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## **Barrels and bullets**

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#### Barrels and bullets: the geostrategic significance of Russia's oil and gas exports.

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#### Abstract

In 1953, US President Dwight D. Eisenhower warned about the hidden costs of what he was to later describe as the "military-industrial complex." Ike said: "We pay for a single fighter plane with a half million bushels of wheat. We pay for a single destroyer with new homes that could have housed more than 8,000 people."

The leaders of today's Russia face a 21st-century version of this dilemma, weighing the trade-off between spending on 'guns or butter.' Russia's own defense-industrial complex (known as the *oboronnyi-promyshlennyi kompleks*, or OPK) has been the recipient of billions of dollars in the past few years, as the state ordered new weapons such as the T-50 PAK-FA fifth generation fighter aircraft, the Armata main battle tank, new nuclear-powered submarines, and strategic missiles. Should they continue the costly effort to remake their military into one of the most numerous and sophisticated forces in the world? Or should Russia's leaders instead focus their efforts on investing in health, education, infrastructure, and other areas to help build a more dynamic and competitive economy? The answer to this question will be partially shaped by how much money Russia's leaders will have to spend; with the crash in the value of oil exports—the unstable pillar of this Eurasian petro-state—what funds can they expect to draw upon?

Just as importantly, decision-makers in the Kremlin will also be influenced by their perception of whether Russia faces a hostile geopolitical environment. If this view prevails, it is possible that Russia's leaders may choose to maintain military spending even as the economy sinks into stagnation.

#### Keywords

Russia; economic growth; oil and gas industry; exports; defense industry; military spending

As a student of the late Soviet period one of us is feeling a strong sense of déjà vu. In the 1980s, the Soviet Union was stymied by an economic system incapable of reform; its over-reliance on oil and gas exports were laid bare when the oil price fell. By the end of the decade, the Soviet

economy was in crisis; failed attempts to reform it had prompted Mikhail Gorbachev to seek a new relationship with the West. The resulting era of *glasnost* (openness) and *perestroika* (restructuring) caused not the rejuvenation of the economy, however, but the collapse of the Soviet Union in December 1991. Nearly 25 years on, we find a Russian economy still overly dependent on oil and gas export revenues—and still incapable of developing a more robust and sustainable economic model.

Vladimir Putin has returned for a third term and has stirred up nationalist fervor to paper over the cracks of a flawed economy. The annexation of Crimea and support for separatist forces in Eastern Ukraine may have found favor at home, but they have also resulted in Western sanctions that have isolated Russia from global capital markets and hindered the ability of its oil industry to explore and develop new reserves. So far, President Putin has been able to turn the sanctions to his own advantage, blaming them for the economic problems at home. Even the fall in the oil price, starting in 2014, was explained as US and Saudi intrigue aimed at Russia.

But the 2014 oil price collapse, and with it the dramatic fall in the value of the ruble, has hit Russia and its population hard. It is now forcing the Russian government to make substantial budget cuts to avoid drawing down on its significant, but dwindling, National Wealth Fundmainstay of the Russian pension system. Of course, most of the Russian government's domestic expenditures are in rubles, and the dollars it gets from taxing energy exports now go much further; even so, many of the populist measures promised by President Putin in his election campaign may have to be rolled back or postponed as the government imposes spending cuts. (These included commitments to create millions of highly-skilled and well-paid jobs, improve education, and boost Russia's birth rate [Putin 2012a]). As a consequence, the social contract between the electorate and the ruling elite is under strain just as social costs are increasing for an aging and shrinking population. At the same time, the combination of a rising tide of nationalism at home and a more assertive foreign policy abroad is being backed by a modernization of Russia's armed forces. Significantly, military expenditures are the one area that have not been cut; in fact, they continue to grow, and in 2015 they reached 5.5 percent of GDP. In comparison, the average military expenditure for a NATO country in 2014 was 1.5 percent. (The methodology employed to calculate military expenditures is the same as that employed by the Stockholm International Peace Research Institute [SIPRI, 2015.])

