

Addressing Russia's Mounting Human Resources Crisis



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A M E R I C A N E N T E R P R I S E I N S T I T U T E

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Russia's Human Capital Challenges and Potential for International Collaboration

Judy Twigg

On July 6, 2009, Presidents Barack Obama and Dmitri Medvedev signed an agreement creating a US-Russia Bilateral Presidential Commission (BPC). The early Obama years witnessed substantial momentum and political will, bolstered by the US-Russian “reset,” for international partnership with Russia along a broad array of issue areas. Activities linking governmental and nongovernmental players on both sides flourished under the BPC umbrella, including 20 substantive government-to-government working groups and three civil society summits (two of which were held in tandem with annual presidential summits in Moscow and Washington).¹

Vladimir Putin’s return to the Russian presidency has produced remarkable upheaval in the US-Russia political climate and in the context within which Russian organizations partnering with Western colleagues live and work. A series of increasingly draconian laws governing the activities of Russian nongovernmental organizations (NGOs)—including the requirement to register as foreign agents if they receive funding from abroad and are engaged in political activity—has prompted many Russians to observe that they live in a country different from even a few months ago. The Russian parliament has expanded the definition of espionage and treason to include the rendering of assistance to a foreign organization in a manner that is “directed against the security of the Russian Federation,” a definition so flexible and expansive that it could encompass a wide spectrum of contacts between Russian citizens and their international colleagues. In September 2012, the Russian foreign ministry categorically evicted the United States Agency for International Development (USAID) from the premises, claiming that USAID-funded activities amounted to intolerable political provocation on Russian soil.

Against this backdrop, how should we be thinking about the near- and medium-term possibilities for international collaboration with Russia on decidedly nonpolitical issues, such as those related to human capital? Russian Foreign Minister Sergey Lavrov has expressed a willingness to replace the US-Russia reset with “upgrade,” specifically citing health and social protection as two areas in which the countries could fruitfully expand collaboration.² Health and child protection are explicitly exempt from the foreign agents law, and it is clear the Russian government places increasingly high value on policies and actions that augment Russia’s stockpile of human capital, an asset class that has suffered great insult during the two decades of the post-Soviet period. Demographic, health, and education challenges pose a threat to Russia’s future economic and human development. Whether Russia can build and sustain an attractive investment and business environment will influence, and be influenced by, the degree to which Russia can boast a critical mass of healthy, productive workers and professionals able to navigate the 21st-century global marketplace. In Medvedev’s words, “our future must be shaped not by raw materials, but by our intellect, our strength, dignity, and enterprise.”³

This essay is based on interviews over the past two years with a variety of subject-matter experts in Russia and on extensive background conversations with US and European professionals currently working with Russian colleagues in these areas. It explores the parameters of international partnership with Russia in areas involving human capital.

Is there still a compelling logic driving such international collaboration with Russia, given its increasingly hostile political climate? Do Russia’s own challenges affect its potential contribution to international collaboration? Is it possible, through collaboration, to help

Russia address its human capital crisis? If so, what are the specific types of projects and programs that make sense? Are there Russian colleagues willing and able to partner? How could we construct politically viable partnerships that move beyond the outdated (and perhaps never appropriate) US-Russia assistance paradigm of the 1990s? And, finally, even beyond overarching political considerations, does it make sense to ask these questions, given that Russia has ample resources to tackle these problems?

Russia's Human Capital Crisis⁴

The 2010 United Nations *Human Development Report* ranks Russia 65 among 169 countries on its “human development index,” ahead of Kazakhstan but behind Albania. High male mortality, poor public safety, and low life satisfaction were among the primary metrics contributing to Russia’s low scores.⁵ Perhaps the most glaring evidence of Russia’s human capital decline over the past two decades is the sheer drop in its population.

In 1992, Russia was home to 148.5 million people. Today, that number is around 142.0 million. Between 1992 and 2009, Russia’s estimated population fell in every year but two. Given the substantial excess of deaths over births, only a net-positive migration flow of about 5.7 million has saved the country from an even more dramatic plummet. Despite marked upticks in the number of Russian births in the last few years, the outlook for a sustained balance of births and deaths in the years ahead is not optimistic, considering the powerful and basic demographic forces in play. Russia’s population of women of childbearing age, generally defined as 15–49, is on track to decline markedly between now and 2025. Medium-variant estimates suggest this female cohort will be about 21 percent smaller in 2025 than it was in 2005.⁶ In 2009, Russia had about 11.7 million women in their 20s; by 2015, that same age group is projected to have 6.90 million women. By 2025, the number is expected to shrink to 6.40 million. There is relatively little conjecture in these projections since all women who will be 20–29 in 2025 are already alive, and net migration is

unlikely to alter these totals dramatically. Absent a significant increase in general fertility levels, Russian birth totals in the coming years will once again decline.

On the other end of the life spectrum, “excess mortality” has cost Russia hundreds of thousands of lives each year since the end of the Soviet era. This is not an exclusively post-Soviet phenomenon; its roots can be traced back many decades. The overwhelming majority of deaths in Russia today accrue from chronic diseases: heart disease, cancers, strokes, and so forth. During the Brezhnev years, Russia experienced the highest incidence of mortality from circulatory-system diseases ever experienced in human history, and that death rate spiked upward in subsequent decades. By 2006, Russia’s death rates from heart disease alone were 30 percent higher than deaths in Western Europe from all causes combined.

The most commonly cited explanation for extraordinarily high mortality rates from both cardiovascular disease and injury in Russia is alcohol abuse. Russia’s romance with vodka is no secret. Officially, Russia classifies about 7 million people, or roughly 6 percent of the country’s adult population, as alcoholics, but there is little doubt that alcohol abuse negatively affects the health of a much larger subset of the Russian people. Binge drinking hard spirits is neither uncommon nor socially unacceptable in Russia (although some welcome signs indicate this may be changing, at least among the country’s emerging professional class). This pattern of drinking norms and customs, in contrast to having a few glasses of wine with dinner every evening, greatly increases both stress on the cardiovascular system and the danger of fatal injury (because of falls, traffic accidents, violent confrontations, and so forth).

Additionally, Russian health suffers from tobacco use. Only Ukrainian men surpass Russian men in the rankings of Europe’s heaviest smokers; over 60 percent of Russian men use tobacco daily. Russian trends diverge from those in the rest of Europe. While both the prevalence of smoking and average levels of cigarette consumption have generally declined in Western Europe over the past generation, in Russia, the habit of daily smoking appears to be holding steady, and even increasing among young women. Per-capita

tobacco use is on the rise.⁷ World Health Organization (WHO) studies have argued that tobacco use costs Russia over 300,000 premature deaths each year; other estimates place the toll considerably higher.

HIV/AIDS and tuberculosis (TB) still dominate most public discussions of health in Russia, even though they are not significant causes of morbidity or mortality. HIV prevalence is estimated in the area of 1 million infections, with the epidemic concentrated among injection drug users (IDU) and their sex partners. While rates of incidence have increased over the last six years, the rise is mainly among IDU concentrated in five or six regions of Siberia. Some data point to new trends of increasing infections among men who have sex with men, but stigma and discrimination toward this risk group make it difficult to accumulate accurate information. Overall, Russia appears to face little risk of a generalized HIV epidemic. The groups most at risk for transmitting the virus still need prevention interventions, yet government spending on prevention—insignificant in the first place—is declining rapidly.

Russia's health care system is ill-equipped to address these problems. In 2000, the WHO ranked Russia's system 130 in effectiveness out of 191 countries whose systems were assessed.⁸ Russia's health institutions, while benefiting from a multibillion-ruble infusion of new resources over the last six years, remain woefully backward in many parts of the country. Official statistics put two-fifths of the country's clinics and hospitals in need of major repairs or reconstruction; 8.50 percent lacked water mains, 32.5 percent lacked hot running water, 10.0 percent did not have central heating, and over 11.0 percent were without sewage.⁹ In 2010, Putin pledged an additional \$15 billion to modernize health facilities over the next three years, effectively doubling investment in capital repairs and equipment.¹⁰ Fourteen new high-tech medical centers are in the works: seven specializing in cardiac surgery; five in trauma treatment, orthopedics, and prosthetics; and two in neurosurgery.¹¹ Similarly conceived regional perinatal centers, constructed earlier in the decade, are claimed to have brought about a decrease in infant mortality from 11

per 1,000 live births in 2005 to 8.2 deaths per 1,000 live births in 2009.

Russian health sector reform priorities remain oriented toward vertical programs. New monies are being allocated for equipment purchases and information systems. Local and regional politicians ask for expensive new equipment and facilities because of the political benefits of appearing to do something to benefit health care. Yet much of this new money, even outside of that diverted through corruption, will likely continue to be wasted absent structural reform.¹² Structural distortions persist, resulting in inadequate or inappropriate incentives to players throughout the system.

Just as in the Soviet period, people have good access, but it is to poor and unnecessary care. A focus on chronic disease prevention and management, avoidance of hospital admissions, and a shift to a primary care model that expands the responsibility and authority of polyclinic physicians would be an important step forward. Unnecessary and expensive specialized facilities should be reprofiled or closed, and hospital master plans should determine resource-allocation priorities. Resistance to structural reform emanates from a variety of corners—specialists who want to maintain their privileged positions; pediatricians who fear the incursion of general-practice physicians into their domain; and even the general population, which is too accustomed to preferring access over quality. So progress is slow.

Along the other major dimension of human capital, Russia is widely recognized as lacking quality higher education. Fewer than 2 percent of students studying abroad globally choose a Russian university as their destination, and this number is trending down.¹³ Many high-ranking Russian officials, politicians, and businessmen choose foreign boarding schools for their children rather than send them to institutions at home. Not a single Russian university made the top 200 list compiled by the Times Higher Education World University Rankings in 2012. By contrast, China has six universities in the top 200. Few members of the Russian university community have experience with higher education outside of Russia. Only one rector from the 24 top-ranked universities in

the country has any experience of study or work at a university abroad, and 22 of the 24 graduated from the universities they now lead.¹⁴ Russian institutions of higher learning generally refuse to accredit scholars with PhDs from the United States and other Western countries as members of faculty. These practices isolate Russian university trainees from cutting-edge research in the now-global scientific and technical system in which Western universities play a central role.¹⁵

To make matters worse, the Russian system of higher education is riddled with corruption. As top universities have set aside government-funded merit slots, while others have to pay full tuition, a stigma has become associated with paying for college. As a result, students and families are paying more in bribes to claim a coveted “budget slot” than the actual cost of tuition and fees. Thousands of fake university diplomas are bought and sold in Russia annually, and the trade is advertised openly in metro stations and on the Internet.¹⁶ A 2009 survey found 36 percent of Russians had paid money in some form to educators, with the total market estimated at \$1 billion annually.¹⁷

Beyond concern for the quality of higher education in Russia, there is a fundamental mismatch between the skills Russia's system of education offers and those required by domestic labor markets. At best, secondary and higher education is weakly linked to labor market imperatives. Employers complain of a glut of lawyers, accountants, and financial specialists. They need people with skills: lab technicians, builders, plumbers, electricians, machinists—people who can fix things when they break.¹⁸ Since vocational schools have to compete with universities, and universities currently have enough available slots to accept every single graduate from the country's secondary schools, the number of young people choosing the vocational route has shrunk dramatically.¹⁹ Russia's dilemma is straightforward: not everyone should attend university, yet university expansion and age-cohort shrinkage mean, for the foreseeable future, that everyone can. As a result, a surplus of abstract-knowledge professionals is unemployable, while leading-edge industries like clean technologies

and alternative energy wither for lack of appropriately skilled workers.

Human capital issues sit near the top of Putin's agenda. His explicit goals for long-term socio-economic development, articulated repeatedly in the run-up to the spring 2012 presidential elections, include the development of a “comprehensive population conversation strategy” to address demographic decline, the promotion of healthy lifestyles through exercise and antitobacco and antialcohol campaigns, the provision of about \$4 billion for the development of Russia's pharmaceutical industry, continuation of a pronatal policy that provides substantial payments to families producing two or more children, and increasing doctors' salaries to double the national average by 2020.²⁰

Incentives for International Concern

Despite the urgency of Russia's human capital challenges, there are potent arguments against continued engagement with Russia on this and other issue areas.²¹ Putin is back, with all his suspicion and skepticism about Western—especially American—intentions and goals. Russia sabotages US policy on Iran and Syria. Russia's assent to the Northern Distribution Network becomes decidedly less important as the US Afghanistan exit strategy evolves. Russia is not a major international force in any sphere of finance or trade. Russia's dreadful and deteriorating human rights record can no longer be walled off from its foreign policy; the reset lent legitimacy to an unacceptably brutal and corrupt system. Instead of dangling the carrot of collaboration, goes the argument, the West should wield a stick of conditions for Russia's political elite: if you do not engage in human rights abuses, then, and only then, can you enjoy the privilege of engaging with, living in, sending your children to school in, and banking with the West.²²

Due at least in part to this line of argument, the health component of the US-Russia relationship has assumed far lower political priority than it did during previous American presidential administrations. Despite the best efforts of a few champions in

Washington, the current era has witnessed a markedly lower level of government-to-government effort. On the whole, the US Department of State appears to value broader democracy and governance initiatives over more functional endeavors.

It used to be said that the most effective democracy and governance programs in Russia (and elsewhere in the former Soviet bloc) were run out of the health missions. In recent years, the value of this form of engagement has been less evident to higher-level policymakers. Even before USAID's eviction, there was heated debate within the State Department over the utility of this element of the US-Russia relationship. Many at State had been advocating closing USAID's Russia office for years and were not too upset when Russia forced it to close.

Historically, US-Soviet and US-Russia ties across a range of functional areas—health and education, as well as culture, housing, sports, and others—have been understood not on the basis of their own merit but as a means to a political end. During the Cold War, that end was clear: it was preventing US-Soviet competition from escalating to a level that might risk nuclear war.²³ Twenty years after the Soviet collapse, there is less consensus around higher-level political gain. As higher-order political relations deteriorate, however, it may be appropriate to reexamine “soft issues” cooperation through the old Cold War lens.

There are fundamental reasons for health and education cooperation, beyond the obvious humanitarian impulse, that transcend debate about whether the US-Russian reset is alive, dead, or a worthy candidate for resuscitation. Progress in issue areas that are relatively “easy”—like health and human capital—could facilitate Lavrov’s “upgrade” with logical spillover of relationship building and goodwill into the political and economic spheres.

Health and human capital sound like relatively straightforward areas for cooperation. The medical profession is prestigious and important, and it is difficult to object to the goal of improving human health. As a commonality between people, it shares the obvious benefits of culture and athletics, but has the added heft of science and altruism. With health, education,

and track-two programs in general, there is widely perceived benefit in small, practical results. Such programs provide a common topic of conversation and a motivator for further engagement. By this argument, there is inherent value in communicating about *something*, particularly when dialog on more-visible, higher-priority issues stalls. At times like the present, it can be comforting to think, “at least the doctors are still talking to one another.” Ties at the lower level, on functional issues like health, can sustain basic linkages, even when nothing else seems to be working.

In general, around the world, strong intersectoral relationships are considered valuable. Particularly in a country like Russia—where personal and bureaucratic connections are an inescapable prerequisite for getting things done—health collaboration builds bridges that turn out to be invaluable in areas of tangible concern, even in that specific sphere: opening pharmaceutical markets, regulatory harmonization, and cross-border control of infectious disease and illegal drug trafficking. Habits of cooperation are essential when unexpected emergencies arise—such as outbreaks of flu or polio—that require immediate communication and coordination. Bilateral connections can ease pathways toward progress in key multilateral settings, as has been the case in the past year, when the United States and Russia worked together to develop the WHO's draft resolution “Smallpox Eradication: Destruction of the Variola Virus Stocks” at the May 2011 World Health Assembly.²⁴

Russia's health presence is respected in the post-Soviet sphere and in other key locations around the globe. Many physicians in former Soviet countries received their medical training in Russia, and former Soviet client states recall fondly, in a variety of settings, the medical assistance they received from their ally. In situations in which the global health community might find it important to legitimize credible, non-US players, Russia's role can be key. Where common interests are shared, as is clearly the case with polio control and eradication, the United States benefits from the Russian voice where its own might not be heard and vice versa.

Should we collaborate specifically to help Russia and Russians? In recent years, Moscow has increased

its funding for domestic health and human capital interventions to the point that several key donors (most notably the UK Department for International Development) have voluntarily departed. Why should the international community continue to engage, particularly in times of increasing global austerity, if Russia has ample resources? The Russian government's recent expulsions of USAID and the United Nations Children's Fund and withdrawal from the Nunn-Lugar nuclear threat reduction initiative reflect its answer: Russia no longer requires foreign aid. Russia has paid back every penny it received in grants from the Global Fund to Fight AIDS, TB, and Malaria, and it now donates to the fund. Over the last 20 years of working with Russia, however, it has become apparent that an adequate financial resource base is a necessary but not sufficient condition for reform; institutional capacity and high-level political commitment are also paramount. Throughout most of the post-Soviet period, those commodities have been in short supply.

It is also important to engage Russia on human capital issues because of Russia's recent and aggressive pursuit of a more active position on the global development playing field. In the last two years, Moscow has hosted the first-ever global ministerial conference on road safety, a landmark ministerial conference on noncommunicable disease, several major regional HIV/AIDS conferences, and two international meetings on the Millennium Development Goals. Russia deserves a significant amount of credit for moving the international agenda forward on both road safety and noncommunicable disease.²⁵ Traditionally, neither topic has been high on the international priority list, and Russian voices were key in encouraging the global community to engage in important and highly visible conversations on these issues. It is not an exaggeration to say that Russia is now a credible and legitimate participant in setting the overall global health agenda. But particularly after witnessing China's rather clumsy entry onto the global development stage, it is important to monitor and engage Russia to ensure that its presence is a positive and constructive contribution to the overall international assistance architecture.

Perceptions and History

From Russia's perspective, the international community has driven the post-Soviet health partnership agenda with an inappropriately heavy hand. This perception still clouds the potential for collaboration. For example, beginning in the late 1990s, USAID health funding and programs in Russia focused almost exclusively on HIV/AIDS. Although Russia was at that time experiencing one of the fastest-growing HIV epidemics in the world, HIV nonetheless constituted only a small share of the total burden of morbidity and mortality in the country (and still does). While the value of engagement with marginalized groups most vulnerable to HIV infection cannot be questioned, and the Western spotlight certainly contributed to movement forward against Russia's HIV scourge, the Russians were bewildered and irritated with what they saw as USAID's disproportionate attention to HIV and reluctance to engage on more urgent agenda items like cardiovascular disease and injury.

Russian officials asked why aid organizations continued to insist on one thing while Russia requested help with another. The answer lay in both the overwhelmingly dominant frenzy of global HIV programs at the time, of which Russia made up only one part, and also in the genuine panic about the injection drug-fueled HIV situation in Russia. While in retrospect, this epidemiological assessment was exaggerated—the efficiency of HIV transmission among IDU did not extend beyond that population group—the global HIV community sincerely feared an imminent and unmitigated HIV disaster in Russia. The disconnect between the United States and global health donor communities on the one hand and Russian political and health officials on the other played a significant and negative role in the overall health engagement relationship.

Moreover, fully half of USAID's funding for Russia went to programs promoting open and transparent elections. While the importance of political freedom and transparency is self-evident, these Western programs sparked a high level of suspicion in

many Russian quarters that penetrated health and human capital projects as well. Russians may continue to wonder if health cooperation is actually being put in place for other reasons.

