats and improving business processes.

Such opportunities exist, in part because of complicated, time-consuming regulatory procedures and processes. These slow down not only the development of commercial real estate (and there-

fore the modernization of retail formats) but also the consolidation of the steel sector and the adoption of lean business processes. (For executive views on business process improvements in another metal industry, aluminum, see the sidebar “Inside perspective: Too many signatures.”)

Retailing. Over the past decade, Russian retailing (which, with the wholesale sector, accounts for 10 percent of GDP) has increased its turnover sixfold, created five million new jobs, and doubled its productivity from 15 percent of the US level to 31 percent today—the best performance of the five sectors we analyzed. The heart of this transformation was the rise of modern retail formats, which are three times as productive as traditional ones.

Despite this progress, modern formats account for just 11 percent of retail employment and 35 percent of sales in Russia, compared with

Inside perspective: **Too many signatures**

Helmut Wieser

Executive vice president of the aluminum producer Alcoa and group president of its global rolled-products unit

We run 350 operations in over 30 countries. When you have so many plants, you need a sustainable business process, stable results, continuity, and clear targets and monitoring. So we adapted the Toyota production concept and refined it given our specific circumstances, industry focus, and company culture. We call this the Alcoa business system.

Last year in Russia, we had a production run of seven days. Today we produce the same amount of output in three days. We're seeing significant step changes, and this has always been my experience in manufacturing. The reality for me is that there's no difference if I work at an Alcoa plant in China, Russia, Tennessee, Indiana, or Iowa. You energize people, motivate, lead by example, show what can be achieved.

“From a productivity perspective, here in Russia we have too many people in administrative units, support units, and in the capital authorization structure”

To engage the workforce and to change mind-sets is a big task. At Samara Metallurgical Plant, for example, we have over 4,000 employees. It's the largest rolling facility in Europe and our biggest plant in the whole Alcoa system. I go around four times a year to the plants and work there on the shop floor. I have a supervisor. If you go to the plant and you work, you learn what's really going on.

From a productivity perspective, here in Russia we have too many people in administrative units, support units, and in the capital authorization structure. As an example, we needed 16 signatures to get capital authorization at the plants in 2005. If you need 16 signatures to get \$500,000 approved, it doesn't work. Your project is delayed; you lose productivity every second. So we had to move fast to change that in the business process. We also put in new IT systems, which always cost more in the beginning but are absolutely necessary for long-term sustainable results. We have an “e-request” for electronic authorization that goes practically in one day now. These are big changes.

82 and 86 percent of retail turnover in France and Germany, respectively. To double the retailing sector's productivity, Russia must increase the share of modern formats dramatically. In fact, the country should also boost their productivity, which lags behind that of their counterparts elsewhere. Russia's modern outlets, for instance, employ nearly three times as many people per square meter of retail space as their US counterparts do, and their workforce isn't well organized; staffing levels, for example, are often out of synch with customer traffic. But the throngs of customers who fill Russia's modern-format stores help compensate for their higher operating costs: revenues per square meter are roughly two times those in the United States.

Russian retail has transformed over the past decade. Seven million Russians work in the sector, turnover is six times higher than it was, and productivity has doubled.

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Irkutsk, Russia

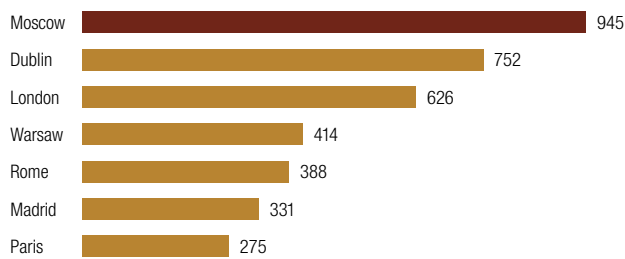
Overall, the low share of modern formats in Russian retailing accounts for three-quarters of the productivity gap with the United States; the rest is due to inefficient processes. The country's network of roads is congested and underdeveloped, lengthening delivery times and increasing transport costs. The domination of logistics networks by small regional providers means that supply chains tend to be fragmented and therefore unreliable. Russian stores also don't exploit IT sufficiently and use part-time labor much less than their counterparts



Exhibit 3: **Overpriced**

Capital investments in Russia are dramatically more expensive than similar projects in other countries.

Construction cost of a distribution center, € per sq meter



Source: Economist Intelligence Unit; interviews with experts; Ministry for Economic Development of the Russian Federation; Renaissance Capital; *Steel Business Briefing*; McKinsey analysis

in other markets do, so they are overstaffed during low-traffic periods and understaffed during peak ones.