In this geopolitical and economic environment, some questions arise: Can Russia afford to continue to strengthen its military capability in the face of falling oil and gas export revenues, economic recession, and growing social demands on the federal budget? How do the changes in the global oil and gas industry—and upheavals in Russia's own oil and gas industry—affect Russia's ability to undertake the rearmament that has underpinned its more muscular role in the world? What might happen next: 'détente revisited,' or a 'new cold war'?

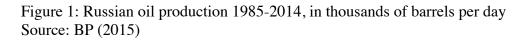
#### Russia's oil and gas dependence

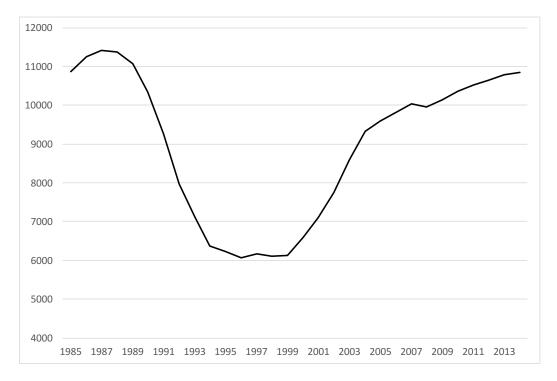
Russia's credentials as a 'petrostate' are impressive. In 2013-14 (US EIA 2015), it was the world's second-largest oil producer—accounting for 12.6 percent of total production—and also the second-largest exporter. (Saudi Arabia came first in both departments.) It was also the

second-largest producer of natural gas, after the United States, and the leading natural gas exporter.

Europe is by far the most important consumer of Russia's energy exports; in 2014, more than 70 percent of Russia's crude oil exports and almost 90 percent of Russia's natural gas exports went to Europe (US EIA 2015). Meanwhile, Asia is rapidly growing in significance as a market for Russian oil, following the completion of the East-Siberian Pacific Ocean oil pipeline. Natural gas exports to Asia are currently limited to shipments of liquefied natural gas (LNG) from the huge multibillion-dollar "Sakhalin-2" project in Russia's Far East, but gas exports are planned to increase by the end of the decade when the Power of Siberia pipeline should start to deliver natural gas to China.

In the early 1990s, Russian oil production plummeted as the economy collapsed (Figure 1). But when growth finally returned it was relatively easy to ramp up production based on the fields left over from the Soviet period. After that, a combination of investment in western technology to enhance production from existing fields and the development of new fields sustained production growth. Over the last decade the relative stability of Russian production—averaging 10.3 million barrels per day between 2005 and 2014—has resulted in an 'exportable surplus' of around the level of 7 million barrels per day (EIA 2015, 3). Coming at the same time as technology to develop light crude oil deposits trapped in tight sandstone and shale formations (known as "light, tight oil") in the United States, this production played a major role in ensuring the security of global supply despite the turmoil in other oil-exporting nations.