This suspicion goes hand in hand with Russia's self-perception as a renewed great power. As Russia has become rich with oil and natural gas wealth over the last decade, its perceptions of its international position have shifted. Still smarting from its sudden collapse in superpower status, Russia has been flexing its political and financial muscle over the last few years. As a result, present-day Russia resists being perceived as a country in need of assistance. Russia no longer wants to be seen as a troubled country in constant crisis. In fact, some research institutes in Russia are beginning to engage in the study of social and political pathologies in the United States in an attempt to turn the tables and demonstrate that all societies—not just Russia—experience challenges possibly amenable to foreign-grown solutions. Russia wants to be seen as an equal on the international stage.

As both the United States and Russia increasingly insist that the proper label for their joint health and human capital work is no longer “assistance” but “partnership,” it is reasonable to ask whether the benefits of such a partnership are flowing in both directions. Is this a two-way street? Or is the partnership label a fictional veneer adopted for political reasons and attached to a relationship in which one partner still provides most of the resources and all of the expertise? There are reports of occasional knowledge and experience gained from the Russian side: techniques in neonatal resuscitation and in dealing with less-than-comprehensive approaches to HIV/AIDS among drug users in contexts where governments refuse to adopt harm reduction or substitution therapy, as well as research into genetic propensities for substance dependency. On the whole, however, the vast majority of expertise and experience still resides in the West.

The central tension is clear: Russia is newly rich and powerful, with plenty of resources to share. Yet Russia could benefit from significant international technical assistance in the area of human capital development. How can balance be struck among

these seemingly contradictory forces: the political imperative to treat Russia as an equal, and the stark reality that Russia still stands to learn from international best practices in many areas?

This search for balance is further complicated by the frustrations confronting international partners as they attempt to interact with Russian colleagues. Although Russia is home to dedicated, talented professionals, it also continues to suffer from many cultural and institutional legacies of a stifling Soviet bureaucratic culture.

Decision making in Moscow still flows from the top. If the Russian minister of health, following the lead of the Kremlin, decides international cooperation is desirable, it will be so, and the opposite holds true as well. Even Russian physicians and other health professionals open to collaboration with Western partners have to watch for these signals and have to be guarded during times like the present in which cooperation is less favorable. Several key Russian scientific and clinical researchers, for example, have worked successfully with Western partners in recent years to develop effective new clinical protocols, but they have been reluctant to coauthor the related international journal articles on these innovations for fear that they had pushed beyond acceptable political boundaries.

In recent years it has become significantly more challenging to work with colleagues in Russia. Foreign NGOs, for example, have new annual reporting requirements, and registration can be refused for the smallest of administrative infractions. It is never clear what an organization did to irk the authorities into a refusal. Permits to enter state medical facilities are increasingly difficult to obtain. Until about five years ago, an international partner could contact a current or potential colleague and pay a visit to that colleague's hospital, clinic, or institute at an agreed-upon date and time. Now, Russia's Federal Security Service frequently requests advance notice of all foreign visitors, and the Russian host is required to file a report afterward. Of course, these requirements cast a pall over the free exchange of ideas. Similar restrictions have been established in recent years on biological samples leaving the country for analysis in

foreign laboratories, on the pretense that Russian genetic material could be extracted and used to tailor a bioweapon against the Russian population.

Many seemingly inexplicable Russian attitudes, most centering around resistance to change, must be understood in the context of the country's unique political economy and culture. In the late 1990s, for example, the World Bank spent several frustrating years trying to negotiate with Russia a \$150 million project on HIV/AIDS and TB. For decades, the dominant form of TB treatment in Russia had been surgical removal of infected parts of the lung, together with lengthy periods of treatment in a TB sanatorium. The World Bank, following international best practice, insisted as a condition of the loan that Russia adopt Directly Observed Therapy (DOT)—a much more cost-effective mode of TB treatment in which the infected person, on an outpatient basis for a period of months, is observed by a community health or social worker to take antibiotic treatment daily. The Russian negotiators obstinately refused to go this route, claiming medical superiority for their traditional approach (which Western medical practice had abandoned decades earlier).

After a lengthy period of butting heads, a new World Bank team leader finally realized two things. First, political economy factors were involved. Russia employed tens of thousands of physicians and other health workers in its extensive network of sanatoriums; in many cases, the sanatorium was the only enterprise in an entire town. Also, about 5 percent of Russia's TB patients are homeless, and the sanatoriums serve a social purpose in housing that population. A sudden switchover to DOT would have created significant political power and resource issues. It was necessary to realize what the proposed changes jeopardized. Second, Russia had to save face. As a former superpower with a proud tradition of medical expertise and achievement, the adoption of DOT—at the insistence of the World Bank, while this therapy was being exported to poor, developing countries across the globe—would make Russia look unacceptably backward.

In the words of one prominent Russian TB specialist at the time: "This is Russia, not Africa!" The

Russians see hospitals as a sign of modernity, wealth, and development. The new World Bank negotiator brilliantly realized that Russian health officials, to a large extent, knew the potential benefits of DOT, but they needed to make it look as if it had been their idea, not the World Bank's. Eventually, the loan went through (and achieved significant success) via a process that let the Russians take the lead in conceptualizing a new form of TB treatment involving "internationally approved protocols" that were (coincidentally) very similar to DOT.

Political economy issues have also dominated Russia's response to polio. At the senior levels of Russia's Ministry of Health are a few excellent technical scientists and rehabilitation specialists. In the field, there is no shortage of (poorly trained) doctors and nurses serving the Russian domestic population. This staffing holdover from the Soviet period directly leads to holdover methods of delivering polio (and other) vaccines: many individual vaccines (rather than several vaccines combined into one injection), 30-minute waiting periods after children receive injections to verify the absence of adverse effects, and delay of vaccination of anyone with even a hint of the common cold or other minor illness. (In the West, several vaccines are efficiently combined into one shot, kids walk out the door right after, and a case of the sniffles is no reason to miss an appointment.) The Russian way is safe, effective, and uses the capacity and training of staff quite well, but it is not cost effective and would never be considered appropriate for the modern Western context.

From an international point of view, Russia's health sector continues to pursue practices that are clearly mistaken. Russia does not address the right questions, and it has an unworkable definition of modernization. The United States and the West modernize through new ways of thinking and new approaches to problems. Russia modernizes by buying new equipment and building new facilities. The challenge of recognizing and adapting to these uniquely Russian contextual factors is often overlooked by international partners, and often prompts those partners to wonder whether the whole enterprise is

worth the effort, particularly if that effort is slow to produce change. From one perspective, these stories paint Russia as a difficult, challenging, often frustrating partner.

From another perspective, however, Russia can be viewed as having a system different from America's, one with a political and social context, incentive structure, and institutional matrix that should be considered. After all, the American health conversation often includes dominant points of view that are similarly inexplicable without an appreciation of political context: debates about government-funded abortions and other elements of family planning, for example, or about needle exchange and methadone for drug users which are still controversial and illegal in some locations in the United States. From this vantage point, labeling Russia as irrational or unreasonable paints it unfairly with one monolithic brush.

Many assume pure scientific research should be one area in which Russia is most likely to be able to contribute to international partnerships. Some areas of Russian health and biomedical work have been identified as potentially useful to international counterparts, including mathematical modeling of disease, stem-cell research (controversial and limited in the United States), work on sensor chips and nanomechanisms for drug delivery, and work with research populations not readily available in the United States (alcohol-dependent females or people with active tuberculosis, for example). Even here, however, Russian bureaucratic structures are stanching the flow of potential Russian expertise into collaborative endeavors.

Although some new, highly publicized grant programs have been created for Russian researchers, in general, science is still woefully underfunded; salaries are low and basic equipment and supplies are out of financial reach. The academy is corrupt, and researchers compete fiercely with one another for resources and political favor. The Russian tradition of politicization of funding for scientific research has been difficult to break, and over the last few years, commercial motivations have taken hold as well. Large government-funded contracts may be issued to scientists for "basic medical research," but often this

funding is directed toward attempted (but rarely successful) development of marketable pharmaceuticals, intended to benefit politically well-connected Russian companies.

During the Soviet period, Russian scientists were in a scientific Madagascar. While the rest of the world benefited from a massive, Rockefeller Foundation–funded post-war expansion of medical research, the Soviet Union did not engage with the global scientific community. This left few skilled scientists in place to lead programs, mentor, and conduct peer review, and many who could leave the country did and currently populate the Western academy and pharmaceutical industry. In all of Russia, in specialty after specialty, only a small number of true medical experts remains that is familiar with internationally accepted best clinical practices. Of those, many are blocked from leadership positions because of affiliation with politically unfavored research institutes or clinical facilities. Few qualified specialists are left in a political position to transmit best practices. The Russian government, fully recognizing this dynamic, has launched a massive funding program to lure "home" Russian scientists who previously moved abroad.

To this day, Russian scientific work is published almost exclusively in Russian journals, and Russian scientists rarely read the international, peer-reviewed literature. The more global ambitions of a younger generation may create a new dynamic, but advancement within Russian scientific circles, particularly through the Academy of Sciences, is still predicated on publication in Russian journals. This is to such a degree that young scientists sometimes fear backlash if they coauthor publications with respected Western colleagues in top English-language outlets.

At scientific meetings, Russian participants tend to present work that is not validated in the way ideas are confirmed in the West. These participants are becoming increasingly aware that this is the case, and many are hungry to learn how to apply the scientific method and conduct methodologically legitimate experiments. Some Western colleagues, searching for ways to improve the quality of Russian science, have concluded that the key steps are Western copublication in

Russian journals and continued exposure of Russian colleagues to high-quality work through participation in international conferences. This is a long-term, time- and energy-consuming proposition, made more challenging by the effect of the Soviet legacy. It is more difficult to get Russian scientists to unlearn perceived but incorrect wisdom than it is to build collaborative programs from scratch in countries where a scientific research infrastructure has never existed.²⁶

Given the breadth and scope of Russia's health and human capital challenges, its historical reluctance to recognize and cope with these challenges in a timely and efficient manner, and the sometimes unfathomable obstacles that have stalled or even obstructed engagement with the rest of the world on these issues, it has been tempting to badger Russia with the facts. If hundreds of thousands of people are dying needlessly annually, why are they not doing something about it?

In fact, during the first decade and a half of the post-Soviet period, there were probably several reasons for the Russian government's reluctance to publicize and confront these problems: for example, a desire to avoid further degradation in an already humiliating global political environment, and recognition that the financial and institutional tools to cope simply were not present. These were most certainly the primary factors that kept Moscow silent about its IDU-fueled HIV epidemic for well over a decade, beginning in the late 1990s. And, unquestionably, vocal Western pressure, as well as rigorous Western-funded scientific and economic analysis, prompted then-president Putin to finally acknowledge the problem in 2005–06.

Unlike the situation a few years ago when it seemed Russian political leaders, and some high-level public health officials, were not fully aware of the scope of their country's health and demographic problems, these issues are now discussed—at length and with reasonable accuracy—in all forms of Russian media and across the political spectrum.

Western research and focus on Russia's human resource crisis helped produce and inform the Russian government's understanding of these problems

and their urgency. A steady stream of criticism from the West has helped make these issues more sensitive for Russian counterparts. It is hard to escape the essential truth that Russia continues to need international technical expertise, but that conversation will be rejected unless it is conducted in a tone of mutual respect and professionalism. Otherwise, attempts to "help" by pointing out Russia's shortcomings are now likely to produce nothing but backlash and a reluctance to act productively.

Areas of Promise

Given recent experience, it is tempting to focus predominantly on the negatives of potential collaboration. The spotlight frequently (and sometimes justifiably) shines on what has not been accomplished. Russia still refuses to entertain the possibility of substitution therapy (methadone) or harm reduction (needle exchange) for drug users. It still insists on health reform through bulk purchases of expensive equipment and construction of expensive tertiary hospitals rather than more effective and efficient investments in health education and preventive care. As recently as 1998, when then-prime minister Viktor Chernomyrdin met with former US vice president Al Gore as heads of the Gore-Chernomyrdin Commission, the Russian earnestly asked his counterpart if it was true that HIV could be spread by kissing. Considering that low level of technical knowledge at the very top of the Russian hierarchy at that point, it should be appreciated that some progress has been made.

In some areas in which Russia is genuinely determined to move forward, significant strides have been made toward building trust with Russian partners and increasing their willingness to entertain the adoption and adaptation of ideas from abroad. On tobacco control, for example, a broad coalition of international actors—the WHO, the World Lung Foundation, the Campaign for Tobacco-Free Kids, and the Russian Confederation of Consumer Societies, funded largely by the Bloomberg Initiative to Reduce Tobacco Use—has broken down the usual Russian government barriers

and established ongoing communication channels and working relationships with the Russian government. Russian health ministry personnel have traveled to the United States for study tours, witnessing firsthand the potential effects of tobacco control policies and the importance of government collaboration with civil society and the private sector. Since then, the Ministry of Health has routinely consulted both Russian and international NGOs for policy input, and effective policy has moved forward.

Even this success story has its caveats. First, there is no reason to think progress on tobacco is readily transferrable to other issue areas. Bloomberg money was available to unite the key nongovernmental players, tobacco is at the top of the Russian noncommunicable disease-control priority agenda, and significant political benefit can be derived from Russia's status as a signatory to the WHO's Framework Convention on Tobacco Control. Second, in some senses, the Bloomberg funding seemed as much a liability as an asset; in Russia, as in China, Ukraine, and many other countries, local organizations continue to be attacked by the press as pawns of Bloomberg and his Western resources. Under this umbrella of suspicion, Bloomberg has not been free to give local grants to Russian organizations. Lastly, the international community is more motivated to enter Russia on the issue of tobacco control than many other issues, because tobacco control is a global priority. Further, most players engaged in this area see it as a personal—even moral—issue, particularly in a country like Russia where the scope of global tobacco industry penetration is so high.

Nonetheless, along many human capital issue areas, Russian partners are now willing and anxious to learn, but collaborative efforts must tangibly demonstrate the utility of change. TB-infected alcoholics, for example, have been low priorities for treatment in Russia because of their assumed difficulties with treatment adherence. When international collaboration showed that adherence rates could be quite high with the right program, some Russian physicians not only changed their protocols accordingly, but have also requested more work in this area. Similarly, on the first joint

US-Russian polio mission to Tajikistan, the Russian participants were appalled that children were not required to wait the requisite 30 minutes after vaccination, and they seemed puzzled when told this was impractical, that there were only a few staff present and a long line of kids waiting for their shots. Before long, however, the Russian experts had caught on to standard practice and methodology and were active participants in surveillance and supervision. The moral of this story is important: the reluctance of Russian partners to try new modes of operation can be overcome with practical, in-the-field demonstrations.

Many observers now recommend that collaborative efforts, where possible, bypass the central government altogether. Expertise is poorly distributed in Russia, with most excellence found in Moscow and St. Petersburg. Fostering a bottom-up culture in a top-down society, with innovation emerging from outside the country's two capitals, is a challenge. One solution is to facilitate Russians training Russians, bringing the expertise in the major cities out to the regions. Too much Russian government funding to the regions is currently allocated toward constructing buildings and purchasing equipment, not transferring skills and expertise. Yet, the Russian central government wants the regions to know how to do things like design programs to control hypertension and promote maternal and child health or build information systems that measure outcomes efficiently and accurately. It wants its instructions to be implemented properly. And many local officials want the capacity and tools to do their jobs well. For this reason, the resistance to international technical assistance seems less pronounced in the regions than in Moscow. This dynamic increases the likelihood of support for region-to-region, state-to-oblstan, and professional-to-professional capacity-building programs.

NGOs provide an important tool for bypassing the occasional intransigence of the Russian government. Conventional wisdom in global development circles holds that most human-capital-related challenges cannot be tackled without integral participation by civil society. International funding of Russian NGOs obviously raises suspicion in the

Russian Ministry of Foreign Affairs and other institutions of the Russian government. There is a widespread perception across Russia that foreign funding of NGOs has been a vehicle for inappropriate interference with Russian domestic affairs. Yet human-capital-related activity may be relatively immune to the ongoing government crackdown: favored action areas include child welfare, healthy lifestyles and substance abuse prevention, and positive engagement for youth. Many Russian NGOs, similar to NGOs in much of the world, lack basic skills in fundraising, grant writing, navigating social and tax legislation, working with volunteers, and finding clients. International counterparts have much to offer in these areas.

It is also crucial to realize that some ideas for collaboration are bad ideas. Areas of particular sensitivity for the Russian government are best avoided in the current climate. Substitution therapy for opiate users, for example—even though it represents international best practice for evidence-based HIV prevention—is illegal in Russia; the government and most physicians view it as an inappropriate substitute of one addiction for another. Confrontation (as opposed to quiet, back-room persuasion) on this issue is unlikely to produce results and may even poison collaborative efforts in related areas.

It is also important to support only what works, despite the Russian government's occasional enthusiasm for ideas that do not. In recent years, for example, the Russian health ministry has created "houses of health" in major cities, prevention-oriented centers where people can learn about risk factors for cardiovascular disease and receive a variety of medical tests. These facilities, however, have no link to the district polyclinics that constitute the foundation of the country's health care system, and the houses of health ultimately bear no responsibility for care. While they sound like a positive development in the abstract and are politically attractive, in reality, they have turned out to be a waste of resources.

Big, expensive projects involving the transfer of sophisticated technology are also likely to fail. For example, medical equipment donations and sales to Russia, while highly prized by many Russian health

institutions, have not found success. Consumables are not always available, and, too often, Russian staff members are trained inadequately in the use and maintenance of this equipment. This frequently results in misuse and poor diagnosis or treatment of patients. For this reason, some international medical equipment firms have scaled back operations in Russia for fear of damage to international reputations. The wiser approach opts for smaller, focused interventions aimed at sharing technical capacity and innovation.

Finally, given current suspicion of the West (and especially of the United States) among the Russian public, it is not always best to brand international collaboration as such. For example, many Russians suspect the Bloomberg Initiative of being an American conspiracy. The initiative was launched in 2006 by the mayor of New York City and currently supports projects in over 40 countries to develop and deliver high-impact, evidence-based tobacco control interventions. Bloomberg funding has led to some of the most important successes in the fight against smoking-related illness and death in Russia. Quiet, patient, effective partnership therefore probably stands a greater chance of creating lasting impact than loudly heralded interventions.

Specific Collaborative Proposals

After two decades of post-Soviet experience in collaborating with Russia in the human capital area, some specific areas of focus appear more likely than others to generate success. These areas of promise fulfill a few key prerequisites: they involve interventions on both Russian and non-Russian soil; they target challenges defined as political priorities by all players (to uphold the mantle of "partnership"); they harness genuine Russian scientific or programmatic strength, respecting Russian past achievement while transmitting key international knowledge and best practices; they promise benefit not just to Russian citizens (and taxpayers) but also to other people; and they smartly embed program design that recognizes and adapts to the realities of Russia's political and economic environments.

Data and Information Systems. A recent USAID report on Eurasian health systems referred to the need for more systematic collection of health data, with greater accuracy and reliability across the board: epidemiological data, behavioral risk-factor data, and health service information.²⁷ The institutional architecture for health and demographic data collection in Russia is fragmented; the country's top epidemiologist serves as head of the equivalent of its consumer protection agency, outside the purview of the Ministry of Health.

Russia has embarked on a significant health information project. If all goes as planned, patients will enjoy personalized electronic medical records that can follow them throughout the country. Ultimately, the plan is for each individual's records to be located on personal health cards or even accessible through bar codes on cell phones. This system, although a declared government priority, remains in its infancy. Most data collection is currently on paper, computerization is only patchwork, and there is no requirement for insurance companies to submit claims electronically. Each region has a health information center with some level of relevant information technology and trained staff, and this marks definite positive movement. The adoption of electronic medical records is a top priority of US health reform as well. This area seems fertile ground for collaborative technology development and capacity building.²⁸

Russia needs a system not only to measure and record data, but also to understand what led to those outcomes. Similar conversations on comparative effectiveness research are currently taking place in the United States and other Western countries. Which clinical approaches produce the best results, and at what relative cost? How effectively are new investments deployed? How does reform affect health outcomes? Joint research in this area could prove beneficial to all parties.