Upgrading these operating practices represents an enormous opportunity for Russian retailers, which should start now to centralize their administrative functions, optimize staffing, and improve processes. The current economic squeeze also gives retailers an opportunity to acquire new sites at lower prices and to consolidate smaller and poorly performing players. The government can help by streamlining regulations in order to accelerate the construction of new commercial real-estate projects, which are often dramatically more expensive than they are in developed countries (Exhibit 3), and by improving the transport and utility infrastructure.

Steel. Russia has traditionally had a strong, globally competitive steel industry, which accounts for 3 percent of the country’s GDP and 6 percent of its exports and employs more than a million people. The industry’s productivity has risen sharply since 1997, but almost entirely on the back of higher capacity utilization, not improved efficiency.

Outdated, subscale steelmaking technology is a major cause of the industry’s low productivity in Russia: it still produces 16 percent of its steel in open-hearth rather than basic oxygen furnaces, which are 50 percent more labor efficient. The other reason for the low productivity is inefficient business processes. Russian steelmakers employ 60 to 100 percent more administrative workers than best-practice companies do.

Higher productivity is achievable—already, the top three plants in Russia operate at 77 percent of US levels, more than three times

the productivity of the country’s smaller, older plants. Significant opportunities remain to boost the industry’s productivity through automation, IT investments, and improved work organization. The government can lend support by emulating the European Union’s approach to rationalizing its steel industry: job creation, retraining, and outsourcing and subcontracting programs.

The planning and permissions imperatives in residential construction

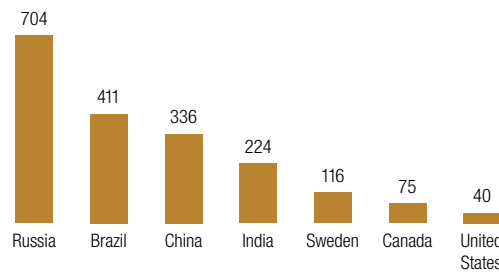
A lack of effective planning increases the uncertainty and risks of development projects in every sector we studied. But its impact is particularly pronounced in residential construction, which accounts for 6 percent of Russia’s GDP and 8 percent of official employment. Just before the crisis, Russia’s government committed itself to increasing per capita housing space to 33 square meters, from 21, by 2020, in line with EU levels. This standard would require average yearly residential construction at more than twice its historic peak. Improving the sector’s productivity—now 21 percent of the US level—is vital to spur the supply of new housing.

It takes, on average, 700 days to get a construction permit in Russia—significantly longer than in Brazil, China, and India, and six times longer than in Sweden (Exhibit 4). Extended project cycles make planning less effective and create supply chain and financing problems; bank financing is virtually unobtainable for small and medium-sized developers. The risk and uncertainty for both them and investors is all the greater because two-thirds of Russia’s cities haven’t approved the master plans required by the country’s city building codes. Developing and ensuring the effective implementation of such plans for cities and regions, along with creating a unified database of land plots, would make construction more productive by

Exhibit 4: **On hold**

Obtaining approval for construction takes an unreasonably long time in Russia.

Number of days



Source: *Dealing with Construction Permits*, World Bank, 2008; expert interviews; McKinsey analysis

Inside perspective: **Thicker pipes and walls**

Dmitry Konov

Chairman of the executive board and president of the petrochemical producer Sibur

The cost of construction for a petrochemical plant is 40 percent higher in Russia than in Europe. In China, it's 40 to 50 percent lower than in Europe. That's a twofold difference between Russia and China. Why is it more expensive in Russia? Lower productivity across the entire

value creation chain, poor equipment quality, and the high cost of delivering this equipment from other countries, and lower-quality work that takes longer to do. It also appears that construction is more expensive because we have to use thicker pipes and thicker walls.

Vitaly Yakovlev

General director of the electric-power company Mosenergo

Dmitry hit the nail on the head about the width of pipes and walls. That immediately contributes to the cost of our power stations. Once, we didn't know certain procedures, and we actually had to redo them three times. Creative regulation—

or, should I say, creative supervision—affects the entire process. And I would like to add an internal problem: we do not have the level of project management that is common in foreign companies.

minimizing the time required to obtain permits and approvals. When Russia took such steps for construction projects related to the 2014 Winter Olympics in Sochi, approval times fell to six months, from three years.

Regulatory issues aren't the only problems bedeviling Russian residential construction. The industry, for example, should increase its use of productive modern materials and build larger housing developments. Only 17 percent of Russia's new houses, compared with 70 to 80 percent of US ones, take advantage of high-productivity prefabricated wall materials (including concrete and wooden panels) and metal frames. Similarly, traditional homes built, with relatively unproductive methods, by their future occupants account for three-quarters of Russia's single-family housing output. (For the views of executives on the high cost of construction in Russia, see the sidebar "Inside perspective: Thicker pipes and walls.")

