

Раздел I. Доклад.

Russia-EU economic relations: towards a Partnership for Modernization?

Introduction.

Economic relations between the EU and Russia continue to be characterised by severe asymmetries. Russian exports to the EU are dominated by primary and resource-based products, while the EU exports higher value-added goods to Russia. This relationship is not without its merits; the import, for example, of high-technology capital goods from the EU contributes substantially to the modernization of Russian industry. However, Russian policy makers have made it clear that they would like to see Russia move from being primarily technology-users to technology-innovators. This is, in essence, the overall aim of the economic modernization agenda that has occupied an important place in Russia's recent political discourse. The recently formulated Partnership for Modernization (PfM) is intended to help rebalance this relationship as part of the Russian government's broader modernization agenda. On the part of Russian officials, it is hoped that this partnership will add extra weight to the broader process of technological acquisition, absorption and, ultimately, innovation. For the EU, a successful partnership will result in an expansion of the market for EU technology exports, and ultimately a more 'modern' and, in its eyes, more stable neighbour.

This paper provides an assessment of whether the PfM is likely to be successful. Part one provides a stylised overview of existing economic relations. It is argued that while the economic relationship between Russia and the EU is, in terms of trade structure, characterised by considerable asymmetries, the changing structure of Russian imports suggests that the EU already plays an important role in the modernization of the Russian economy. Part two examines the content of the PfM and examines how both parties might benefit from its realisation. It is argued that the aims of the partnership are clearly desirable for both parties, at least in principle. A final section explores the more important issue of whether the PfM is likely to achieve its objectives. It is argued that the PfM would benefit from a narrower prioritisation of its objectives if it is to shape modernization in Russia and to result in greater economic integration between the two parties more generally. Moreover, what is currently missing from the PfM is an appreciation of what type of modernization is appropriate for Russia; as a result, policies developed to meet inappropriate goals are likely to be unsuccessful.

Economic relations between Russia and the EU: some stylized facts.

In 2004, Katinka Barysch stated that the Russia-EU economic relationship could be summarised in two words: asymmetry and energy^{*1}. By this, she was referring to the fact that Russia was, compared to the EU, a relatively minor economic power, with a small and declining share of the world population, a tiny share of global investment flows, and a per capita income that was well below the EU average. The EU was the most important trade partner for Russia and the largest source of foreign investment; on the other hand, Russia accounted for a much smaller proportion of EU trade and was an insignificant source of, and destination for, foreign investment flows.

This asymmetry was further reflected in the composition of trade and investment flows between the two blocs. Russian exports were dominated by energy products, with very few products in higher valued-added areas competitive on the EU market, reflecting a wider tendency in Russia's industrial

structure towards the export of raw materials and semi-processed goods*[2](#). Russian imports from the EU consisted of higher value-added manufactures in precisely those areas in which Russia was uncompetitive. In very simple terms, Russian energy was exchanged for manufactured goods. While Ricardian theories of comparative advantage might justify this imbalance in export structures, other research suggests that the absence of structural transformation in Russia's industrial structure was a source of weakness, thus supporting the view of Russia as a backward raw materials appendage to the developed world*[3](#).

Asymmetries remain.

In some areas, very little has changed since 2004. In 2008, the EU's (all 27 members) share of world exports was, despite experiencing a gradual decline since 1970 when it reached 46.7 per cent, the highest in the world, accounting for 38.2 per cent of global exports of industrial goods*[4](#). Russia's share of total world exports was only 2.6 per cent, although this was up considerably on its 1.6 per cent share in 1995. Similar asymmetries in size are evident in the respective share of global imports for both blocs. In 2008, the EU accounted for nearly 60 per cent of Russia's exports. EU-27 countries were also responsible for nearly 45 per cent of Russian imports. In both instances, the relative shares have declined over time as China and some other emerging economies (e.g., Turkey) have become larger trade partners for both the EU and Russia.

Russia's population has continued to decline from 144 million in 2004 to an estimated 142 million in 2011, accounting for 2 per cent of the global population*[5](#). This decline is not as sharp as had been estimated in previous years, reflecting increased levels of immigration and reduced emigration activity. Unfortunately, the working age population in Russia is forecast to shrink inexorably over the next few decades, after experiencing a rising share between 1995 and 2010. The EU has a much larger population, with a population of 502 million, or 7.3 per cent of the global population*[6](#), although the EU is, like Russia, forecast to experience a reversal in overall population growth and a sharp rise in the dependency ratio as the two blocs enter the 'age of ageing'*[7](#).