Healthy Lifestyles. Healthy lifestyle issues have recently emerged as dominant forces in Russian public policy discussions. Both Putin and Medvedev have repeatedly made statements intended to mobilize the Russian population around healthy behaviors, or,

more properly, around avoiding unhealthy ones. Medvedev started a seemingly serious campaign against alcoholism. Excise taxes on alcohol increased at the beginning of 2011 between 10 and 43 percent, depending on the type of beverage; the minimum price for a bottle of vodka (150 rubles) has also increased.²⁹ Further price increases have been slated through 2013. Zero-tolerance policies have been put in place for driving under the influence of alcohol, including a blood-alcohol limit of zero. Alcohol sales have been limited to between 10:00 AM and 10:00 PM, and banned altogether as of January 2013, a shift from the formerly ubiquitous 24-hour street kiosks plying alcoholic wares.

On October 1, 2010, Putin signed a national anti-tobacco concept for 2010–15, with specific objectives including a 10 to 15 percent decrease in overall tobacco consumption; smoke-free environments in all indoor spaces and in education, health, sport, and cultural facilities; enhanced population coverage with warnings about the dangers of tobacco use; and continual stepwise increases in taxation on tobacco products, ultimately reaching the average taxation level for countries of the WHO European Region. Warning labels must now occupy 40 percent of the surface area of a package of cigarettes. Gruesome advertisements, graphically illustrating some extreme health consequences of smoking—including a bullet coming out of a smoking cigarette, an image of a person slitting his wrists and inserting a cigarette, and of a baby smoking a cigarette—have appeared over the last two years in Moscow and other major cities.³⁰

The political economy of sin in Russia, as everywhere, is complex and significant. The vast majority of vodka is produced locally, while international distillers dominate the beer market. Any attempt to encourage the consumption of “softer” beverages risks accusation of promoting foreign over domestic industry. The center-region balance is crucial as well; five years ago, legislation passed permitting Russia's regions to keep half of the tax revenue from alcohol sales, providing a stark fiscal incentive to even the most health-minded governors: increase production of spirits, but sell them elsewhere. Furthermore, the

tobacco and alcohol industries exert vast influence over members of the legislative and executive branches, making it difficult to pass laws that might harm those commercial interests. The tobacco market is enormous; at \$14 billion annually, it equals the Russian market for pharmaceuticals.

Alcohol and tobacco control represents an area ripe for collaboration. The United States had great success in the latter decades of the 20th century in attaching social stigma to tobacco consumption. Could international cooperation produce a duplicative effect in Russia in relation to smoking and binge drinking? While it would be easy to laugh away the possibility of curbing alcohol consumption in Russia, recent studies have shown that a stigma against heavy drinking is emerging in Russia's larger cities, with employers screening out those whose productivity might be hampered. As absurd as it may sound, in a recent step forward, Russia moved legally to classify beer, for the first time, as an alcoholic beverage (although this would affect only beer stronger than 5 percent alcohol, impacting about one-third of beer sales).³¹ Sharing experience in this area could result in significant mutual benefit.

Joint action on tobacco control would necessarily entail taking on not only the global tobacco industry, but also entrenched local Russian interests. Just three regions—Moscow, St. Petersburg, and the Leningrad region that surrounds St. Petersburg—receive the bulk of foreign investment in tobacco, and the city of St. Petersburg is particularly financially dependent on alcohol and tobacco production and taxation. Former Russian finance minister Alexei Kudrin has explicitly encouraged Russians to engage in unhealthy behaviors. In September 2010, in reference to the contribution of excise taxes to the budget, he said: "People should understand: Those who drink, those who smoke are doing more to help the state."³² Across the board, the creation of incentives for change—incentives sufficiently potent to overcome entrenched, self-interested resistance—is a political economy problem common to all societies. Collaborative work on policy advocacy could offer new insights to all partners.

Societies around the world also face the challenge, to varying degrees, of convincing their citizens to take command of their own health. On the whole, young people in Russia are relatively physically fit. They are more active than most American youth, and the data bear this out: childhood and adolescent obesity is not nearly the problem in Russia that it is in the United States. This is beginning to change, however, as Russian young people become more sedentary, and this dynamic is one that the Russian public health community both recognizes and is actively working to stop. This offers a prime opportunity for collaboration: learning and experimentation on childhood obesity could be a two-way street, as the United States tackles one of its most pressing health challenges, and Russia tries to nip this same problem in the bud.

Professional Societies. One of the keys to the success of many health programs in the United States and other Western countries has been the existence of a widely known and trusted medical authority who can effectively convey public health information and messages. For example, a 1964 report from the Office of the Surgeon General kick-started the US anti-smoking campaign. Russia still lacks the equivalent of a surgeon general or any professional societies—such as the American Cancer Society or American Academy of Pediatrics—that can convey information and advice with a high degree of legitimacy and trust.

As a result, Russia has no independent mechanisms for building awareness, policy advocacy, or fundraising, possibly because the country's corruption environment renders potential financiers (foreign or domestic) wary of entrusting money to an unfamiliar kind of institution. Physicians have no effective vehicle for lobbying in favor of health in all policies—no counter to the powerful sin lobbies. The long Western experience in this area could support Russian efforts in a crucial area of institution building.

Academic Science. Numerous international projects are already training young Russian scientists to engage with and publish in the international literature, a

task that, in many cases, involves the basics of research methodology and design. Until recently, however, there have been considerable disincentives for talented Russian researchers to do so since the Academy of Sciences has often frowned on publication in non-Russian journals. Recent reforms in the education and scientific establishments, however, may be tearing down these barriers in significant ways, providing rewards for academic scientific excellence gauged according to international standards.

Currently, no Russian-language medical literature index exists comparable to MEDLINE, the National Library of Medicine database that provides easily searchable access to global medical and public health research. Russian-language articles are increasingly indexed in MEDLINE, however, and a growing number of Russian-language medical journals are available on the web. A collaboratively produced, Russian-language version of MEDLINE, which might simultaneously increase access for MEDLINE users to a larger range of Russian-language literature, could be of high value to the Russian medical and scientific communities. It could perhaps even provide an incentive for more Russian researchers and physicians to learn English so they could read articles of interest.

Migration and Labor Market Development. Western Europe, the United States, and Russia face a common immigrant labor challenge: demographic pressures mean these economies will be forced to rely on unskilled labor from abroad for the foreseeable future, yet society resists integrating immigrant workers. Although the contexts differ, collaborative work on building tolerant, inclusive societies could produce mutually beneficial outcomes, and Russia has expressed strong interest in learning from the US experience with quotas, border protection, and assimilation. The political climate in Russia for such work is favorable as the private sector has made clear that businesses need reasonable pathways for labor migration. They need workers from outside Russia in the construction and agricultural industries, among others. Pathways to legalization, and the creation

of urban infrastructure to accommodate migrant populations (both legal and illegal), are Russia's major challenges. The private sector needs Russian language-training programs for potential immigrants currently living in Central Asia, and, more importantly, Russian language training for children of immigrants currently enrolled in Russian primary and secondary schools. Sharing common experiences could benefit the many countries struggling with these challenges.

Prospects for Success

None of these ideas are meaningful in the absence of a cooperative Russian partner. The Western world understandably finds itself reassessing its relationship with Russia and vice versa. International partners reasonably ask: why bother with Russia, particularly a Russia that is increasingly hostile and recalcitrant? What is the point of cooperation and collaboration? Why help Russia on health and other human capital issues when it has plenty of money to help itself?

Despite the frustrations and costs, partnership with Russia in these areas does promise both tangible and intangible benefits. Fundamentally, Russia still requires basic evolution of both its institutions and mentality for its international relationships to become normal and efficient. This change will not take place overnight, but it is happening in some areas. To a large extent, it is happening not only because of generational shifts, but also, more immediately, because of exposure to more effective and efficient Western approaches brought about through patient, long-term collaborative efforts.

Whether the motivating impulses are humanitarian, political and economic (a healthier Russia is a more potent and reliable trading partner and a more responsible member of the international community), or instrumental (access to Russian markets and science), international engagement with Russia on its human capital challenges is an investment likely to produce significant results primarily over the long term. But the potential benefits for Russia's citizens,

for higher-level political engagement with the United States and the rest of the world, and for the global health community are too valuable to be ignored.

The author thanks Nicholas Eberstadt for initiating this project and providing valuable input. She also thanks the many Russian and American health sector practitioners and experts who took the time to discuss and debate the issues raised here, and whose insights are central to this analysis.

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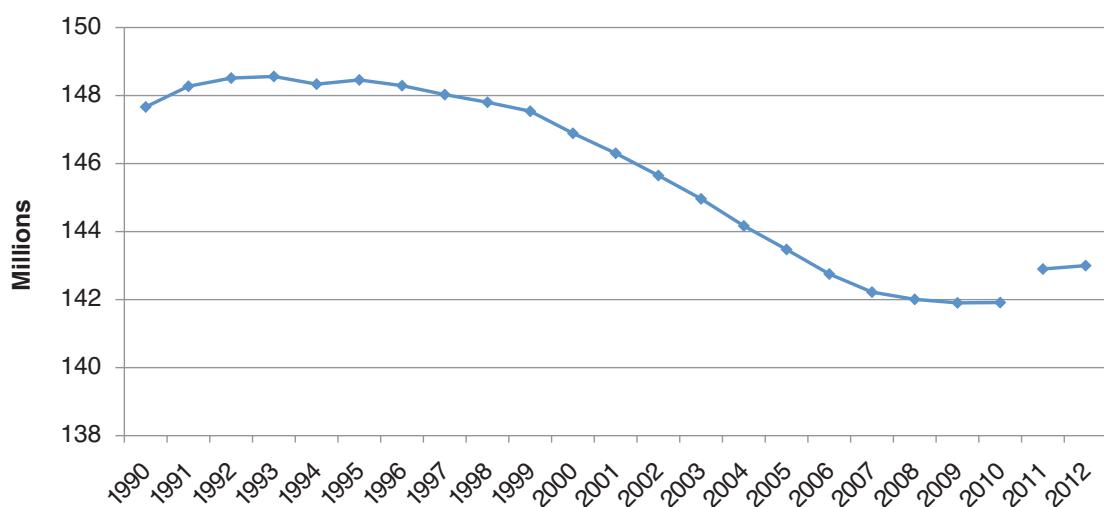
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Russia's Human Resources Crisis in Numbers

Nicholas Eberstadt and Hans Groth

FIGURE 1
RUSSIA'S POPULATION: 1990–2012 (MILLIONS)



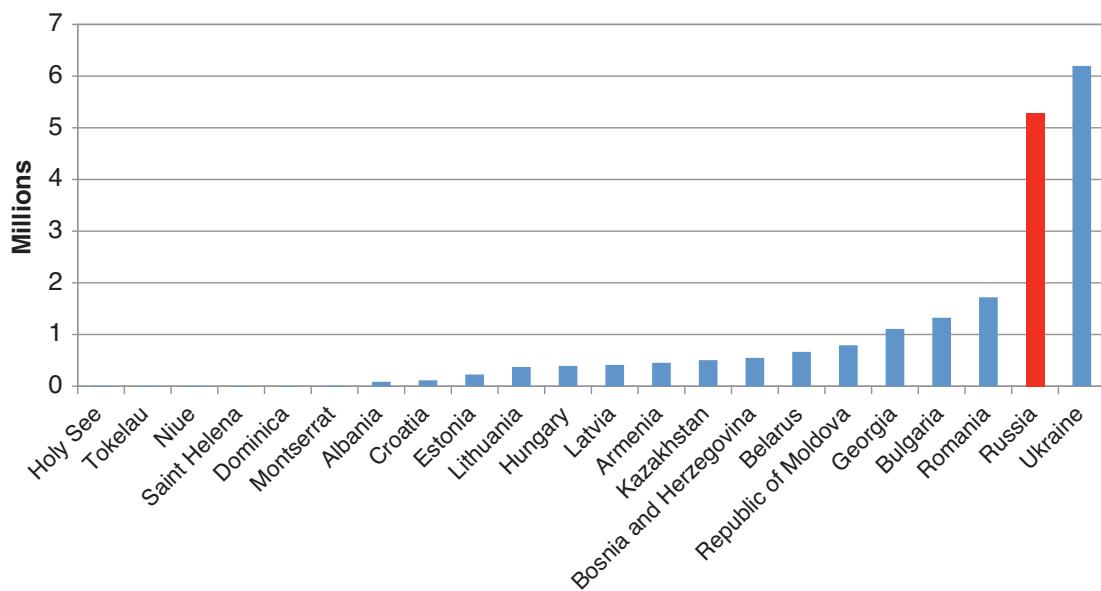
Note: Population series interruption between 2010 and 2011 reflects revisions in light of the 2011 Russian Federation Census.

Sources: "Table 1.3. Population Size as of 1st of January," *The Demographic Yearbook of Russia 2010*, 25, and RF Federal State Statistics Service, "Table 5.1. Population as of January 1 of the Corresponding Year," *Russia in Figures—2012*, www.gks.ru/bgd/regl/b12_12/IssWWW.exe/stg/d01/05-01.htm (accessed December 6, 2012).

By the reckoning of its 1989 census, the Russian Federation's population stood at about 147.4 million that year. Over two decades later, Russia's 2010 census counted just 142.9 million persons. Russia has thus been in the grip of a long-term depopulation. The depopulation has been a post-Communist phenomenon. Between the start of 1993 and the beginning of 2009, according to the Russian Federal Statistical Service (Goskomstat), Russia's numbers fell from 148.6 million to 142.7 million—that is, by nearly 6 million, or about 4 percent.

After 16 years of unremitting population decline, Russia reported a marginal (10,000-person) population gain over the course of 2009. It has subsequently claimed slight population gains for the years 2010 and 2011—and a gain of nearly 250,000 for the first 10 months of 2012—suggesting that total population growth for the year might end up in the 300,000 range or even slightly higher (subsequent revisions of these estimates altered the picture somewhat, but still pointed to a population increase between the start of 2009 and the beginning of 2013). Has Russia's depopulation finally come to an end?

FIGURE 2
LONG-TERM ABSOLUTE DECREASE IN TOTAL POPULATION:
SELECTED COUNTRIES, 1990–2010 (UNPD ESTIMATES)

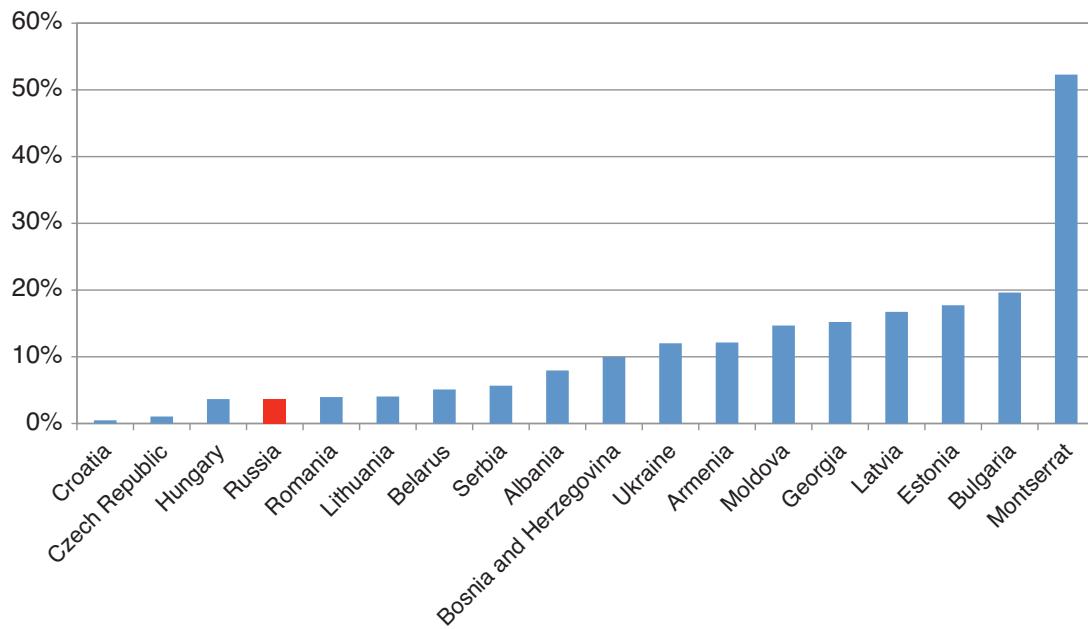


Source: United Nations Population Division, "Total Population—Both Sexes," *World Population Prospects, the 2010 Revision*, <http://esa.un.org/wpp/Excel-Data/population.htm>.

Russia is by no means the only country to have experienced a depopulation over the past several decades: the United Nations Population Division (UNPD) estimates that over 20 countries and territories around the globe (mainly tiny islands and post-Communist countries)

lost population between 1990 and 2010. Nor was Russia's population decline the largest in absolute terms: that accolade goes to Ukraine, whose official numbers suggest a net population drop of over six million between January 1, 1994, and January 1, 2012.

FIGURE 3
**LONG-TERM PERCENTAGE DECREASE IN POPULATION:
SELECTED COUNTRIES, 1990–2010 (US CENSUS BUREAU ESTIMATES)**



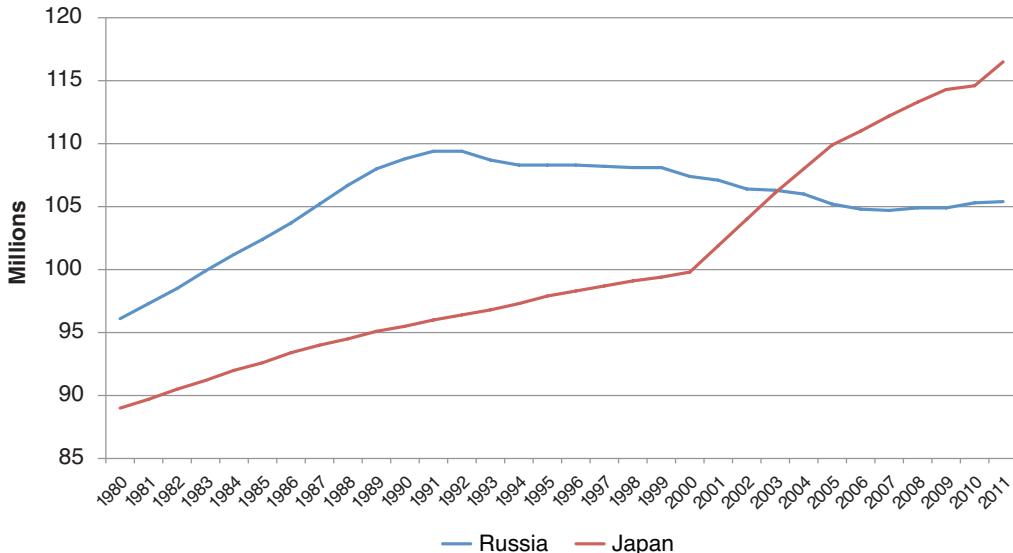
Note: The base year for percentage of population decline is 1990.

Source: United States Census Bureau, International Programs, “Components of Population Growth,” International Data Base, www.census.gov/population/international/data/idb/informationGateway.php (accessed February 3, 2013).

Further, a number of countries, including Ukraine and several other post-Communist societies, registered proportionately larger depopulations than did Russia: Ukraine's population shrank by over 12 percent between 1990 and 2010, and the proportional

drop was even larger in a few smaller countries. Russia, however, is to date the largest country in the contemporary world to have been beset by depopulation (Japan and Germany being the runners-up).