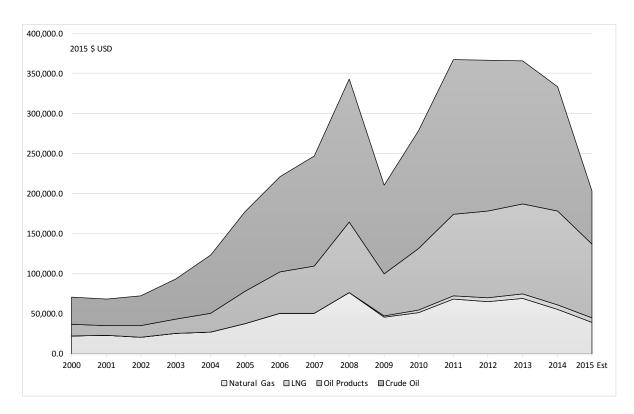
#### **Dependence and volatility**

Notwithstanding the interruptions in Ukrainian gas transit in 2006 and 2009, Russia's Gazprom (a state-controlled company whose pricing policy is determined by the Kremlin in support of its foreign policy objectives) has been a reliable supplier of substantial volumes of natural gas to Europe, and exports have continued uninterrupted despite the crisis in Ukraine and the imposition of Western sanctions. In fact, despite having fallen from a post-Soviet peak in 2005-06, last year Russian gas exports outside the former Soviet Union increased, reaching 158.6 billion cubic meters—82 percent of which went to Western European countries. (These numbers include all trading activity by GazpromExport—Gazprom's trading arm—and include deliveries of some non-Russian gas.) In 2013, according to the European Commission (2016), 65 percent of the European Union's gas was imported, with 30 percent of the EU's total gas consumption and 39 percent of total EU gas imports coming from Russia.

But if Russia is a major player on global energy markets and a source of energy (in)security for Europe, the Russian economy is also heavily dependent on the revenue generated by those oil and gas exports. Prime Minister Dmitry Medvedev (2015, 1) made clear the centrality of the energy sector to Russia's economic fortunes when he stated: "The fuel and energy complex accounts for over a quarter of gross domestic product, almost 30 percent of the national budget, more than two-thirds of export revenue and a quarter of total investments."

Figure 2 charts the dynamics of Russian oil and gas export revenue since 2000. When Vladimir Putin came to power in 2000 the average oil price (for Brent crude, a major trading benchmark for international oil purchases) was \$28.50 (BP 2015, 15). The chart makes clear the dominance of crude oil exports and the rising role of oil products exports. Natural gas exports are lower in both volume and value—though they are also oil indexed—and the level of taxation is also lower. Research by Clifford Gaddy and Barry Ickes (2005) has investigated Russia's continued addiction to resource rents (the revenue received from sale of a resource minus the cost of producing it) and highlighted how the volatility attached to this dependence is a constant source of economic instability and an essential characteristic of its political economy. In other words, it is hard to make budgets and plan for the future when a barrel of Brent oil is worth more than \$100 in mid-2014 and less than \$33 in February 2016.

Figure 2: Earnings, in 2015 US dollars, from Russian oil and gas exports 2000-2015. Because the full 2015 statistics were not available as of press time, the fall between the third quarter 2014 and the third quarter of 2015 was extrapolated to arrive at an estimate for 2015. Source: Central Bank of Russia 2016.



Russia—and its President—rode a wave of prosperity as the oil price increased up to 2008, but Russia was hit hardest among the G20 states by the 2008 global financial crisis as the oil price plummeted. The price rebounded without Russia having to exhaust its strategic reserves or make significant economic reforms. Despite the rhetoric of modernization and diversification, Russia's resource dependence remained.

#### Russia faces a perfect storm

The current crisis is more complex and the result of a perfect storm of collapsing oil and gas prices, a crash in the value of the ruble, and the impact of Western sanctions. Over the first half of 2014 the average price for a barrel of Urals crude oil was \$107, in the first half of 2015 it was \$57 a barrel (World Bank 2015, 16). The oil price continued to fall in the second half of 2015 and was below \$30 in early 2016. The Russian government chose to stop defending the ruble and since early 2014 the ruble has lost 60 percent of its value against the dollar.

Ruble devaluation is particularly challenging for individuals and companies who purchase imported goods and services, or have debts in foreign currency. On both accounts, this includes Russia's oil companies. According to the Russian statistics service "Rosstat," preliminary estimates show that Russia's gross domestic product, or GDP, declined by 3.7 percent in 2015 (World Bank 2016). Yet despite the domestic economic turmoil and the collapse in the price oil, Russian oil production actually increased in 2015. But, as Figure 2 makes clear, the fall in the price of oil and gas has resulted in a dramatic fall in export revenue. A comparison of export earnings to the third quarter of 2015 to the same period in 2014 shows that the value of oil exports fell by 42.7 percent, oil products 39.9 percent and natural gas 28.7 percent (Central Bank

of Russia 2016). So, Russia is exporting more oil, oil products, and gas than ever, but bringing home a lot less.