Both blocs are also net savers, at the aggregate level at least in the case of the EU. Thus, they have both consistently run surpluses on the current account of their balance of payments in recent years. However, the trajectories for both blocs in this respect indicate that the size of current account surpluses will diminish quite rapidly and, in Russia's case, disappear entirely within a few years*[8](#). In terms of investment flows between the two blocs, 57 per cent of inward FDI flows into Russia came from the EU between 2004-07 (Eurostat, 2010), making the EU by far the largest source of foreign direct investment*[9](#). However, Russia's importance to the EU as a source of outward FDI is much smaller. In 2007, the Russia accounted for just 1.9 per cent of the total stock of EU FDI assets, although this figure is larger than for China and India (but smaller than Brazil). On the other hand, there have been significant changes in recent years in Russian outward FDI activity, with Russian firms now much more active in the EU than before, with outward flows now almost balancing inward flows. In this respect, Russia differs from other post-socialist countries, as well as other populous low- and middle-income economies*[10](#).

Table 1. Structure of Russian exports to EU member states by technology intensity, 1997 and 2008.

	Primary and Resource-Based Materials		Low-Technology		Medium-Technology		High-Technology	
	1997	2008	1997	2008	1997	2008	1997	2008
Austria	95.1%	54.0%	2.6%	21.4%	1.6%	19.3%	0.8%	5.3%
Belgium	n/a	87.1%	n/a	3.0%	n/a	9.6%	n/a	0.2%
Bulgaria	80.9%	88.9%	1.5%	5.6%	8.9%	2.3%	8.6%	3.3%
Cyprus	76.9%	94.5%	3.7%	0.3%	19.4%	5.0%	0.0%	0.2%
Czech Rep.	92.5%	89.0%	4.9%	1.8%	1.7%	7.7%	0.9%	1.5%
Denmark	84.9%	61.6%	4.0%	3.9%	10.5%	34.4%	0.6%	0.1%
Estonia	76.5%	75.5%	7.7%	6.4%	14.5%	16.9%	1.3%	1.2%
Finland	81.7%	92.1%	2.0%	0.9%	14.6%	6.1%	1.8%	0.8%
France	92.3%	93.1%	3.5%	2.5%	3.8%	3.8%	0.4%	0.6%
Germany	90.0%	85.8%	4.2%	6.1%	4.3%	6.5%	1.6%	1.6%
Greece	77.9%	91.8%	5.2%	3.5%	15.2%	4.1%	1.7%	0.6%
Hungary	88.7%	92.7%	0.9%	2.4%	6.5%	3.6%	3.8%	1.3%
Ireland	98.6%	30.4%	0.2%	0.8%	1.2%	62.4%	0.0%	6.5%
Italy	88.1%	84.2%	5.0%	5.0%	6.6%	10.7%	0.3%	0.1%
Latvia	76.3%	90.7%	6.1%	4.8%	16.2%	4.1%	1.4%	0.4%
Lithuania	75.6%	79.7%	5.4%	3.7%	11.5%	12.9%	7.5%	3.7%
Luxembourg	n/a	36.3%	n/a	34.9%	n/a	27.3%	n/a	1.4%
Malta	99.8%	71.8%	0.0%	0.0%	0.2%	27.7%	0.1%	0.5%
Netherlands	94.5%	97.1%	0.6%	0.1%	4.7%	2.6%	0.2%	0.1%
Poland	94.9%	94.6%	1.4%	1.9%	3.2%	3.3%	0.5%	0.2%
Portugal	53.2%	77.9%	36.7%	18.5%	10.0%	3.1%	0.1%	0.5%
Romania	88.9%	86.9%	4.2%	2.0%	6.7%	11.0%	0.2%	0.1%
Slovakia	92.3%	89.0%	0.7%	1.6%	3.3%	8.1%	3.7%	1.3%
Slovenia	87.5%	91.1%	4.2%	3.3%	8.2%	4.5%	0.2%	1.1%
Spain	90.0%	91.3%	4.7%	2.5%	5.1%	5.8%	0.2%	0.5%
Sweden	96.0%	94.4%	1.9%	1.3%	1.8%	4.1%	0.4%	0.2%
United Kingdom	84.4%	94.4%	3.0%	1.2%	12.0%	3.8%	0.6%	0.6%
EU total	89.1%	90.9%	2.9%	2.5%	6.6%	6.0%	1.4%	0.6%

Source: UN Comtrade, 2010; author's calculations.