FIGURE 4
TOTAL URBAN POPULATION, RUSSIA VS. JAPAN, 1980–2011 (MILLIONS)



Sources: For Japan data, see World Bank, "Urban Population," World Development Indicators, <http://data.worldbank.org/indicator/SP.URB.TOTL?page=6>; for Russia data, see RF Federal State Statistics Service, "Population," www.gks.ru/free_doc/new_site/population/demo/demo11.xls (accessed January 16, 2013), and "Population Table 1.3," *The Demographic Yearbook of Russia 2010*, 25.

Depopulation need not be inconsistent with mass affluence and continuing improvements in living standards: the examples of Germany and Japan, both "shrinking societies" at this writing, attest to this. But a number of the characteristics of Russia's particular variant of depopulation bode poorly for social well-being and economic development.

One of these is the curious fall in urban population that Russia experienced after the end of Communism. For the long interim between the start of 1992 and the start of 2012, Goskomstat records a drop in Russia's urban population of 4 million. (Note that Russia's urban population appears to have stabilized, and even increased slightly, after 2007.)

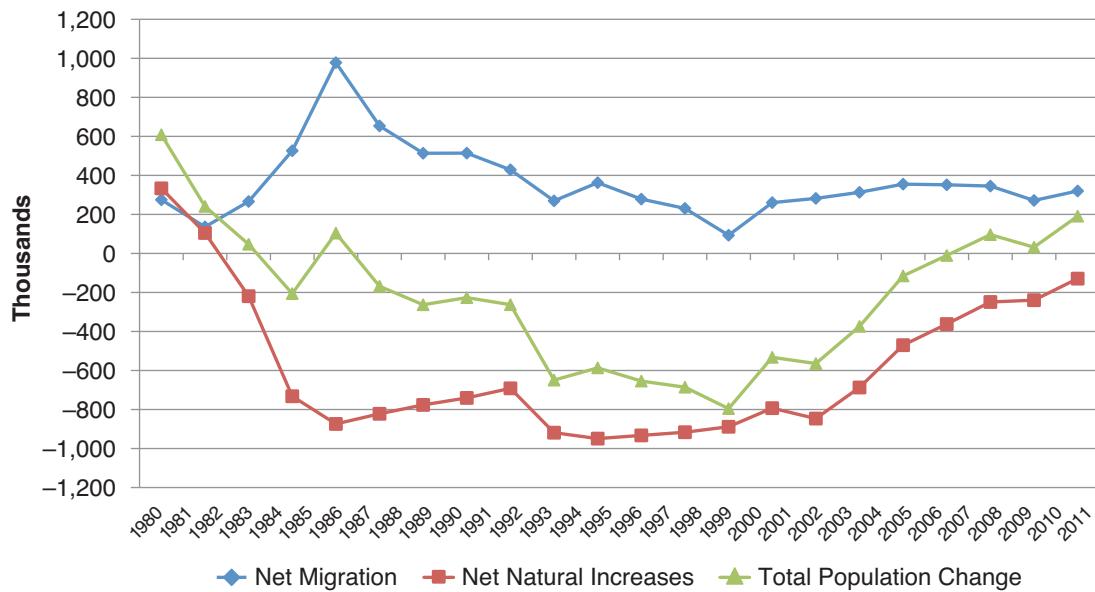
Russia's largest city, Moscow, is the country's one metropolis to enjoy major population gains in recent times, growing by over 2.5 million between the 1989 and 2010 censuses. Excluding Moscow, Russia's overall urban population drop-off after Communism would have looked even more striking. According to the estimates of the United Nations Population

Division, population fell between 1990 and 2010 in 7 of Russia's 17 largest cities—and the total population of cities with less than 500,000 residents plunged by over eight million, or well over 10 percent, during this same period.

Deurbanization of this sort is unusual even for a "shrinking society"—as the contrast with Japan makes clear. Japan's population has been in slight but accelerating decline since about 2005, according to official data from Tokyo. Nevertheless, Japan's urban population totals have continued to rise.

Very broadly speaking, urban centers have been the engines of growth in the modern process of economic development: cities might be especially important in the new process of "globalized" economic growth. Conversely, deurbanization suggests a society is not capable of maintaining its existing complex and densely settled population agglomerations. It may be that many of Russia's Soviet-era cities were not economically viable without the special support of Communist central planning.

FIGURE 5
COMPONENTS OF POPULATION CHANGE: RUSSIA, 1990–2011

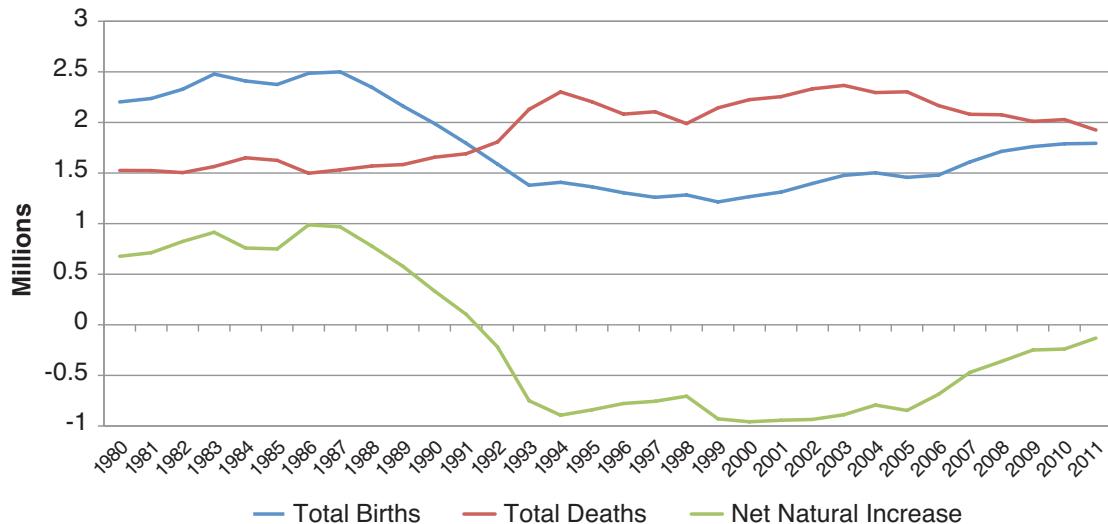


Source: RF Federal State Statistics Service, “The Components of Population Change of the Russian Federation,” www.gks.ru/free_doc/new_site/population/demo/komp-chisl.xls (accessed January 25, 2013).

In the post-Stalin era of Soviet rule, births regularly exceeded deaths for the Russian Federation. A completely different pattern emerged after the dissolution of the Communist state. For 20 years—from 1992 through 2011—deaths exceeded births. In some

years, nearly one million more deaths than births were registered. Only net in-migration has prevented Russia's post-Communist depopulation from being even more dramatic than it was.

FIGURE 6
BIRTHS, DEATHS, AND NET NATURAL INCREASE: RUSSIA, 1980–2011 (MILLIONS)



Sources: “Table 2.1. Births, Deaths, and Natural Increase,” *The Demographic Yearbook of Russia 2010*, 68; and RF Federal State Statistics Service, “Table 5.5. Vital Statistics,” Russia in Figures—2012, www.gks.ru/bgd/regl/b12_12/IssWWW.exe/stg/d01/05-05.htm (accessed December 18, 2012).

Russia's current (that is to say, most recent) depopulation has been the consequence of a sharp surfeit of deaths over births since the collapse of Communism. The reversal of the previous pattern entailed both a dramatic drop-off in birth totals and an upsurge in total deaths.

Over the 20-year period of 1992–2011, Russia's vital registration system tabulated more than 13 million more deaths than births. To put this in perspective: over the entire postwar era, only one global episode can claim a higher cumulative total for “negative net natural increase.” That was in China over the years 1959–61, in the wake of Mao's catastrophic Great Leap Forward.

Taken as a whole, Russia recorded more than 140 deaths for every 100 births for the two-decade 1992–2011 period. Suffice it to say that this is an extraordinary ratio for an urbanized, literate society during peacetime. (While this imbalance is exceptional, it is not wholly unique: similar disproportions characterized a few other post-Soviet states, including Bulgaria and Ukraine.)

Since 2005, the gap between death and birth totals in Russia has been narrowing. In 2005, Russia reported nearly 850,000 more deaths than births. By 2011, the difference was about 130,000. Arithmetically, the convergence has a dual explanation: not only have the total numbers of births been rising, but the total numbers of deaths have also been falling.

FIGURE 7
RUSSIAN VITAL STATISTICS: 2011 VERSUS 2012

	Total (Given in Thousands)			Per Thousand Persons		
	January-December		Increase, Decrease (-) from 2011 to 2012	January-December		Percentage Increase from 2011 to 2012
	2012	2011		2012	2011	
Births	1,896.3	1,793.8	102.5	13.3	12.6	105.6
Deaths	1,898.8	1,925	-26.2	13.3	13.5	98.5
Infant mortality (per 1,000 births)	16.3	13.1	3.2	8.7 *	7.3*	119.2
Natural increase, decrease (-)	-2.5	-131.2		-0.02	-0.9	2.2
Marriages	1,213.6	1,316.1	-102.5	8.5	9.2	92.4
Divorces	642	669.4	-27.4	4.5	4.7	95.7

Note: Because of the transition to a broader set of criteria for birth (see “Medical Criteria for a Birth, the Form and Issuance Procedures of a Birth Certificate,” Order of the Ministry of Healthcare and Social Development of the Russian Federation, No. 1687n, December 27, 2011), from April 2012 births and deaths of low-birth-weight infants (weighing from 500 to 1,000 grams) are subject to register records. Indicators are estimated to account for results of 2010 Russia population census.

* Calculated per 1,000 live births.

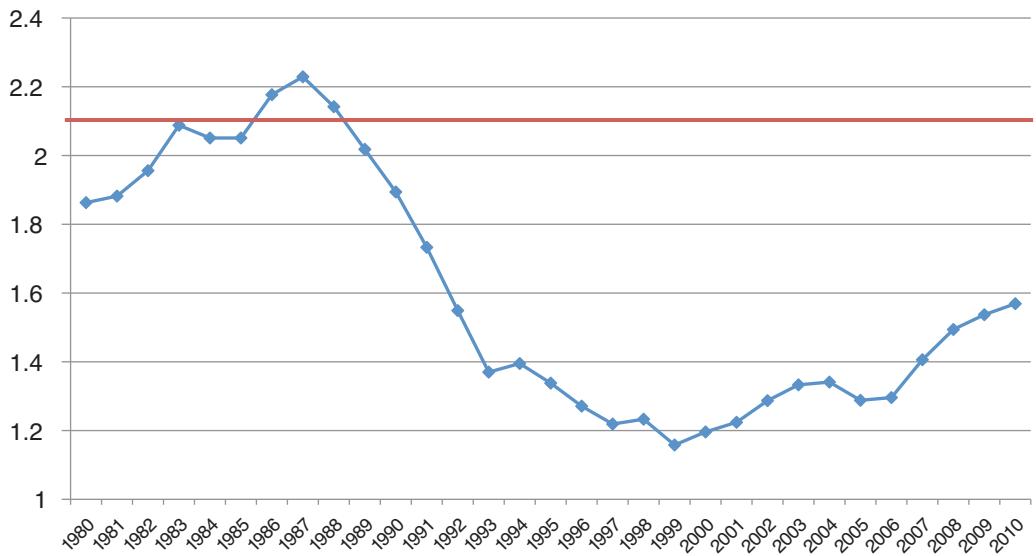
Source: RF Federal State Statistics Service, “Statistics on Natural Population Change of the Russian Federation,” www.gks.ru/free_doc/2012/demo/tab12-2012.xls (accessed January 31, 2013).

According to the Russian Federal Statistics Service, in recent years, births are on the rise in Russia and deaths are trending down. Initial Goskomstat figures for the first 11 months of 2012 suggested a tiny (4,600-count) excess of births over deaths. The preliminary full-year figures for 2012 suggested that total deaths ended up exceeding total births in Russia once again, for the 21st consecutive year. But this time, the

difference was razor thin—less than 3,000 out of nearly 1.9 million births and deaths.

These new trends raise an important question—are births and deaths in Russia heading back into balance, as Kremlin policymakers have attempted to decree? Is it even possible that births will come to exceed deaths in the years ahead, effectively ending the era of post-Communist depopulation?

FIGURE 8
TOTAL FERTILITY RATE: RUSSIA, 1980–2010 (BIRTHS PER WOMAN PER LIFETIME)

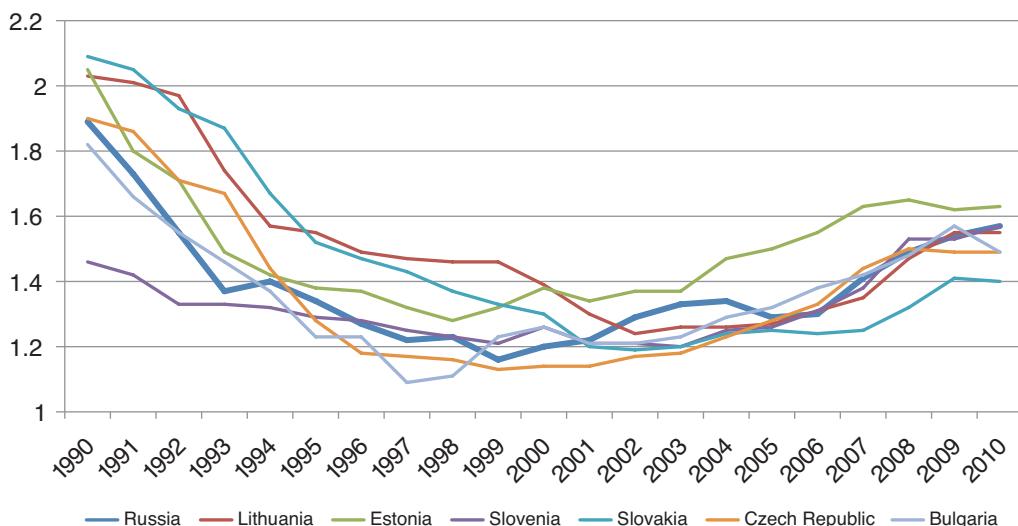


Source: Human Fertility Database, "Total Fertility Rate—All Birth Orders Combined," www.humanfertility.org/cgi-bin/country.php?country=RUS&tab=si&t1=1&t2=2 (accessed December 7, 2012).

Very roughly speaking, 2.1 births per lifetime is the level required for population replacement in advanced Western societies. Russia has been below this level for almost all of the past 30-plus years. At its nadir, in 1999, Russia's nationwide fertility level dropped below 1.2 (which would have implied a 45 percent cohort-to-cohort decline in population size if those 1999 patterns had continued indefinitely). Since then, there has been a rebound. By 2010, Russia's fertility levels

were approaching 1.6, according to the Human Fertility Database. The US Census Bureau's International Data Base projects a total fertility rate of more than 1.6 for Russia for 2012. This is a substantial increase over 1999. Even so, by the Census Bureau's projections for 2012, Russia's total fertility rate would imply a decline of over 20 percent in population with each passing generation, absent compensatory immigration.

FIGURE 9
TOTAL FERTILITY RATES: SELECTED POST-COMMUNIST COUNTRIES, 1990–2010
(BIRTHS PER WOMAN PER LIFETIME)

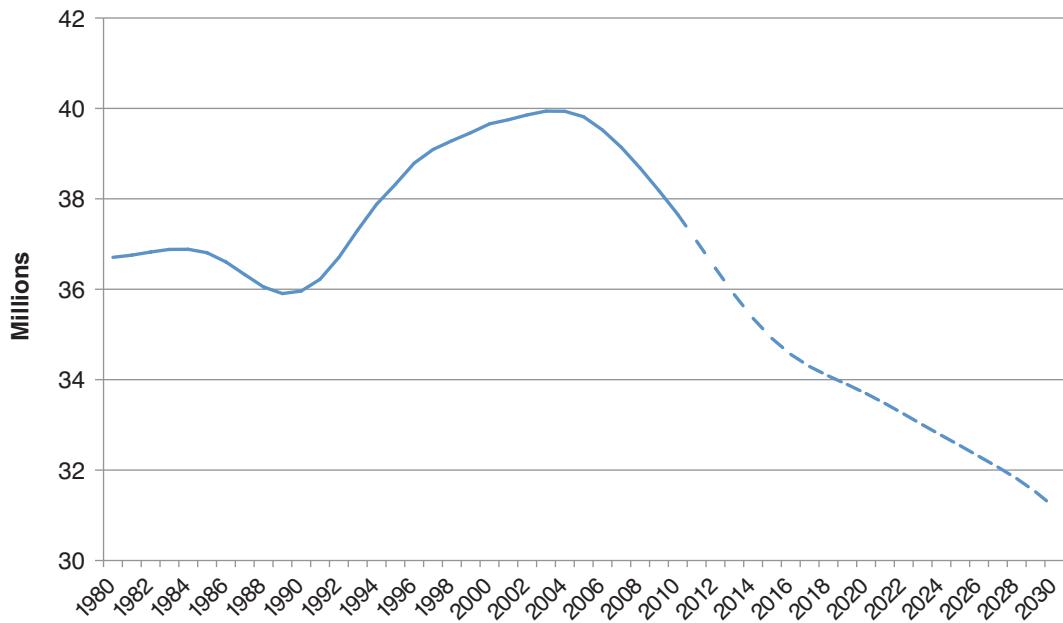


Source: For nations except Russia, see Eurostat, “Crude Birth Rate, per 1000 Inhabitants,” <http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tps00112&plugin=1> (accessed January 8, 2013); for Russia, see “Total Fertility Rate,” Human Fertility Database, www.humanfertility.org/cgi-bin/country.php?country=RUS&f=RUS\20120417\RUSTfrRR.txt&tab=si (accessed January 8, 2013).

Russia's fertility levels have been rising since the late 1990s. The Kremlin attributes Russia's birth resurgence to the pronatal program put in place in 2007. But most of Russia's fertility bounce-back to date had already taken place before the pronatal program was imple-

mented. Russia's total fertility rate trajectory over the past decade, furthermore, is not appreciably different from other post-Soviet societies where no such incentives were offered. Were Russia's pronatal grants and benefits Kremlin money wasted?

FIGURE 10
RUSSIAN WOMEN OF CHILDBEARING AGE (15–49): 1980–2030 (ESTIMATED AND PROJECTED, MILLIONS)

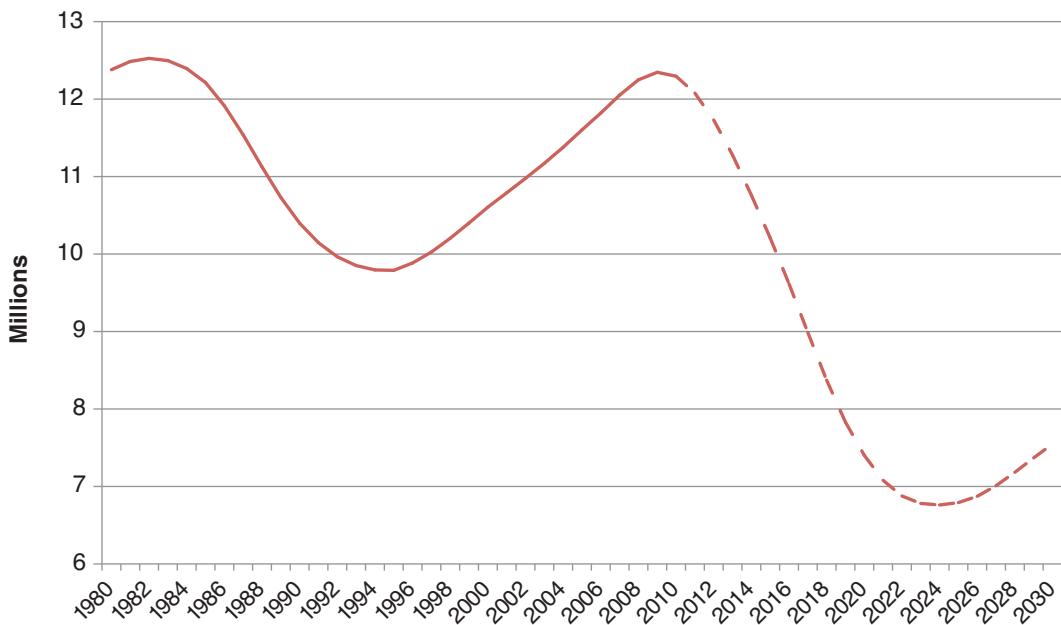


Source: United Nations Population Division, "Annual Population, Female 1950–2010, 2011–2100," *World Population Prospects*, 2010, <http://esa.un.org/wpp/Excel-Data/population.htm>.