[Retail banking and Russia's financial system](#)

The restructuring and resource reallocation needed throughout Russia's economy will be possible only with a comprehensive financial infrastructure. To create one, the country needs credible rating agencies, better-developed financial instruments, and a bigger



Just before the global financial crisis, Russia committed itself to increasing per capita housing to double its historic level. Achieving this aim amid difficult economic conditions will require a step change in productivity.

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Kanchalan, Chukot
Autonomous District,
Russia

pool of long-term savings, as well as a banking sector that can pool domestic capital resources effectively and allocate them efficiently. Before the crisis, Russia had the world's fastest-growing retail-banking market, with risk-adjusted revenues expanding at a compound annual rate of 60 percent from 2000 to 2007.

Yet most of Russia's 1,000-plus banks lack the financial or physical scale to operate efficiently. The government could foster consolidation effectively by gradually tightening capital and reporting requirements and risk-management standards—moves now being implemented with much caution. Restructuring of this sort would also increase productivity, now 23 percent of US levels after adjusting for differences in incomes and ten times lower when measured by physical transactions per employee.

Besides promoting such a restructuring, the government can also encourage higher productivity by curbing its regulation of the banks' branch-based transactions and cutting the bureaucracy involved in basic transaction processing. Meanwhile, the industry should centralize back-office and administrative functions and work with utilities to expand the use of electronic bill payments and transfers.

Just consider a few facts. Russian banks must fill in large numbers of forms. One directive requires the regular submission of some 74 different reports to the central bank, compared with 1 report US

banks submit every 15 days to the Federal Reserve System. Russian bank branches require up to three people, compared with one in the United States, to execute a single cash withdrawal. As a result, making a withdrawal, a deposit, or a payment from an account takes between two and five times as long as it does at US banks. Only about one-third of payment transactions in Russia are automated, compared with 70 percent in the United States and 90 percent in the Netherlands. Nonautomated transactions are on average 12 times more labor intensive than electronic ones.

Most banks haven't begun to centralize their back-office and administrative functions. To double the sector's productivity, the number of electronic payments must increase by 150 percent, and half of all payments will have to be undertaken outside bank branches. The experience of some local banks that have implemented productivity efforts suggests that these targets are quite achievable, with minimal capital investment.

The human dimension

Labor productivity improves only when work changes—because people undertake their current jobs more efficiently or move to other, more productive roles. To realize both possibilities, Russia must improve the way it educates and trains professionals and make it easier for workers to move around the economy and the country.

Labor skills

Despite high literacy rates and excellent technical education, Russia lacks key skills. By far the largest gaps, evident in all five sectors we studied, are in project management, largely as a result of 20 years of underinvestment and the resulting inexperience of managing large capital projects.

The electric-power sector also doesn't have enough people with plant design and construction know-how, and it is difficult to fill these gaps on a short-term basis by engaging engineers who have experience in construction contracting, since there are so few of them and the market is only emerging. In steel, even recent graduates tend to lack the project-management, teamwork, leadership, and foreign-language skills needed to oversee technological-modernization projects.

Upgrading outdated educational programs will help address this shortfall. Many design-management students in residential construction, for instance, still use equipment dating back to the 1950s. Topics such as designing to cost are often covered by antiquated curriculums. Adjusting them to global best-practice standards, as well as increasing the practical component in relevant courses, would raise skill levels throughout the economy.

Labor mobility

Russia can achieve its potential only if it promotes labor mobility among geographic regions and industry sectors. Historically, rapid per capita GDP growth has almost invariably been accompanied by such a shift in employment—first, from agriculture to manufacturing and, more recently, from manufacturing to financial, business, and trade

services. In Russia, however, housing, infrastructure, legal, and cultural barriers hinder labor mobility.

Russia's federal and local governments, as well as its businesses, can facilitate the reallocation of labor by focusing on regional economic-development

initiatives that create new jobs. Enhanced job-placement services and improved social programs will also help the country's workers become more mobile.

The restructuring of Europe's steel and automotive industries during the past two decades provides some guidance. From 1986 to 1996, 12 EU countries decreased employment in the steel sector by 200,000 people, a number roughly equivalent to the sector's excess employment in Russia. Likewise, during the 1990s a shift in automotive production to lower-cost countries led Volkswagen to shed 20 percent of the employees at its headquarters, in Wolfsburg, Germany. Virtually overnight, unemployment there soared to 18 percent. Five years later, thanks to a joint venture between the company and the municipal government, more than 11,000 new jobs had been created and the city's unemployment rate was 50 percent lower.



Russia's economy has made enormous strides over the past decade, but the forces behind its recent growth are weakening. By boosting productivity in the years ahead, the country can make its economy more competitive and improve the lives of its people. ○

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