It is perhaps in the structure of economic relations between the two blocs that Russian sensitivities of backwardness are most obviously justifiable. Russian industrial exports to the EU are dominated by primary and semi-processed goods, especially energy products (see Table 1). Over the past fifteen years, the proportion of primary and resource-based products in Russia's exports to the EU has remained at a stable level of approximately 90 per cent. Only in a few cases does Russia appear to have enjoyed any success in higher value-added activities. Even here, however, the data need to be treated with caution. For example, high-technology exports to Ireland have, ostensibly, grown considerably since 1997. However, this is accounted for entirely by intra-enterprise trade within subsidiaries of the Russian firm, NT-MDT, explaining the corresponding boom in Russian imports of high-technology goods from Ireland.

Table 2. Structure of Russian imports from EU member states by technology intensity, 1997 and 2008.

	Primary and Resource-Based Materials		Low-Technology		Medium-Technology		High-Technology	
	1997	2008	1997	2008	1997	2008	1997	2008
Austria	25.0%	17.2%	14.7%	18.1%	40.7%	46.6%	19.6%	18.0%
Belgium	n/a	20.5%	n/a	9.5%	n/a	58.8%	n/a	11.2%
Bulgaria	34.2%	22.5%	5.9%	9.5%	36.0%	39.2%	23.9%	28.8%
Cyprus	28.6%	23.0%	11.0%	1.4%	50.3%	30.2%	10.1%	45.4%
Czech Rep.	30.8%	11.5%	14.5%	11.7%	44.4%	59.0%	10.3%	17.8%
Denmark	57.9%	41.2%	7.7%	6.4%	20.7%	31.0%	13.7%	21.3%
Estonia	32.1%	35.4%	3.7%	13.4%	59.8%	46.5%	4.4%	4.7%
Finland	40.3%	31.1%	14.6%	6.8%	34.0%	43.4%	11.1%	18.7%
France	32.0%	23.7%	8.3%	7.4%	38.2%	47.3%	21.6%	21.6%
Germany	23.1%	16.0%	8.8%	8.2%	50.0%	63.5%	18.1%	12.4%
Greece	69.9%	43.3%	9.3%	19.6%	19.0%	20.5%	1.8%	16.6%
Hungary	35.1%	11.2%	6.3%	5.8%	38.3%	19.7%	20.4%	63.3%
Ireland	72.8%	41.6%	3.6%	11.4%	14.8%	14.6%	8.8%	32.3%
Italy	20.0%	16.5%	18.6%	19.3%	52.5%	55.1%	8.8%	9.1%
Latvia	47.0%	31.3%	9.7%	16.3%	31.3%	34.6%	12.0%	17.9%
Lithuania	64.9%	58.7%	7.4%	15.8%	23.8%	22.9%	3.8%	2.5%
Luxembourg	n/a	22.4%	n/a	24.6%	n/a	50.6%	n/a	2.4%
Malta	9.4%	0.1%	4.2%	1.9%	85.6%	96.9%	0.9%	1.1%
Netherlands	59.0%	42.2%	6.3%	4.4%	23.6%	41.8%	11.1%	11.6%
Poland	44.9%	21.3%	16.8%	17.0%	26.7%	50.4%	11.6%	11.2%
Portugal	40.5%	25.6%	23.9%	32.2%	35.5%	33.0%	0.2%	9.2%
Romania	56.6%	7.5%	5.4%	15.3%	31.0%	52.7%	6.9%	24.5%
Slovakia	24.2%	4.3%	32.4%	6.7%	34.8%	73.1%	8.6%	15.9%
Slovenia	12.1%	7.2%	10.9%	8.9%	27.7%	39.2%	49.4%	44.7%
Spain	53.9%	28.0%	9.9%	6.9%	28.1%	55.8%	8.1%	9.3%
Sweden	22.4%	9.7%	17.6%	7.0%	36.1%	57.4%	24.0%	25.9%
United Kingdom	28.0%	11.5%	8.2%	5.4%	41.4%	71.4%	22.4%	11.7%
EU total	33.0%	19.5%	11.2%	9.9%	40.2%	54.4%	15.6%	16.1%

Source: UN Comtrade, 2010; author's calculations.