The outlook for total births in Russia self-evidently depends on the outlook for the total number of women of childbearing age. That total peaked in 2005—and because of the birth slump after 1991, is declining today. Over the decades of 2010–30, Russia's

total number of women of childbearing age is set to drop by over 15 percent. All other things being equal, this squeeze stands to depress total birth numbers in the years ahead.

FIGURE 11
RUSSIAN WOMEN, AGES 20–29: 1980–2030 (ESTIMATED AND PROJECTED, MILLIONS)

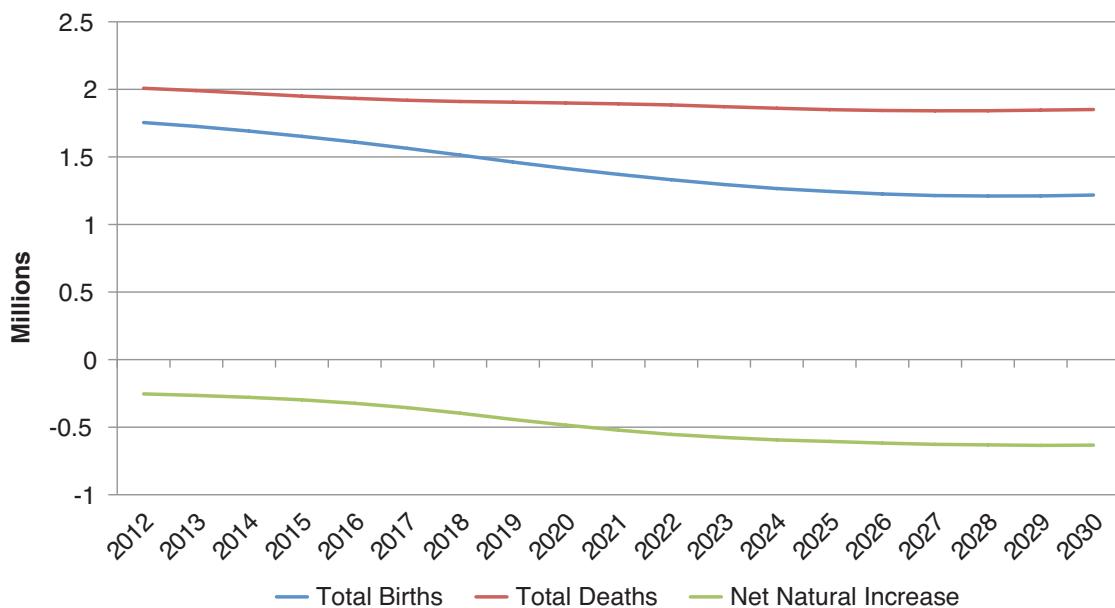


Source: United Nations Population Division, "Annual Population Female 1950–2010, 2011–2100," *World Population Prospects*, 2010, <http://esa.un.org/wpp/Excel-Data/population.htm>.

The key demographic group for childbearing in Russia is women in their 20s—unlike Western Europe and some other places today, Russian women tend to have most of their children in their early, mid-, and late 20s. Russia's population of 20-something women peaked in 2009, and given the birth trends of the 1990s and 2000s, it is set for an inexorable and radical drop in the years immediately ahead. Between 2009 and 2024, the cohort of Russian women in their

20s is set to fall by about 45 percent. And there is relatively little conjecture in such projections, insofar as all of the 20-somethings for the year 2024 have already been born. All other things being equal, this portends enormous downward pressure on birth totals for Russia in the years just ahead—much more, in fact, than might be divined from examination of total numbers for women of childbearing age.

FIGURE 12
BIRTHS, DEATHS, AND NET NATURAL INCREASE PROJECTIONS FOR RUSSIA: 2012–30
(US CENSUS BUREAU PROJECTIONS)

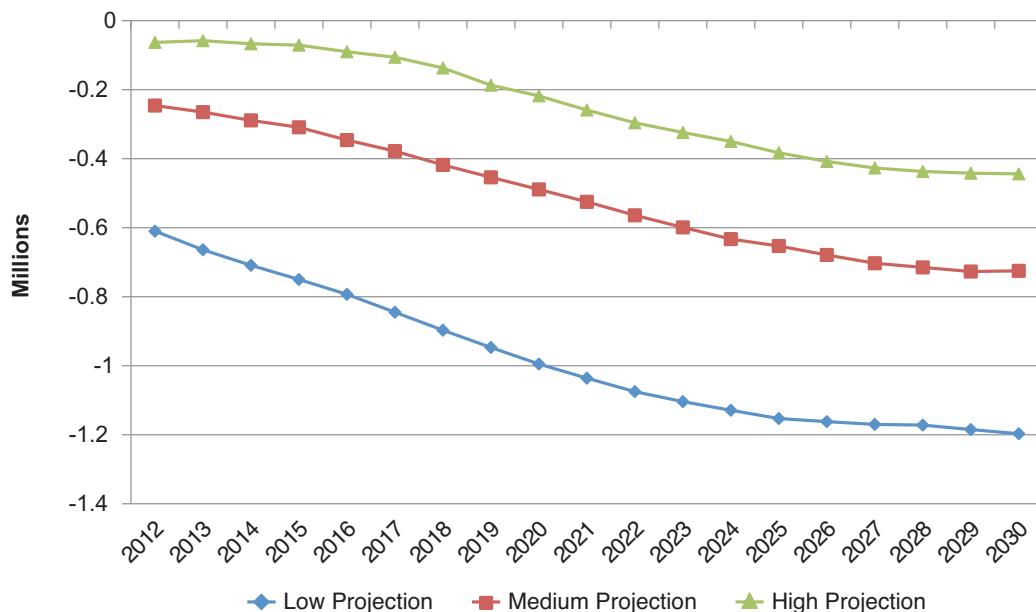


Source: United States Census Bureau, "Components of Population Growth," International Data Base, www.census.gov/population/international/data/idb/region.php (accessed December 11, 2012).

This graphic shows the US Census Bureau's take on Russia's current demographic outlook. Despite arguably "optimistic" assumptions regarding fertility and mortality in the years ahead, the Census Bureau projects that Russia's birth-death balance will continue to remain unrelentingly negative—and that the gap between deaths and births will steadily widen in

the years ahead. By 2030, under these projections, Russia would be suffering a negative net natural increase of over 600,000 annually—with more than 150 deaths per year for every 1,000 births. In other words, this projection anticipates a coming situation much like the familiar post-Communist patterns of the past two decades.

FIGURE 13
NET NATURAL INCREASE FOR RUSSIA: 2012–30 (GOSKOMSTAT PROJECTIONS)

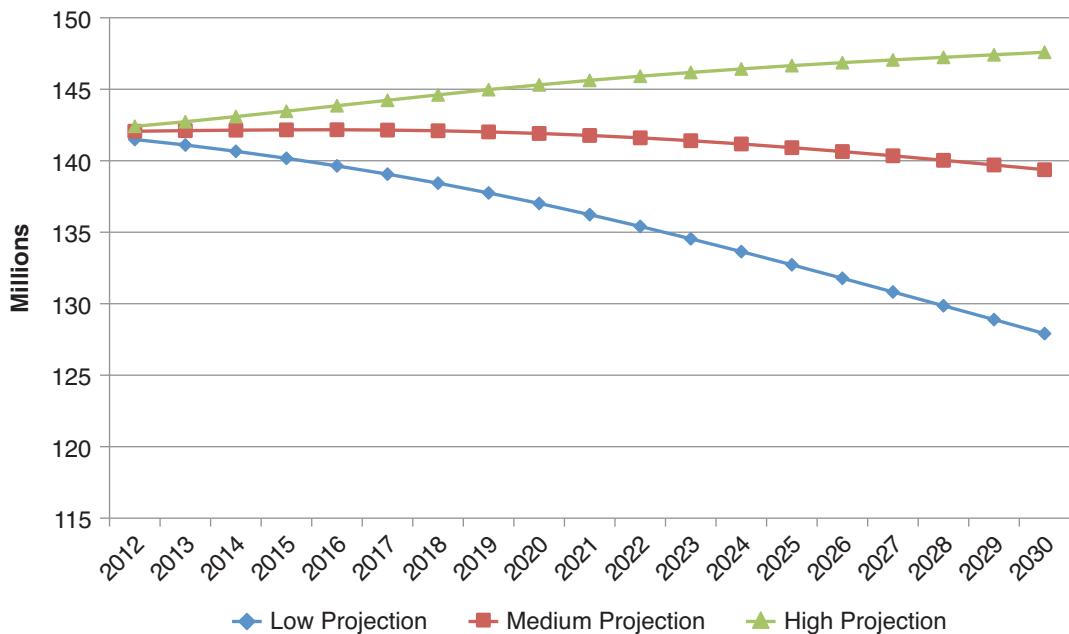


Source: RF Federal State Statistics Service, "Population Change and Forecast: Online Version," www.gks.ru/free_doc/new_site/population/demo/progn1.htm.

It is interesting to compare the US Census Bureau's projections for net natural increase in Russia in the years ahead with those of the Russian Federal State Statistics Service. Interestingly enough, the Goskomstat "medium" projection is fairly close to the US Census Bureau's single offered projection, although this Russian medium variant anticipates an even greater gap between deaths and births for 2030 than does the Census Bureau series. Even under Goskomstat's high prognosis, deaths exceed births by over 400,000 per year in 2030. Under the low prognosis, deaths outpace births by 1.2 million per year in 2030. Even in Moscow, suffice it to say, the strong downward momentum in population trends is recognized today. For Russian statistical authorities, no long-term convergence between deaths and births is imagined under any plausible scenarios.

We should emphasize that the US Census Bureau and Goskomstat projections are just that—projections. The fact of the matter is that no reliable methods for predicting long-term fertility trends have ever been invented. What is noteworthy, however, is that the Census Bureau, Goskomstat, the UN Population Division, and virtually every other serious observer of the population outlook currently presumes "negative net natural increase" will continue for decades. The presumption is informed not only by the downward pressure on births from the coming, aforementioned "mother slump," but also from the aging of the population, which will tend to pressure death totals upward, all else being equal.

FIGURE 14
POPULATION FOR RUSSIA: 2012–30 (GOSKOMSTAT PROJECTIONS, MILLIONS)

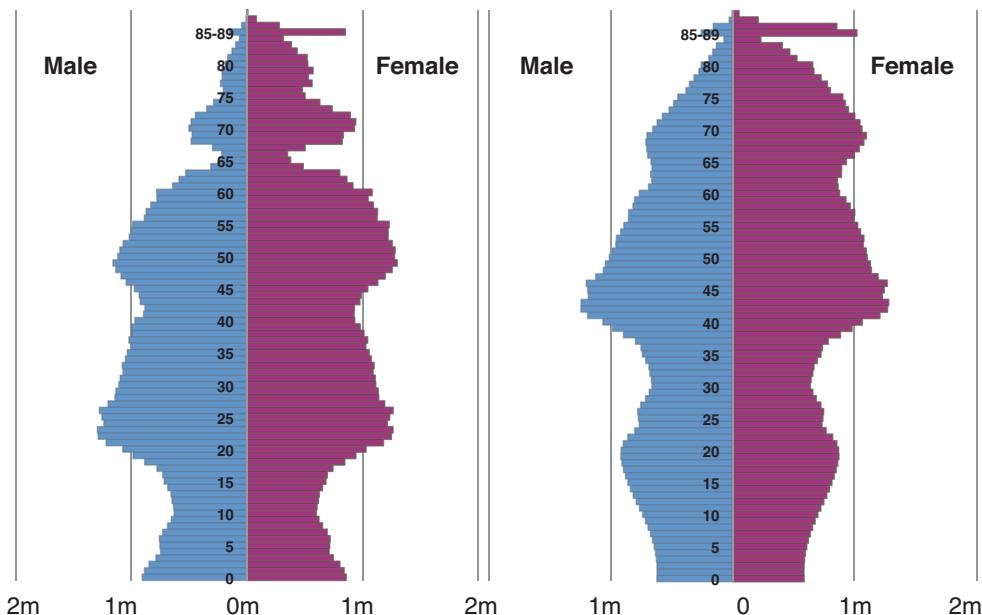


Source: RF Federal State Statistics Service, "Population Change and Forecast: Online Version," www.gks.ru/free_doc/new_site/population/demo/progn1.htm.

This graph presents Goskomstat's current projections for total population in Russia to 2030. In two of the three projections, Russia's total population declines between 2012 and 2030—only in the high or optimistic projection does Russia's population rise. As it happens, though, the third projection resulting in

population increase requires not only increasing fertility, but also increased net immigration. Without assumed significantly increased immigration, Russia's population would still decline under the optimistic Goskomstat scenario.

FIGURE 15
ESTIMATED AND PROJECTED RUSSIAN POPULATION STRUCTURE: 2010 VERSUS 2030
(US CENSUS BUREAU PROJECTIONS)



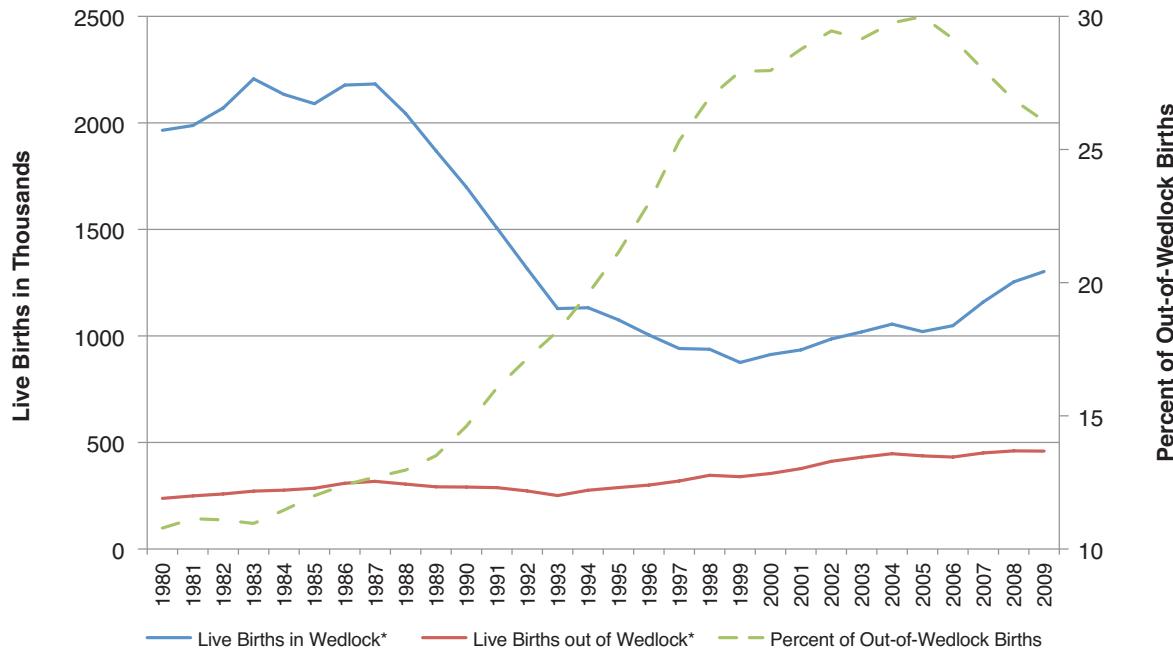
Source: United States Census Bureau, "Population by Single-Year Age Groups," International Data Base, www.census.gov/population/international/data/idb/region.php (accessed December 7, 2012).

The current population projection for 2030 contains conjectures—most importantly, concerning future migration and birth patterns. Even considering those uncertainties, we have a fair sense of what Russia's population profile may look like in 2030. It will be a

much grayer country—with a much smaller working-age population.

But this gets us back to the basic components of demographic trend: births, deaths, migration, aging.

FIGURE 16
LIVE BIRTHS BY MARITAL STATUS OF MOTHER AND EXTRAMARITAL BIRTH RATIO: RUSSIA, 1980–2009



Note: Wedlock is defined as a registered marriage.

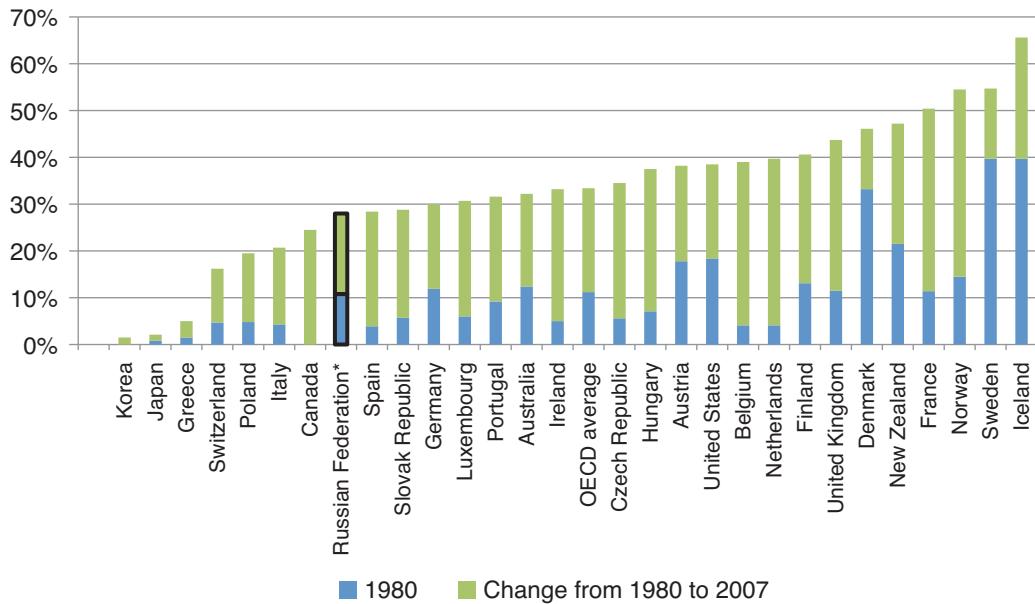
Source: "Table 4.7. Live Births by Mother's Marital Status," *The Demographic Yearbook of Russia 2010*, 165.

Family formation bears directly on human resources. Thus, not only Russia's total fertility rates but also the country's marriage and divorce rates and living arrangements should interest us.

Over the past decades, married births have slumped while births outside marriage have steadily

increased. Between 1989 and 2006, the proportion of illegitimate births in Russia doubled from 15 to 30 percent. In recent years, the illegitimacy ratio in Russia has declined somewhat.