Oil and gas is a long-term business and the current resilience of Russian oil production reflects investment in enhanced recovery and in new field development when the oil price was more than \$100 a barrel. At the same time, Russia's oil and gas exports generate revenue in US dollars, while most domestic costs are in Russian rubles. Thus, each dollar earned from a barrel exported is worth a lot more rubles than it was two years ago. That said, the industry is still dependent on foreign oilfield services and equipment that are now costlier. But, as Henderson and Fattouh (2016, 5) have explained: "the tax system in Russia provided significant protection to Russian oil companies, because the high level of the marginal tax rate above \$25 per barrel has meant that the government has taken most of the cost of the falling oil price." In other words, most of the income above the \$25 level is taken by the government in taxation.

A further consideration is that the majority of Russia's production is in West Siberia and there are technical reasons relating to operating in very cold conditions that make it inadvisable to stop production. Finally, some Russian oil companies are heavily indebted and need to generate foreign currency whatever the oil price to service those debts. All of this means that Russia's oil companies have the incentive to continue producing, even at very low oil prices.

Gas exports, however, are a different matter, because they are tied to long-term contracts that are indexed to the price of oil, and the gas price has fallen behind that of the oil price (there is a 6- to 9-month delay due to the nature of the contracts). Current prices are still above the cost of supply to European markets for Gazprom, but there is speculation that it could be drawn into a price war to fend off increased liquid natural gas exports into Europe (Henderson 2016).

When Russian annexed Crimea and became embroiled in conflict in Eastern Ukraine, Western countries imposed sanctions on Russia, contributing the third element of the perfect storm, after collapsing oil and gas prices, and the fall in the value of the ruble.

So, what exactly are the impacts of sanctions on Russia's oil and gas industries?

The first thing to make clear is that the sanctions are not targeted at reducing Russia's short-term ability to export oil and gas. This would have been counterproductive as it would have raised concerns about energy security in Europe. Rather, the technology sanctions targeted key areas that are important for developing new oil production in frontier regions—the Arctic and deepwater offshore—and shale projects. The sanctions have effectively stopped cooperation between the international oil companies and Gazprom and Rosneft (Russia's majority state-owned oil company, and the largest in the country).

The second element of financial sanctions is targeted at specific companies and individuals, but the caution of international financial institutions is such that all Russian companies now find it difficult and costly to raise capital on international financial markets, as well as reschedule existing debts. This is beginning to have an impact on the oil and gas industry as Russian companies are seeing their own cash flows shrink—particularly when calculated in dollars—and are also finding it difficult to borrow to finance new developments (Mitrova 2016). This is a

problem that is exacerbated by the fact that 'new' Russian oil production is proving to be increasingly costly as it moves into the remote regions of East Siberia and also has to confront more complex geology (Gustafson 2012). Even the Russian Government is now concerned that in the next year or so Russian oil production will start to decline as investment dries up; particularly if the oil price remains lower for longer (Mazneva 2016).

Consequently, these short- to medium-term constraints could run up against the impact of technology sanctions to reduce Russian oil production by the early 2020s. This is not a view held by BP (2016), whose latest Energy Outlook report predicts that Russian oil production will remain stable at about 11 million barrels per day through 2035, with gas production expanding by 30 percent by that date. But, as the current situation highlights, for the Russian government the concern is more about value than volume.

The Russian economy is not about to collapse, but these are undoubtedly challenging times for President Putin. If the price of oil remains lower for longer and Western sanctions remain in place, Russian oil production may soon start to decline, further eroding the government's tax base. Thus, when President Putin goes to the polls in 2018 he could face a hostile electorate that may question his costly rearmament program in the face of rising social needs and declining living standards.