Russia's imports from the EU also reflect Russia's lack of competitiveness in medium- and high-technology goods, with the share of both accounting for 60 per cent of Russia's imports from the EU in 2008, an increase from 1997. This makes the EU the single largest source of products with higher levels of embodied technology. As a proportion of Russia's imports from each country, Hungary and Slovenia – both exporters specialising in final stage assembly within international production networks (IPN) – display the highest proportion of high-technology exports to Russia. In absolute terms, however, Germany is by far the largest EU exporter of both medium- and high-technology goods to Russia.

The asymmetries noted above result in perhaps the biggest asymmetry of them all, in levels of income. In 2010, the EU has a gross domestic product (GDP) of over \$16 trillion at current market

exchange rates (\$15.8 trillion using World Bank purchasing-power-parity exchange rates), accounting for 25.7 per cent of global GDP (20.9 per cent at PPP). By contrast, Russia, after experiencing nearly a decade of rapid GDP growth between 1999 and 2008, has a GDP of just under \$1.5 trillion (\$2.7 trillion using PPP), a share of 2.3 per cent of global income (3.6 per cent using PPP). In aggregate terms, therefore, the EU is an economic behemoth with a larger share of world GDP than even the United States. Russia, on the other hand, is more comparable in size to Spain, Canada or India.

In terms of per capita income, the most widely used, albeit extremely rough, approximation of living standards, the EU continues to exert a considerable lead over Russia. In 2010, EU per capita income was \$32,365 (\$31,600 using PPP). This is nearly three and a half times larger than the global average of \$9,216 (or 2.85 bigger than the global average using PPP). Russian per capita income is currently \$10,439 (or \$19,190 in PPP), just above the global average (73 per cent larger than the global average using PPP). Using market exchange rates, Russian per capita income is 32 per cent of the EU level, or 60 per cent at PPP. Historically, these relative levels of income compare favourably to most points in the post-Soviet period, but are still below levels observed in 1973, the point at which the gap in relative income was narrowest*[11](#).

Overall then, despite the rapid growth of the Russian economy before the onset of the Great Recession, the asymmetries in both economic size and structure between the EU and Russia are as stark as ever. Russia is now a middling economic power, comparable to Spain, Canada or India in overall size, and is closer to the level of Brazil, Latvia and Turkey in per capita income. Thus, Russia is certainly not poor, but it is not rich, either. The persistence of the asymmetries described here might lead one to reason that Russia's relative backwardness is likely to continue. However, the economic relationship between the EU and Russia has seen some significant progress in the area of technology absorption in Russia, a fact that suggests Russia might be already enjoying a type of unofficial partnership for modernization. This also indicates that while some of the old asymmetries remain, more subtle changes are taking place 'under the radar' that give some cause for optimism when considering the future prospects for the Russian economy.

The role of technology transfer in the Russian economy.

Productivity levels are highly correlated with per capita income. As a country becomes more productive, so it becomes richer. A wide range of factors can help a country increase its average level of productivity, including, but not limited to: institutional reforms (e.g., of the sort undertaken in Russia over the last twenty years); improvements in human capital; increasing the capital-labour ratio; improved organizational and management processes; and the movement of factors of production (labour and capital) to more productive areas of economic activity (e.g., from the countryside to the urban factory, or from archaic industrial plants to the modern service sector).

One particularly common way to raise productivity levels is through the absorption and diffusion of previously unused (by the country in question) technology throughout an economy. This might be achieved "through inward foreign direct investment, through the installation of foreign machinery embodying new technologies, through the purchase of licences and through copying, with or without industrial espionage"*[12](#). Countries located far behind the global technological frontier – like Russia - have the advantage of backwardness in that they have the potential to realise rapid productivity gains simply by acquiring and diffusing such technologies without having to engage in the innovative process of generating new technology themselves*[13](#).