FIGURE 17
OUT-OF-WEDLOCK BIRTHS AS A PERCENTAGE OF TOTAL BIRTHS: RUSSIA VERSUS OECD, 1980–2007

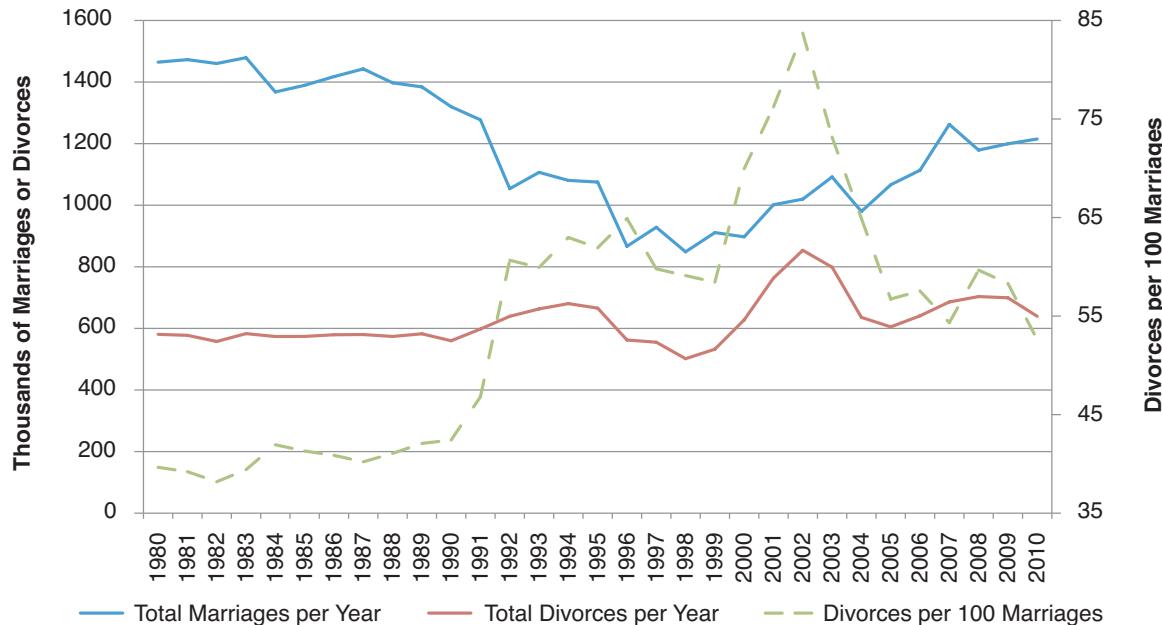


Note: Russian Federation estimates are derived from births from unmarried mothers as percentage of births from both unmarried and married mothers.
 Sources: "Table 4.7. Live Births by Mother's Marital Status," *The Demographic Yearbook of Russia 2010*, 165; and Organisation for Economic Co-operation and Development, *Doing Better for Families*, 2012, figure 1.6, 27, www.oecd-ilibrary.org/social-issues-migration-health/doing-better-for-families_9789264098732-en.

In the mirror of OECD countries, Russia's out-of-wedlock birth ratio was, perhaps surprisingly, relatively low as of 2007. This is because Russia's ratio has

not risen as dramatically as the corresponding ratios in affluent Western societies. Even so, it has risen very significantly since the end of the Communist era.

FIGURE 18
ANNUAL MARRIAGES AND DIVORCES: RUSSIA, 1980–2010

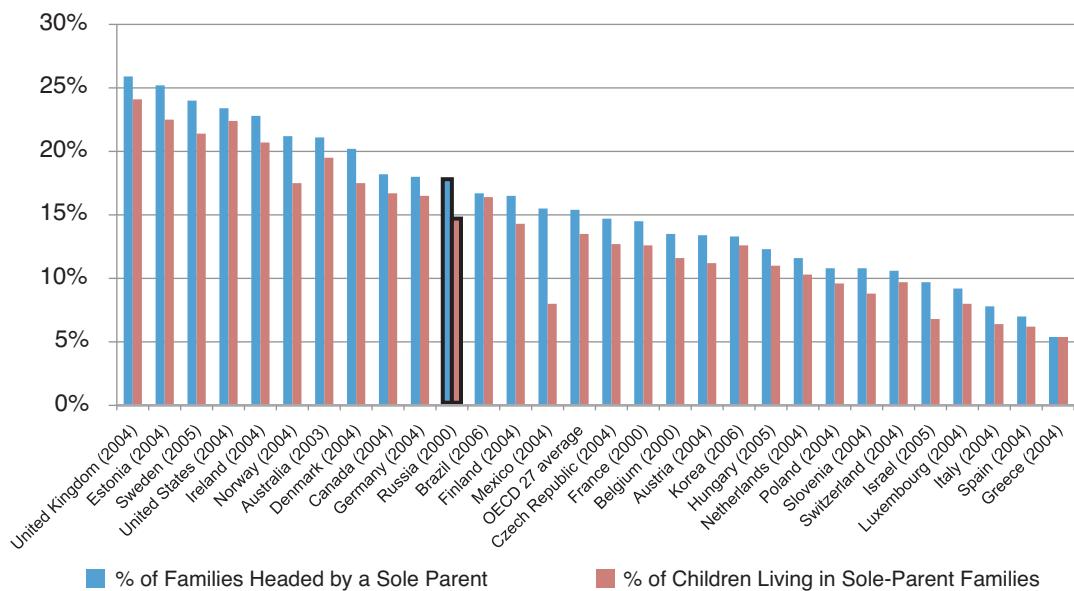


Sources: RF Federal State Statistics Service, "Marriages" and "Divorces," www.gks.ru/wps/wcm/connect/rosstat/rosstatsite/main/population/demography; and "Table 3.1, Marriages and Divorces," *The Demographic Yearbook of Russia 2010*, 116.

Over the past decades, the number of total marriages in Russia has irregularly but significantly declined, while divorces have not. In all, the ratio of divorces to marriages has risen in Russia since the end of its Communist rule. Unfortunately, available data do not

permit us to estimate the odds of getting married, or the odds of eventually getting divorced, in Russia. But Russia's available data do seem to suggest that marital unions have become more unstable over time.

FIGURE 19
PERCENTAGE OF SOLE-PARENT FAMILIES AND CHILDREN LIVING IN SOLE-PARENT FAMILIES:
RUSSIA (2000) VERSUS OECD (2000–06)

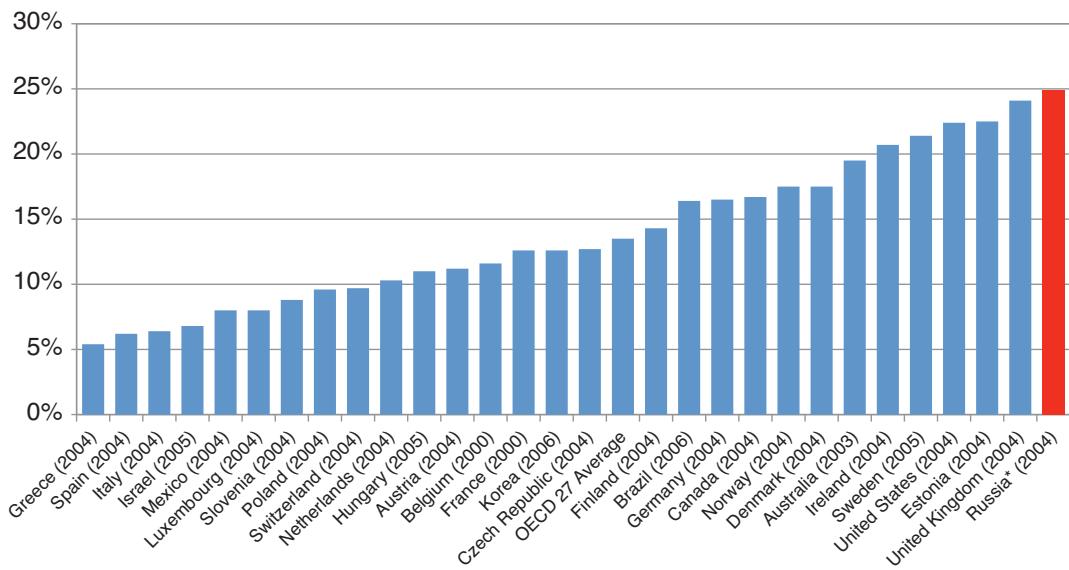


Source: Organisation for Economic Co-operation and Development, *Doing Better for Families*, 2012, figure 6.A1.2, 239, www.oecd-ilibrary.org/social-issues-migration-health/doing-better-for-families_9789264098732-en.

According to an analysis by the OECD, family fragmentation is more pronounced in Russia than in many more affluent Western democracies. According to the OECD, about one child in seven in Russia lived in a single-parent home around the year 2000. This would not have been the highest rating against

OECD countries from a few years later—but it still would have put Russia relatively high up in the ranking. And we need to remember that Russia does not have the sorts of social welfare guarantees of the United Kingdom, much less Sweden.

FIGURE 20
PERCENTAGE OF CHILDREN LIVING IN SOLE-PARENT FAMILIES: RUSSIA (2004) VERSUS OECD (2000–06)



Note: Russian measurement includes only the percentage of children living in single-mother households with no other relatives or partners.

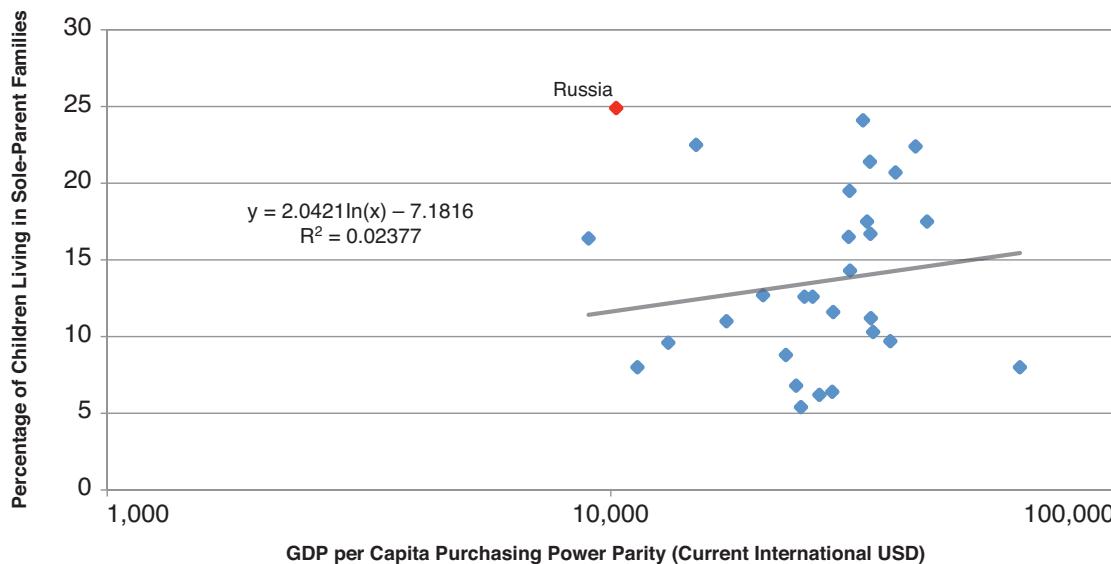
Sources: For nations except Russia, see Organisation for Economic Co-operation and Development, *Doing Better for Families*, 2012, figure 6.A1.2, 239, www.oecd-ilibrary.org/social-issues-migration-health/doing-better-for-families_9789264098732-en; for Russia, Generations and Gender Programme, “Generations and Gender Survey, Russia Wave 1,” www.ggp-i.org/online-data-analysis.html and personal communication with Sergei Zakharov, Deputy Director, Institute of Demography, Higher School of Economics (Moscow, Russia), February 1, 2013.

But the OECD’s year 2000 estimate for the proportion of children living with just one parent (about 15 percent) may have been far too low. According to the Russian Federation’s Generations and Gender Survey, roughly 25 percent of all Russian children lived with only their mother as of 2004. This would have meant that the share of Russian children in fragmented families would have been higher than the corresponding share in any OECD country that same year—and it would have been markedly higher in Russia than for most OECD countries. And if the share of children

living only with fathers had been included in this tabulation, Russia’s “outlier” status would have been even outlined in even starker relief.

Note that Russia has a much lower income level than these OECD countries—and also much more limited social guarantees for children. All other things being equal, this state of affairs would seem to confer much greater disadvantage with respect to human capital accumulation (among many other things) on Russia’s rising generation than on their OECD counterparts.

FIGURE 21
**PERCENTAGE OF CHILDREN LIVING IN SOLE-PARENT FAMILIES (2000–06)
 VERSUS GDP PER CAPITA PURCHASING POWER PARITY (CURRENT INTERNATIONAL USD)**



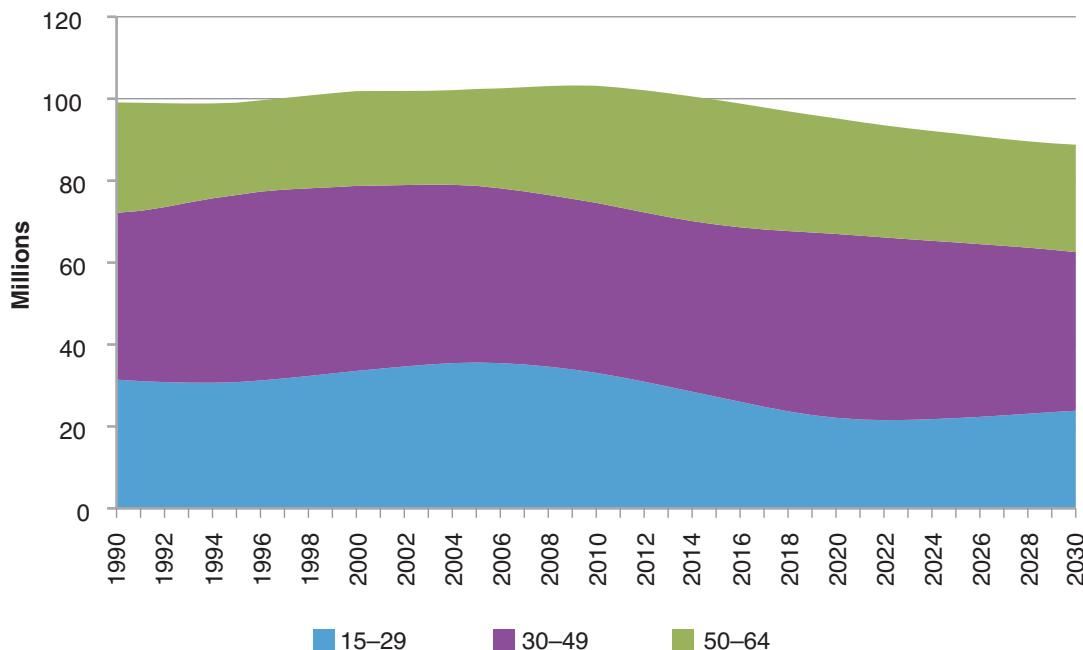
Note: Russian data include children living only with their mother, and the data are excluded from the regression.

Sources: World Bank Development Indicators, "GDP per Capita, PPP (Current International \$)," <http://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD>; Organisation for Economic Co-operation and Development, *Doing Better for Families*, 2012, www.oecd-ilibrary.org/social-issues-migration-health/doing-better-for-families_9789264098732-en, figure 6.A1.2, 239; for Russia, Generations and Gender Programme, "Generations and Gender Survey, Russia Wave 1," www.ggp-i.org/online-data-analysis.html and personal communication with Sergei Zakharov, Deputy Director, Institute of Demography, Higher School of Economics (Moscow, Russia), February 1, 2013.

Note that Russia has a much lower income level than these OECD countries—and also much more limited social guarantees for children. But it also has the highest proportion of children in lone-parent homes. All other things being equal, this state of affairs would

seem to confer much greater disadvantage with respect to human capital accumulation (among many other things) on Russia's rising generation than on their OECD counterparts.

FIGURE 22
ESTIMATED AND PROJECTED WORKING-AGE (15–64) POPULATION: RUSSIA, 1990–2030 (BY COMPOSITION)



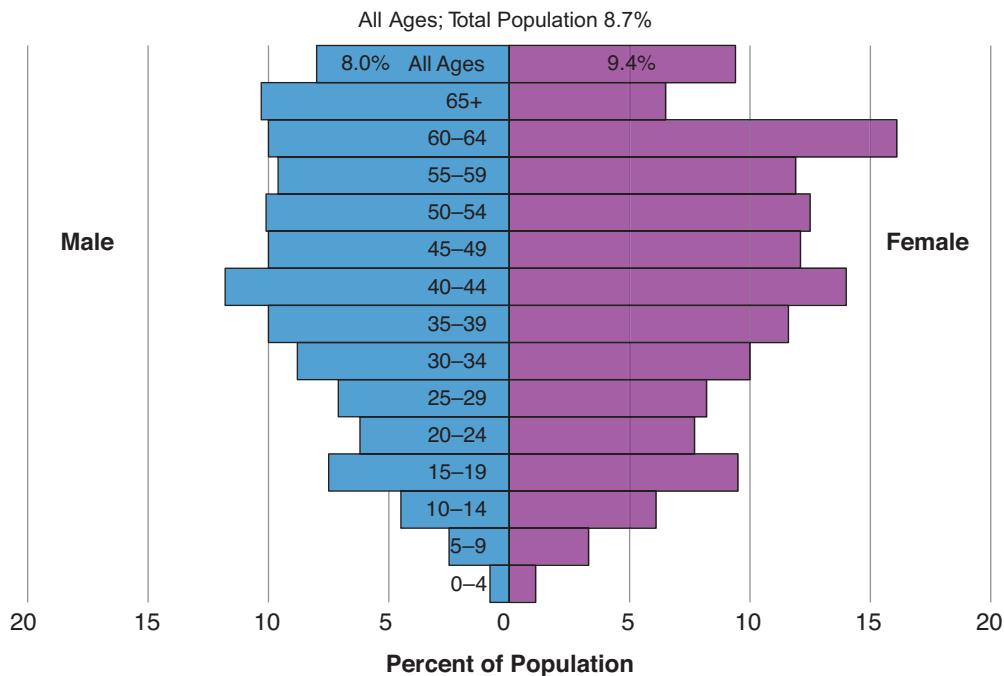
Source: United Nations Population Division, "Annual Population, Both Sexes 1950–2010, 2011–2100," *World Population Prospects*, 2010, <http://esa.un.org/wpp/Excel-Data/population.htm>.

The working-age population is a key economic variable in all countries. Given Russia's trends, available working-age manpower is set to slump in the years ahead, and significantly. Between 2010 and 2030, by UN Population Division projections, Russia's age 15–64 population is set to shrink by about 14 percent; the Census Bureau anticipates a drop of 12 percent. Russia's youth manpower—the cohorts with higher education attainment and presumably greater

productive potential—look set to fall even more dramatically.

All other things being equal, a shrinking workforce suggests diminishing potential for labor output in the national economy. The coming compositional changes in Russia's working-age manpower, furthermore, would seem to work against, not for, the eliciting of significant improvements in per-worker productivity over the years immediately ahead.

FIGURE 23
INTERNATIONAL MIGRANTS AS ESTIMATED PERCENTAGE OF POPULATION: RUSSIA, 2010

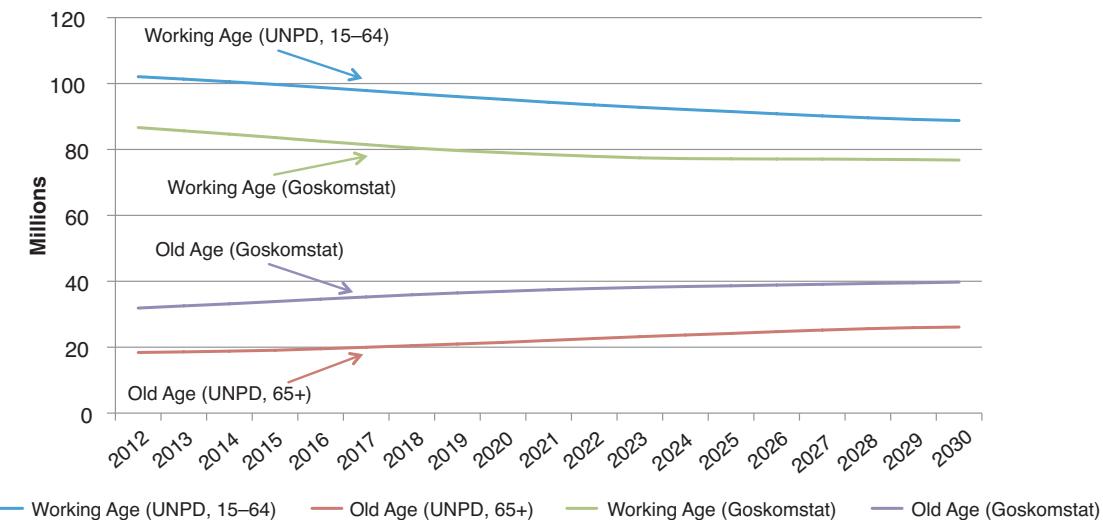


Source: United Nations Population Division, "International Migrants as a Percentage of the Population, Trends in International Migrant Stock: Migrants by Age and Sex," <http://esa.un.org/MigAge/>.