## The return of the military-industrial complex

The boom in the value of hydrocarbon exports laid the foundations for the return of the Russian defense-industrial complex (*oboronnyi-promyshlennyi kompleks*, or OPK) to a leading role in the Russian economy. In 2010, Russia began a decade-long military procurement program that is intended to both equip Russia's armed forces with modern equipment and to modernize the defense-industrial base, so that Russia can produce modern weapon systems well into the future. But government plans for the OPK are even grander than the re-equipment of the armed forces. In 2012, President Putin expressed the hope that this rearmament program would not only result in a more effective military machine, but also that a defense-industrial renaissance would act as a "driver of modernization" across the wider Russian economy (Putin 2012b, 2012c).

Alongside the buoyant hydrocarbons sector, a reinvigorated OPK has underpinned Russia's growing assertiveness in international affairs (Cooper, 2015). Indeed, the political importance attached to rebuilding the defense-industrial base cannot be underestimated: It was, after all, the resistance of Aleksei Kudrin to the funding of the rearmament program that resulted in the highly regarded former finance minister and long-time confidant of Vladimir Putin resigning from government in 2011 (Nikol'skii, 2011).

The precise nature of the expansion in defense procurement is laid out in the State Armaments Program 2011-2020, (*gosudarstvennaya programma vooruzheniya*, or GPV-2020), a 10-year program that envisages the large-scale procurement of a wide range of weapons systems. (Though spending is backloaded, so that one-third is scheduled to occur before 2016, with the remaining two-thirds thereafter [Barabanov et al, 2013]). The hope is that 70 percent of the armed forces' equipment will be modern when the GPV is completed. As well as new or recently

developed weapon systems, this includes 'modernized' equipment from the Soviet era. For example, modernized MiG-31 fighter and Tu-160 strategic bomber aircraft were all developed during the 1980s, while the Tu-22 and Tu-95 aircraft were developed even earlier.

This lofty objective followed years of neglect and underfunding after the disintegration of the Soviet Union in 1991. This neglect was made more acute by the fact that the OPK was one of if not *the*—highest priority sectors in the Soviet economy. It enjoyed preferential access to resources—financial, physical, and human—and was politically powerful (Gaddy, 1996; Cooper, 2013a). However, the OPK saw its elevated status diminish over the course of the 1990s as savage spending cuts and economic reforms starved the OPK of much of its funding. As government funding collapsed over the 1990s, the OPK shrank dramatically, with only arms exports to the likes of China and India keeping many enterprises afloat (Cooper, 2013a).

After the poor performance of the Russian armed forces during the brief conflict with Georgia in 2008, the government boosted the OPK, expanding procurement spending under the rearmament program. A total of about 20.7 trillion rubles (or approximately 640 billion US dollars at the average 2011 exchange rate of 32.2 rubles per dollar) was allocated to fund the purchase of modern equipment, as well as the development of future weapons systems (Falichev, 2011). While progress in some areas has not been as fast as originally planned—for example, there have been delays to the development of the high profile T-50 PAK-FA fifth generation fighter aircraft and the Armata main battle tank—the rearmament program has so far resulted in the delivery of a wide range of modern weapons systems that have contributed to a significant upgrading of Russian military capabilities. (But it should also be noted that many weaknesses remain. It is therefore important not to exaggerate the impact of Russia's military modernization program [Renz, 2014]).

## The new leading sector of the Russian economy?

As well as enhancing Russian military capabilities, the role of the OPK in the wider Russian economy has grown substantially since 2011. Total Russian military expenditures grew from 3.8 percent of Russia's GDP in 2010 to 5.5 percent in 2015; the share of GDP devoted to military expenditure is higher than for any individual NATO country, as well as China, India, and Japan (SIPRI, 2015). This has caused a reorientation of government spending. In 2010, military expenditure as a share of total federal government spending was 15.9 percent; by 2015 it had risen to 25.8 percent. (Data for 2015 taken from Cooper [2016]; data for 2010 from Cooper 2013b, p.63).