Russia has a productivity level roughly one third that of the United States and less than half that of Germany. There should, therefore, be plenty of scope for gains from the wide-scale absorption and diffusion of technology in Russia. Phil Hanson provides a rough estimation of the impact of

imported machinery, embodying advanced technology, on productivity growth in Russia. Using some highly simplified assumptions, he argues that the 'diffusional effect' of importing, say, German machinery, will, all things being equal, bring with it German levels of productivity. As a result, the rate at which Russia can close in on German productivity levels will in large be a function of how "large the productivity gap is between the two trading partners, how much equipment is imported as a share of the increment of the total stock of machinery, and how rapidly that stock is growing"*14. His rough calculations reveal that Russia has, in recent years, been installing imported machinery at a rate capable of boosting labour productivity by up to 2 per cent a year, although he does concede that the real rate may be lower (or higher) because of the simplistic assumptions used to make these calculations*15.

What this shows is that a significant component of productivity growth in Russia is likely to come from imported machinery. Machinery imports grew as a proportion of Russia's total imports, rising from 24.5 per cent in 2000 to 35.9 per cent in 2010. As Table 3 illustrates, the EU is the largest source of Russian machinery imports, although it is evident that China has overtaken Germany to be the single largest country source of Russian imports. If we take the diffusional effect model seriously, this is slightly disturbing, as it would imply that Russia is importing embodied technology that is of a *lower* standard than the one which is present in Russia already*16. Notwithstanding this change, the majority of machinery import from within the EU comes from higher productivity countries like Germany and Italy*17. This suggests that, even prior to any elite-level discussions on how the EU might help advance economic modernization in Russia, decentralised (i.e., market-based) decisions by Russian firms to acquire more advanced technology from the EU were already playing an important role in economic modernization. This point is worthy of some consideration: if the EU is already playing an important role in the modernization of the Russian economy through machinery imports – albeit diminishing over time, if we assume that the Chinese exports of machinery really are indigenously developed Chinese products – then any partnership should build on what are already very firm foundations.

Table 3. Russian imports of machinery, 2000-2008 (per cent of total machinery imports).

	2000	2005	2010	Difference (2000-2010)
Austria	1.6%	1.4%	1.0%	-0.6%
Belgium	1.5%	1.3%	1.0%	-0.5%
Bulgaria	0.2%	0.1%	0.2%	-0.1%
Cyprus	0.3%	0.0%	0.0%	-0.3%
Czech Rep.	2.3%	1.3%	2.0%	-0.3%
Denmark	0.9%	0.6%	0.5%	-0.4%
Estonia	0.6%	0.3%	0.3%	-0.3%
Finland	3.7%	3.5%	1.6%	-2.0%
France	4.3%	3.4%	2.8%	-1.6%
Germany	21.2%	18.5%	14.4%	-6.8%
Greece	0.0%	0.1%	0.1%	0.0%
Hungary	1.5%	1.0%	2.1%	0.6%
Ireland	0.2%	0.2%	0.2%	0.0%
Italy	6.1%	5.7%	4.7%	-1.4%
Latvia	0.3%	0.3%	0.3%	0.0%
Lithuania	0.3%	0.4%	0.3%	-0.1%
Luxembourg	0.1%	0.1%	0.0%	-0.1%
Malta	0.1%	0.0%	0.0%	-0.1%
Netherlands	1.8%	1.5%	1.2%	-0.6%
Poland	1.4%	1.3%	2.1%	0.7%
Portugal	0.1%	0.1%	0.1%	0.0%
Romania	0.2%	0.3%	1.0%	0.8%
Slovakia	0.3%	0.7%	2.3%	2.0%
Slovenia	0.6%	0.3%	0.3%	-0.3%
Spain	0.7%	1.1%	1.0%	0.3%
Sweden	3.0%	3.1%	1.8%	-1.2%
United Kingdom	4.0%	3.9%	2.4%	-1.6%
EU-27	57.3%	50.2%	43.7%	-13.6%
<u>Memorandum items</u>				
China	1.2%	8.9%	20.9%	19.7%
Japan	4.5%	13.1%	9.4%	4.9%
Turkey	0.7%	1.3%	1.3%	0.6%
Ukraine	10.1%	5.6%	5.5%	-4.6%
USA	14.5%	5.7%	5.1%	-9.4%

Source: UN Comtrade (2011); author's calculations.

The Partnership for Modernization: main features.