Russia's manpower totals would be falling off even more radically if not for immigration. According to UN Population Division estimates, almost 9 percent of Russia's population in 2010 was foreign born. But an even-higher fraction of the many working-age population cohorts was foreign born. Without immi-

gration, Russia's working-age population would be much smaller today. Current projections by the UN, the US Census Bureau, and Goskomstat all count on continuing augmentation of the future Russian workforce by migrants from abroad.

FIGURE 24
MEDIUM-VARIANT PROJECTED RUSSIAN POPULATION BY AGE GROUPS: 2012–30
(UN POPULATION DIVISION VERSUS GOSKOMSTAT DEFINITIONS AND SERIES)



Note: UNPD defines “working age” as ages 15–64 and “old age” as 65 and older; Goskomstat defines “working age” as ages 16–59 for males and 16–54 for females, with the “old age” category consisting of persons older than those age brackets for the corresponding gender.

Sources: United Nations Population Division, “Annual Population, Both Sexes 1950–2010, 2011–2100,” *World Population Prospects*, 2010, <http://esa.un.org/wpp/Excel-Data/population.htm>; and RF Federal State Statistics Service, “Population by Single Age Groups,” www.gks.ru/free_doc/new_site/population/demo/progn3.htm (accessed December 10, 2012).

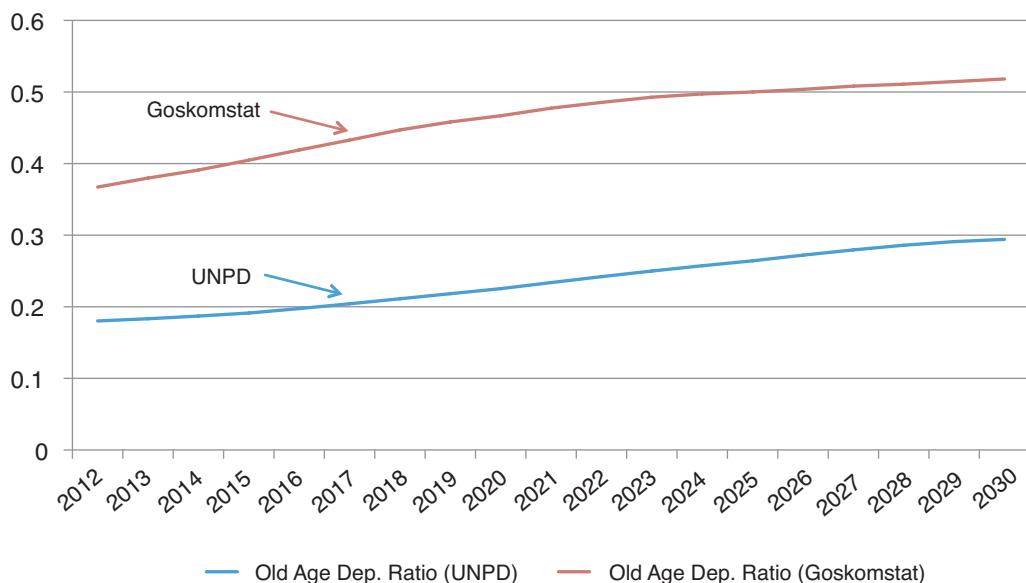
With a shrinking labor force and an aging population, Russia’s “gray burden” is rising. Because Russia officially has a different view than the West regarding who is pensionable and who is working age, we get different trend lines here.

Conventionally, Western demographers talk about “working age” population as encompassing the 15–64 group. (This is a generalization—not precise, but “good enough for government work.”) On the other hand, Russia’s official data, based on the old Soviet

policies, dictate that men are working age from 16 to 59 (at which time pension supposedly kicks in), and women are to be in the labor force from 16 to 54.

Thus the differences in UNPD and Goskomstat projections for pensionable and working-age Russian Federation population trends. The main difference concerns how many years the working ages are defined to encompass and how many years retirement (pension) is expected to envelop.

FIGURE 25
PROJECTED OLD-AGE DEPENDENCY RATIO PROJECTIONS FOR RUSSIA BY DIFFERING DEFINITIONS:
2012–30 (UNPD VERSUS GOSKOMSTAT)



Note: The UNPD old-age dependency ratio in this instance is defined as the number of people between ages 15 and 64 divided by the number of people aged over 65; Goskomstat's old-age dependency ratio is defined by the number of males between ages 16 and 59 added to the number of females between ages 16 and 54, with the total divided by the combined sum of the number of males 60 and older and females 55 and older.

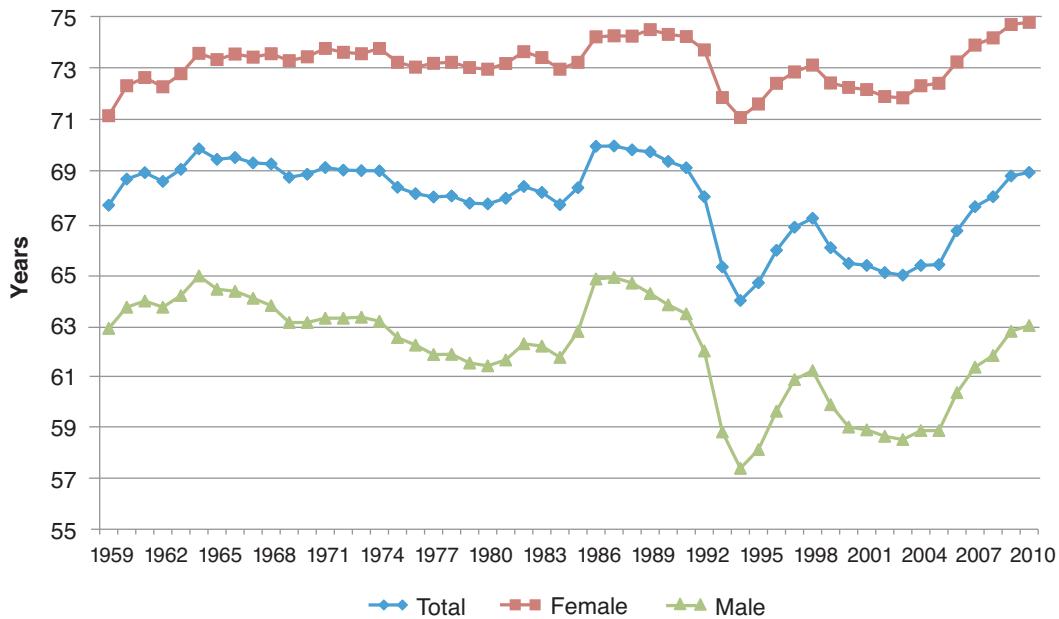
Sources: United Nations Population Division, "Old Age Dependency Ratio 1," World Population Prospects, 2010, <http://esa.un.org/wpp/Excel-Data/population.htm>; and RF Federal State Statistics Service, "Population by Single Age Groups," www.gks.ru/free_doc/new_site/population/demo/progn3.htm (accessed December 10, 2012).

Given Russia's prospective population aging, the outlook for increased pension burden in terms of working-age to pension-age population is unmistakable. But very big differences revolve around the actual definition of who is "working age" and who is "pension age."

The distinction is illustrated in this graph, which contrasts current Russian concepts of working age and retirement age with those used by the UN (and many Western organizations). By any definition, the old-age dependency ratio for Russia rises in the years immediately ahead. But the Russian definition of old-age dependency burden is far higher than the UN one—and even by 2030, the UN definition is not as high as the Russian definition was in 2012.

Of course the old-age pension burden bears on the outlook for economic productivity. Russia's economic prospects depend in some measure on what is seen as the labor force and what the pensioner burden turns out to be. No matter what definitions one cares to employ, however, we must understand this critical fact: Russia's old-age dependency ratio cannot be automatically compared with corresponding calculations for Western economies today—at least, not if one hopes to divine any meaningful economic information from them. This is because, quite simply, the Russian working-age and older-age populations suffer far worse health than their Western counterparts.

FIGURE 26
LIFE EXPECTANCY AT BIRTH: RUSSIA, 1959–2010 (YEARS)

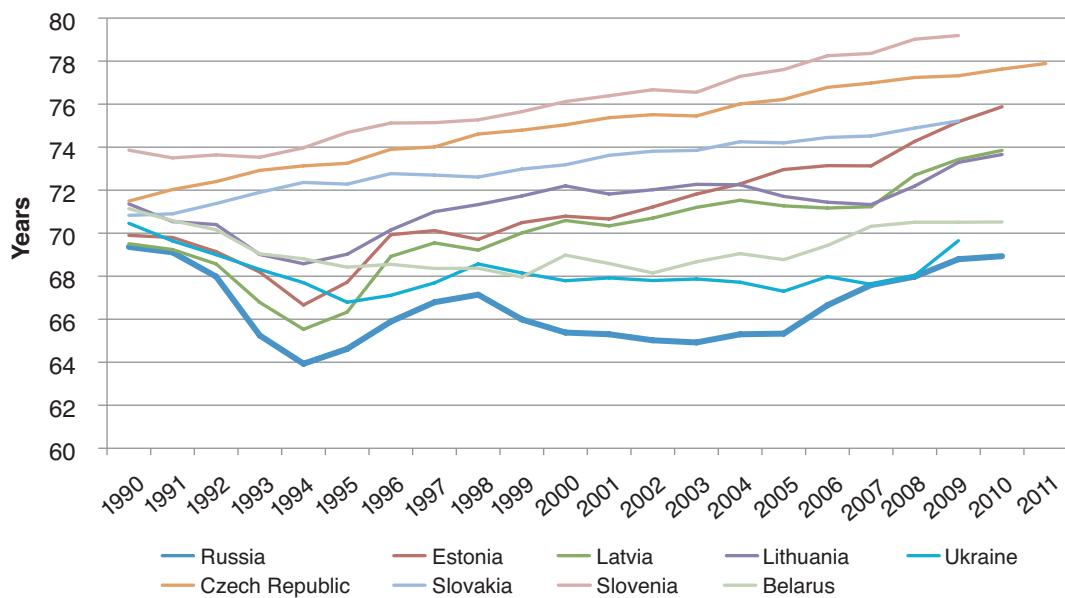


Source: "Life Expectancy at Birth," Human Mortality Database, www.mortality.org/cgi-bin/hmd/country.php?cntr=RUS&level=1 (accessed December 7, 2012).

There is no diplomatic way to put this: Russia's health trends are appalling. Over the past half-century, life expectancy has not appreciably changed for the country as a whole. This is in contradistinction to the world

as a whole and practically all of the countries that comprise it, including most low-income countries, wherein life expectancy has typically risen substantially.

FIGURE 27
LIFE EXPECTANCY AT BIRTH: SELECTED POST-COMMUNIST NATIONS, 1990–2011 (BOTH SEXES, YEARS)

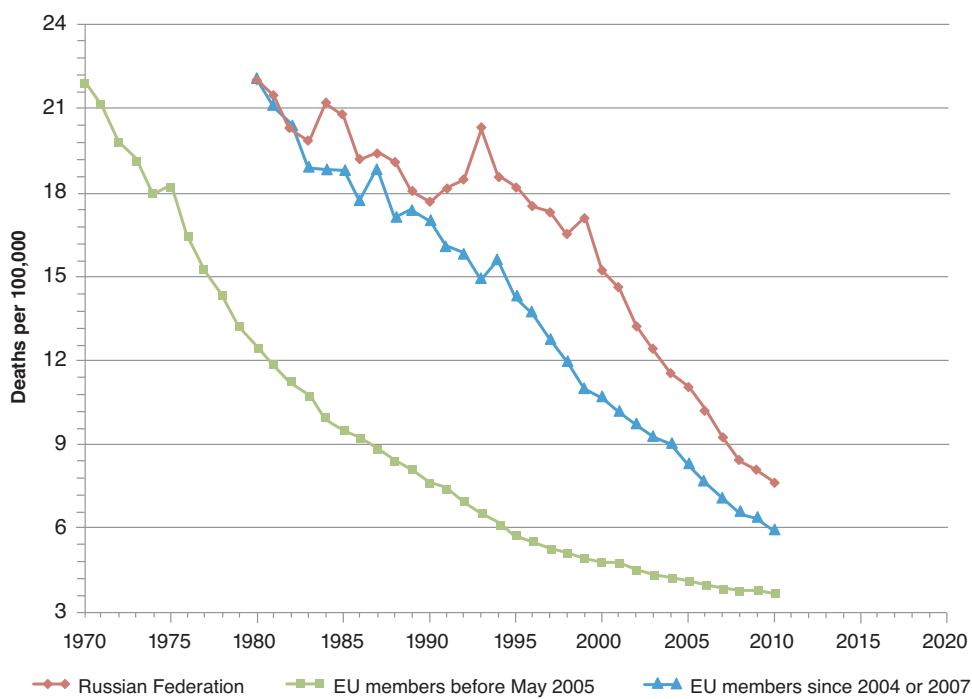


Source: "Life Expectancy at Birth," Human Mortality Database, www.mortality.org (accessed January 8, 2013).

Russia's health trajectory, measured by life expectancy at birth for men and women combined, has been exceedingly poor over the post-Communist era. By 2010, Russia's overall life expectancy was no higher

than 20 years earlier. Even compared to the unexacting standard of other post-Communist societies, Russia's health trajectory looked bad over these years—in fact, it may have been the worst of these nations.

FIGURE 28
AGE-STANDARDIZED MORTALITY FOR DEATHS FROM ALL CAUSES:
RUSSIA VERSUS “OLD” AND “NEW” EU STATES, 1970–2010



Source: World Health Organization Regional Office for Europe, European Health for All Database, <http://data.euro.who.int/hfadb/>.

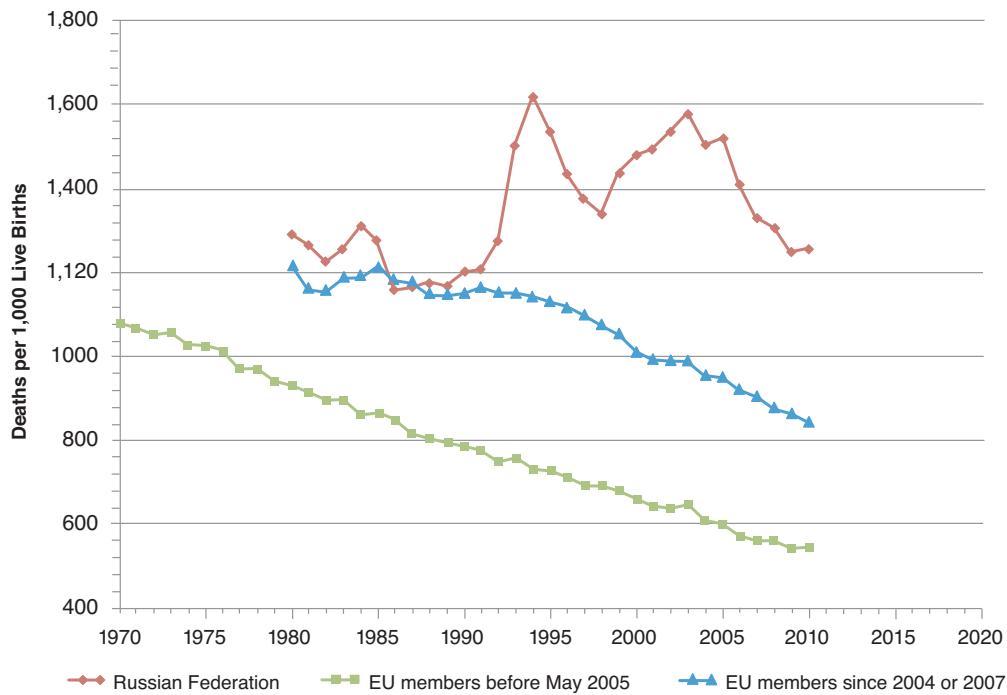
Age-standardized mortality rates depict Russia's disastrous overall health trends over the past decades. As bizarre as it may sound, these standardized mortality rates for Russia, for both men and women, were essentially no lower in 2010 than they had been 30 years earlier.

The contrast with the rest of Europe was striking. By 2010, Russia's standardized mortality rates were

well over twice as high as the corresponding levels for Western European countries (“old” EU).

Even more striking, standardized death rates for Russia in 2010 were 50 percent higher than for former Warsaw Pact Eastern Europe (“new” EU)—even though the new EU and Russia had essentially identical death rates at the end of the Soviet era. Why is Russia today so different from the rest of Europe?

FIGURE 29
ESTIMATED INFANT DEATHS: RUSSIA VERSUS “OLD” AND “NEW” EU STATES, 1970–2010

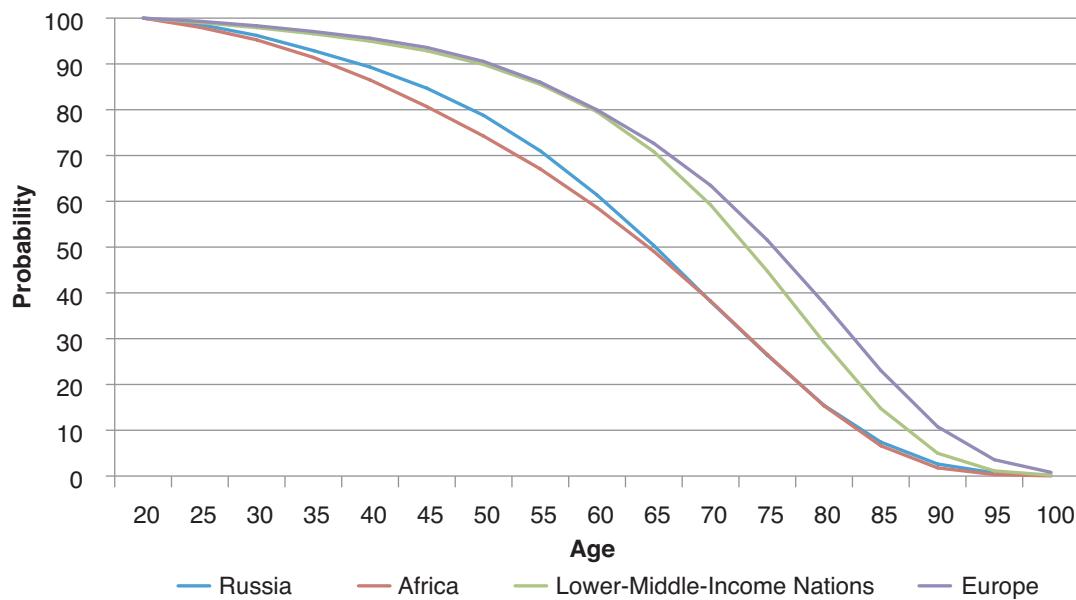


Source: World Health Organization Regional Office for Europe, European Health for All Database, <http://data.euro.who.int/hfadb/>.