It is therefore clear that the renewed emphasis on the Russian defense industry has caused the OPK's role in the Russian economy to strengthen considerably. This is not to suggest that Russia is anywhere close to the Soviet Union's level of militarization, where military expenditures accounted for anywhere between 15 to 20 percent of GDP in the 1980s, compared to the 5.5 percent figure of GDP in today's Russia as of 2015 (Gaddy, 1996; Cooper, 2013). Clearly it is not. Nevertheless, there is evidence of a creeping yet discernible reorientation towards military production that may become more pronounced should the geopolitical environment not improve. Indeed, should Russia maintain what Clifford Gaddy and Michael O'Hanlon refer to as a

'Reaganov' posture—a policy mix that emphasizes a strong military, a confident and assertive foreign policy, and an economic policy that focuses on scientific achievement in strategic sectors—in the near future, it is likely that the OPK will enjoy an elevated status in Russia's political economy in the years to come (Gaddy and O'Hanlon, 2015).

#### Sanctions and the fall of the oil price

Russia's ambitious plans to re-equip its military may, however, be derailed by the sharp decline in global oil prices, as well as by the changing structure of Russian oil production described earlier. This is because the decline in oil prices has exacerbated a pre-existing slowdown in economic growth. This slowdown has been evident since 2012, and was likely caused by the exhaustion of the economic growth model that served Russia well between 1999 and 2008-a model based on the redistribution of fast-growing natural resource revenues to other parts of the economy (Zamaraev et al [2013], Mau [2013, 2014] and Kudrin and Gurvich [2015]). After annual economic growth had averaged over 7 percent between 1999 and 2009, growth slowed considerably. In 2014, annual real GDP growth slowed to just 0.6 percent, down from 1.3 percent in 2013, and around 4 percent in 2012. This slowdown was likely driven by a combination of many factors, including a shrinking labor force, the slowdown in growth of government and consumer spending and, perhaps most importantly, a low and declining share of investment in economic activity (Connolly, 2011; Gaddy and Ickes, 2014). Consequently, when oil prices plummeted, an economy that was already buffeted by the combination of Western sanctions and a home-grown structural slowdown plunged into recession, with GDP estimated to have contracted by 3.7 percent in 2015.

The deep and so-far protracted recession has imposed constraints on federal government spending. The share of funds allocated to support health and education has declined in recent years as the share allocated to defense rose. Facing a severe recession in 2015, the Russian government was forced to cut spending as tax revenues dwindled. While some areas of government spending were cut by over 15 percent, the allocated funds for 'national defense' were cut by just 4.8 percent (Ministry of Finance of the Russian Federation, 2015). Tellingly, the funds allocated to rearmament were not reduced, with cuts made instead to other areas of military spending. Even as the economy continued to shrink in 2016, funding for rearmament has still been shielded from cuts. While the budget for 2016 stated that the direct government funding allocated to rearmament would be slashed by 10 percent (over 180 billion rubles, or \$2.3 billion in US dollars at current exchange rates), state-backed loans of roughly the same amount were made available to support rearmament, ensuring that the nominal level of funding remains the same (Cooper, 2016).

The Russian government's reluctance to cut spending on rearmament, even in the face of a long and serious recession, shows the political importance attached to rebuilding Russia's military capabilities. With the Russian military a key component of a more muscular foreign policy, this reluctance is unlikely to end soon, even as the wider economy suffers. Even if cuts are finally made to the rearmament program, it is likely that they will fall on areas where Russian industry has struggled to make progress. For example, the breakdown in relations with Ukraine has severed what were close defense-industrial ties between the two countries. This has caused severe delays in Russia's naval procurement program because Russia cannot yet produce the power units used in major surface ships that it previously obtained from Ukraine. This means that any cuts could well affect an area where planned procurement might simply not be possible anyway. Other projects that may suffer delays include plans to produce a new generation of fighter and strategic bomber aircraft.