Infant mortality is, among other things, a key indicator of social well-being. In the 1970s, uncannily, Russia’s infant mortality rates actually rose. For an industrialized society during peacetime, that can be regarded as an almost impossible (if gruesome)

accomplishment. In the post-Soviet era, however, it has dropped significantly—if not steadily. Infant mortality rates do *not* explain Russia’s poor overall health trends. Russia’s awful health performance kicks in at a later stage in the life cycle.

FIGURE 30
PROBABILITY AT AGE 20 OF LIVING UNTIL A GIVEN AGE:
RUSSIA VERSUS SELECTED REGIONS, MALES, 2009

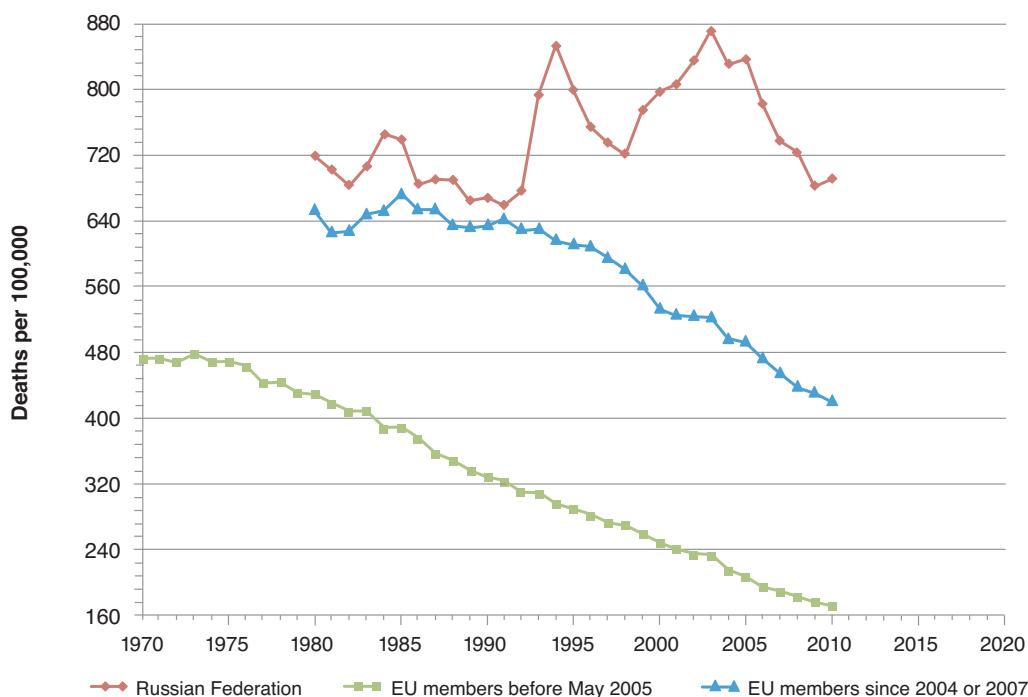


Source: World Health Organization, Health Statistics and Health Information Systems, www.who.int/healthinfo/statistics/mortality_life_tables/en/.

There are many ways to underscore the awful severity of Russia's health profile—but one of the starker is to contrast survival schedules with other regions. Russian men are, of course, an especially vulnerable group. According to the World Health Organization, 20-year-old Russian men had barely even odds for

living to age 65 as of the year 2009—whereas European countries could count on 20 or 25 more years of life before meeting that milestone. Astonishingly, perhaps, the survival curves for adult men in Russia and in sub-Saharan Africa were all but indistinguishable.

FIGURE 31
AGE-STANDARDIZED MORTALITY FROM DISEASES OF THE CIRCULATORY SYSTEM:
RUSSIA VERSUS “OLD” AND “NEW” EU STATES, 1970–2010



Source: World Health Organization Regional Office for Europe, European Health for All Database, <http://data.euro.who.int/hfadb/>.

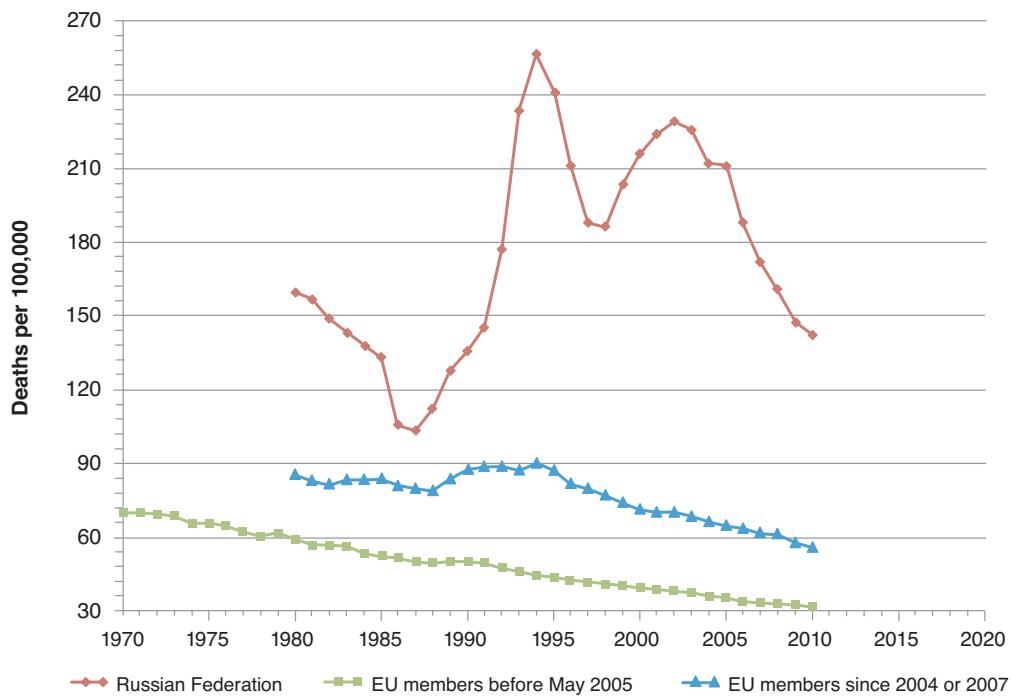
Where Africa’s horrendous mortality levels were due largely to diseases of poverty and other communicable illnesses, Russia’s astoundingly high adult mortality levels are explained primarily by chronic diseases—in particular, heart disease—and by injury deaths.

Overall, Russia’s age-standardized mortality rate in 2010 was over four times higher than in Western Europe—and about 75 percent higher than in the former Warsaw Pact countries that comprised the “new” EU states. This discrepancy is all the more

astonishing insofar as the “new” EU and Russia reported near-identical cardiovascular disease (CVD) mortality levels in the late 1980s. Where the former Warsaw Pact area has seen almost steady declines in CVD mortality since the end of the Cold War, Russia’s levels have gyrated erratically and unpredictably.

Note that the Western European countries’ collective CVD mortality levels reached their peak around 1970. Russia’s current level is at least 50 percent higher today than that earlier Western apogee.

FIGURE 32
AGE-STANDARDIZED MORTALITY FROM EXTERNAL CAUSES, INJURY, AND POISON:
RUSSIA VERSUS "OLD" AND "NEW" EU STATES, 1970–2010

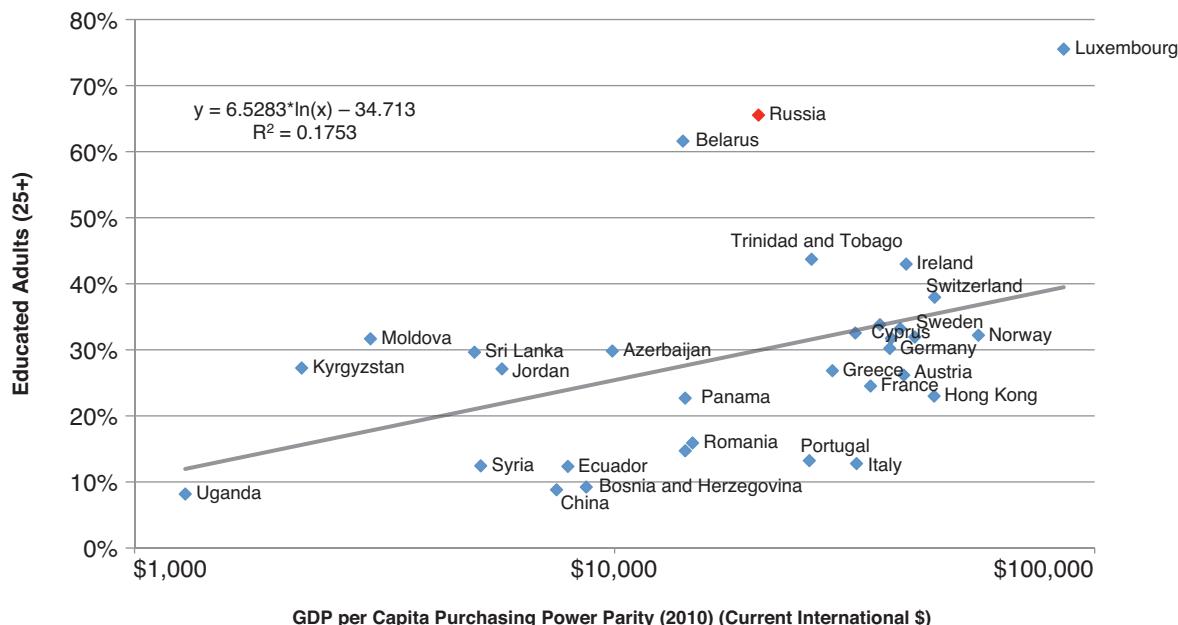


Source: World Health Organization Regional Office for Europe, European Health for All Database, <http://data.euro.who.int/hfadb/>.

Violent death during peacetime is something of a Russian specialty these days, as this chart underscores. "External cause" mortality—suicide, homicide, traffic death, injury mortality, and all the rest—is roughly five times as high today in Russia as in Western Europe. Despite the drop in Russia's external-cause mortality since the early 1990s, levels in Russia

are nonetheless about two and a half times as high today in Russia as in the former Warsaw Pact states that have joined the EU—and in those latter states, declines have been steady in contrast to Russia's erratic and veering trajectory. The gap in mortality from violent causes is much greater today between Russia and EU countries than it was a generation ago.

FIGURE 33
PERCENT OF ADULT POPULATION WITH TERTIARY/POSTSECONDARY EDUCATION VERSUS GDP PER CAPITA PPP:
RUSSIA AND SELECTED COUNTRIES, 2009–10



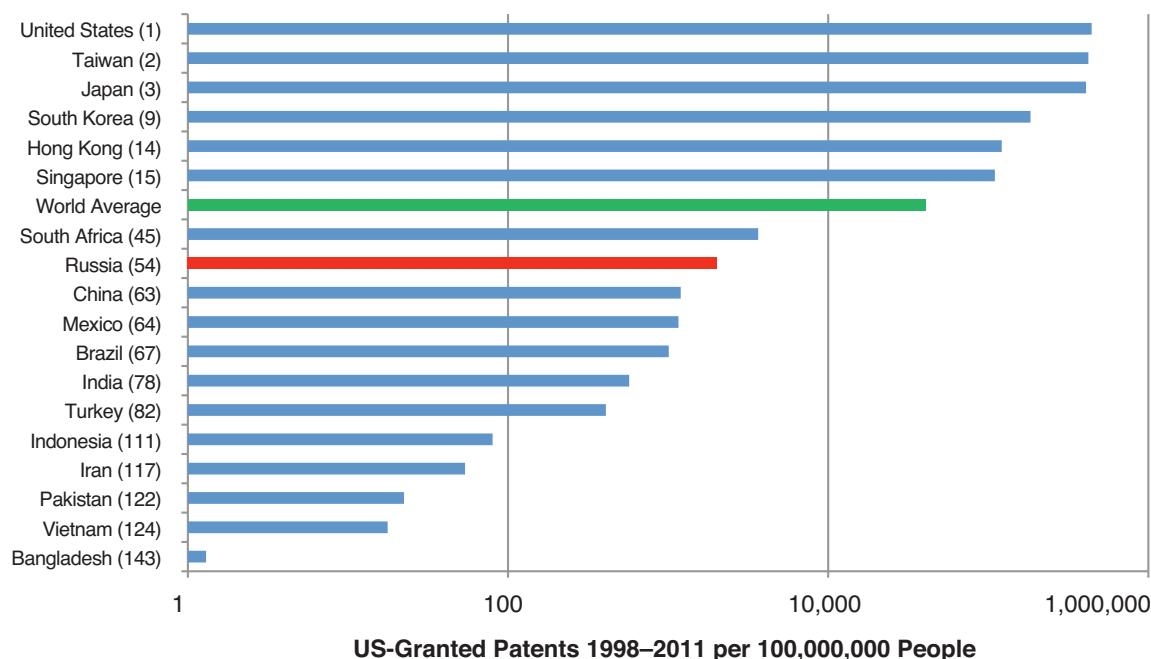
Note: Labels for some data points have been removed for clarity.

Sources: World Bank, "GDP per Capita, PPP (Current International \$)," World Development Indicators, <http://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD>; and United Nations Educational, Scientific, and Cultural Organization Institute for Statistics, "Literacy and Educational Attainment: Educational Attainment of the Population Aged 25 Years and Older, Latest Year Available," <http://stats UIS.unesco.org/unesco/ReportFolders/ReportFolders.aspx> (accessed December 7, 2012).

Curiously, Russian data suggest that the adult Russian population has enjoyed distinctly more educational attainment than in most OECD countries. By official data, the proportion of Russian adults with university or other tertiary schooling exceeds 60 percent, compared to 30 percent for Germany and under 25 percent

for France. Is Russia really more educated than other developed societies, though? We have already seen that Russia suffers from miserable health patterns: clearly Russian diplomas are not adequate to prevent severely premature death risk and serious excess mortality for the country's adult population. A paradox?

FIGURE 34
US PATENT AND TRADEMARK OFFICE—AWARDED PATENTS FOR 1998–2011 PER 100 MILLION PEOPLE,
144 NATIONS: RUSSIA VERSUS SELECTED RANKED COUNTRIES



Note: Excludes Netherland Antilles, Norfolk Island, Liechtenstein, Monaco, British Virgin Islands, Cayman Islands, Jersey, Isle of Man, Turks and Caicos Islands, Guernsey, Gibraltar, Andorra, Anguilla, Saint Kitts and Nevis, Palau, San Marino, French Polynesia, New Caledonia, and any nations that produced no patents during this time. World average is defined as total patents per 100,000,000 people of patent-producing nations.

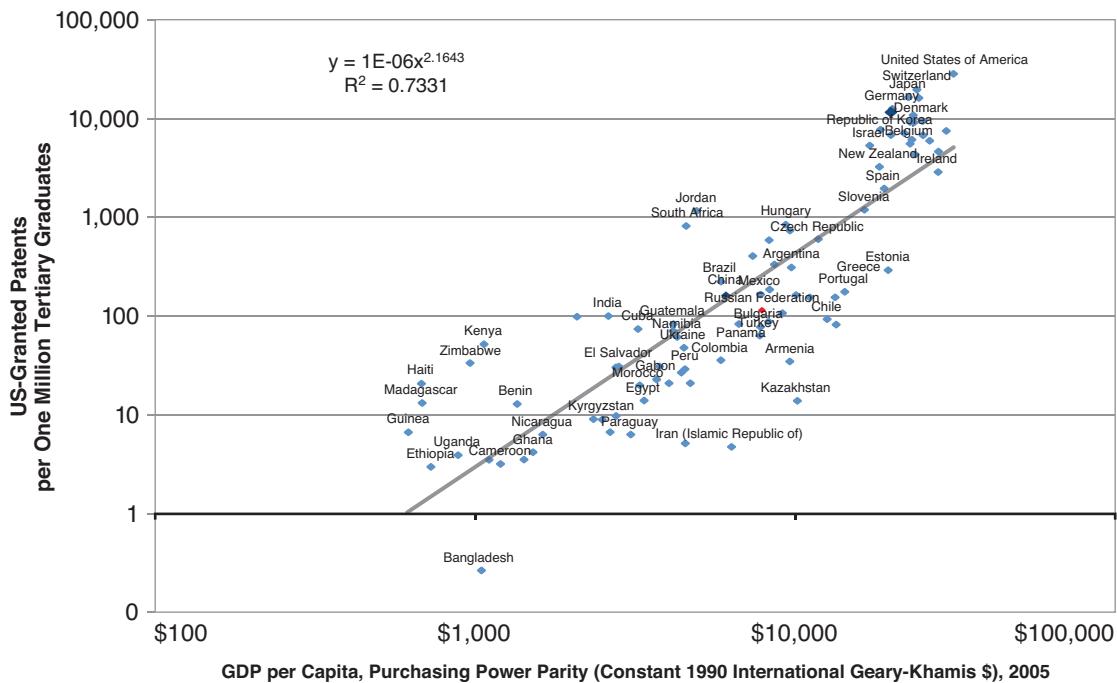
Sources: US Patent and Trademark Office, “Patents by Country, State, and Year—All Patent Types,” March 2012, www.uspto.gov/go/stats/cst_all.htm; United States Census Bureau, International Database, Demographic Overview, www.census.gov/population/international/data/idb/informationGateway.php (accessed January 22, 2013).

Russia's population accounts for approximately 2 percent of the world's total population and about 6 percent of the world's university educated population—but only about 0.1 percent of the world's out-of-country patent applications, as estimated by the UN World Intellectual Property Office. The US Patent and Trade Office (PTO) provides a similarly gloomy reading on Russia's “knowledge production” profile. For the years 1998–2011 (the most recent data available), PTO awarded a grand total of roughly 4.4 million patent to 144 countries around the world. Russia gained less than 3,000 of these over those

years—fewer than Norway. In fact, over this period, Russia earned only about half as many patents as the American state of Alabama.

On a per capita basis, Russia's PTO patent yield between 1998 and 2011 was barely one-twentieth the “world average” for the 144 countries awarded at least one patent over those years; by this criterion, its ranking was well below South Africa's and only slightly above Trinidad and Tobago's. As a “knowledge producer,” Russia looks very much like a third-world country—despite its first-world educational attainment profile.

FIGURE 35
GDP PER CAPITA IN 2005 VERSUS US-GRANTED PATENTS (1995–2008) PER ONE MILLION TERTIARY GRADUATES



Note: Russia has produced only one-twentieth as many patents as would be expected on a global per capita basis.

Note: Labels for some data points have been removed for clarity.

Sources: US Patent and Trademark Office, “Patents by Country, State, and Year—All Patent Types,” December 2008, www.uspto.gov/go/stats/cst_all.htm; World Development Indicators 2008 CD-ROM, World Bank; W. Lutz et al., “Reconstruction of Population by Age, Sex, and Level of Educational Attainment of 120 Countries for 2000–2030,” *Vienna Yearbook of Population Research*, 2007.

Despite Russia's high share of “educated” adults, Russia is not a knowledge-producing center. We have already discussed Russia's absolute and per capita yield of patents. A slightly more sophisticated take is afforded by looking at the ratio of patents over some previous number of years in relation to the working-age population with tertiary education—and relating that ratio to per capita income. Such an approach indicates the trend that would be expected in patents per university-trained potential worker by income level. Here we see that the yield of patents per university-trained worker more or less quadruples, with t equaling each doubling of per capita income—a case of increasing returns to scale.

But there are winners and losers in this graphic as well, at least as relates to the expected “yield” for countries at given income levels. By that unforgiving taxonomy, Russia is clearly one of the losers: the country is punching far below its weight. Indeed, Russia should be expected to generate fully three times as many patents over the period in question as it actually registered. The mystery of Russia's under-performance in “knowledge production” is only one of a number of troubling mysteries concerning human resources in Russia, as these graphs have attempted to illustrate.

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