But even if some aspects of rearmament make slower progress than originally intended, the infusion of extra hydrocarbon revenues into the defense industry has already ensured that Russia's armed forces are significantly more capable than they had been in the past two decades. In the last five years, Russia has taken delivery of new nuclear-powered submarines, dozens of nuclear-tipped strategic missiles, and hundreds of modern fighter aircraft, helicopters, and armored vehicles. Even though rearmament has not enjoyed entirely smooth progress, if continued, it is likely to furnish Russia with a military force that is among the most numerous and sophisticated in the world.

To sum up: Even with an impaired economy hobbled by tumbling hydrocarbon prices, the Russian government appears determined to upgrade its military capabilities. This could further distort an economic structure that is becoming increasingly subordinated to serving the Russian government's security and foreign policy strategies, which are grounded in a heightened sense of insecurity (Connolly, 2016; Monaghan, 2016). This may well reduce the rate of economic growth in Russia and cause living standards to stagnate. But it will certainly make Russia a much more capable military actor, and one that other countries will need to learn to deal with.

## Back to the future: What happens next?

It is clear that developments in the oil and gas industry—both at the global level and in Russia are imposing financial constraints on the Kremlin and will likely to continue to do so in the near term. While it is evident that the Russian leadership continues to assign a great deal of importance to enhancing its military capabilities—and has done so well before the crisis in Ukraine—it is equally clear that tough choices need to be made if this revitalization of capabilities is to continue at its current pace. Quite simply, in an era of increasing scarcity, maintaining current levels of military spending will lead to further cuts in spending on health, education, infrastructure, and other areas. This threatens Russia's longer-term social and economic development, and consequently President Putin's social contract with the electorate.

Russia and the West are at a crossroads. The geopolitical situation facing Russia, as perceived in Moscow (if not in Western eyes), will be crucial to shaping which direction Russia chooses to take. If, on the one hand, the Kremlin perceives Russia to be facing a threatening 'arc of crisis'—as it currently does—it is likely that they will continue to place greater emphasis on mobilizing resources to prevail in geopolitical conflict. Under these conditions, military expenditures are unlikely to fall significantly. While a 'more guns, less butter' strategy would certainly carry significant risks—not least that of alienating a materially worse-off population—Russian actions to date suggest that this is a plausible course of action for the Kremlin to take. If, on the other hand, the view from Moscow were to change, and the perception of a threat from the West were to decline, it is possible that Russian policy makers will pursue a less radical course of action.

It is in this sense that the West has its own important choice to make. It could choose to respond in kind to Russian remilitarization by enhancing its own military capabilities in the NATO theatre. This might involve a mix of changes to military posture, deployment of forces, and expenditures on forces in the region. In geopolitical terms, if not ideological ones, this scenario might be called a 'New Cold War.' But such a response might produce the very thing the West wishes to avoid: a pricklier and well-armed neighbor that perceives a rising threat from its Western borders. This could prove costly for both protagonists. It would be costly from an economic point of view (Europe's economies are not performing much better than Russia's), and would also drastically increase the probability of conflict between NATO and Russia.

A smarter response would be to alleviate Russia's heightened sense of insecurity and prevent a return to a more adversarial relationship of the type that prevailed in the Cold War. In this scenario, greater engagement based on the recognition of mutual interests, which include creating the conditions for mutually beneficial trade, investment and technology transfer, as well as formulating common responses to terrorism, mass migration, and conflict around the southern borders of EU and the Russia. Such an approach might prevent both sides from embarking on programs that enhance military capabilities in Europe yet raise the perception of insecurity on both sides. This scenario might be called 'new détente' and would involve Western policy makers working to persuade their Russian counterparts that remilitarization will only weaken Russia further, and that reintegration with Western policical and economic structures best serves the interests of both Russia and the West.

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