Simply stated, the argument in the preceding section is that while the economic relationship between Russia and the EU continues to be characterised by severe asymmetries, the prominent role of the EU as a source of embodied technology in the Russian economy means that the EU is already a positive factor in the economic modernization of the Russian economy. In essence, the existing relationship represents a sort of 'modernization from below'. However, the Partnership for Modernization (PfM), signed in Rostov-on-Don on the 1 st June, 2010, is supposed to represent an elite-led common modernization agenda to advance both the Russian and EU economies. The PfM is envisaged primarily as a flexible framework for prompting reforms, enhancing growth and raising competitiveness. It aims to build on progress already made in the context of the four EU-Russia

'common spaces' and it will complement bilateral modernization partnerships – existing and in the process of negotiation - between Russia and individual EU member states.

The scope of the PfM is nothing, if not broad. It lists more than a dozen 'priority areas' for new co-operation – including, expanding opportunities for investment in key sectors driving growth and innovation, enhancing and deepening bilateral trade and economic relations, and promoting small and medium-sized enterprises; promoting the alignment of technical regulations and standards, as well as a high level of enforcement of intellectual property rights; improving transport; promoting a sustainable low-carbon economy and energy efficiency, as well as international negotiations on fighting climate change; enhancing co-operation in innovation, research and development, and space; ensuring balanced development by addressing the regional and social consequences of economic restructuring; ensuring the effective functioning of the judiciary and strengthening the fight against corruption; promoting people-to-people contacts; and enhancing dialogue with civil society to foster the participation of individuals and business – while stating that “other areas of co-operation can be added as appropriate”^{*18}. **Evidently the aims are comprehensive. Alas, they are unlikely to be achieved, at least not through the framework of the PfM.**

Before considering why the PfM is unlikely to achieve anything of significance, it is first necessary to outline why such a partnership is considered desirable in the first place.

From the Russian perspective, the PfM is envisaged as an essentially technical partnership that will facilitate the transfer of advanced technology and practices from the EU to Russia. As such, the Russian side tends to emphasize joint ventures in high-technology and knowledge-based sectors, support for specific innovation projects, and the implementation of visa-free travel. In this respect, whilst the PfM comprises a large number of elements, it is probably accurate to suggest that the Russian leadership view it as official EU support for 'modernization from above', i.e., supporting the Russian government's wider agenda of state-led economic modernization. This agenda is far from coherent, with different elements from within the government emphasising different aspects at different points in time. Nevertheless, it is probably true that most within the Russian elite see it as primarily an economic process, not something that will effect wider social and political modernization.

There are two reasons why the EU will benefit from the successful modernization of the Russian economy, one political and the other economic.

First, a modern Russia – even if only in economic terms - is more likely to be stable and well governed. A large body of research on the 'resource curse' indicates that resource-dependent economic development is highly correlated with corruption and poor governance^{*19}. Therefore, economic diversification and modernization are, all things being equal, likely to result in improvements in Russia's governance performance, something that will likely improve the lives of ordinary Russian citizens, while perhaps also leading to a convergence in foreign and security policies between the two blocs.

Second, a modern and diversified Russian economy is likely to require rapid growth in imports from EU member states. This will, in the earlier stages at least, require increased quantities of machinery and capital goods to fuel the rise in the investment/GDP ratio necessary for significant modernization. Financing this expansion will also offer opportunities for European financial organisations^{*20}. Russia's appetite for EU consumer goods, more sophisticated consumer and business services, and travel to the EU are likely to grow even further.

However desirable these broad outcomes might be, they will only be achieved through sustained and effective policy measures, primarily from within Russia, but also from foreign partners. The

next section identifies two main problems with existing Russia-EU policy, and suggests a more realistic and, hopefully, more effective approach to promoting modernization in Russia for the future.

The Partnership for Modernization: prospects for success.

As it stands at the present time, there are two clear deficiencies in the PfM that are likely to result in the partnership delivering little of any substance in the future. The first problem lies in an inappropriate assessment of what is required for the Russian economy to experience successful economic modernization. The second problem is related to the absence of clearly ordered and realisable objectives in the PfM.

The need for an appropriate innovation policy.

The first issue is related to whether Russia currently possesses an appropriate innovation policy for a country that is so far behind the global technological frontier. Russia's level of per capita income relative to the USA and the EU (a rough but accurate proxy and correlate of a country's location relative to technological frontier) shows that Russia is some way off this level. The fact that high-technology exports account for less than 3 per cent of Russia's total exports is further evidence of this weakness. Finally, the latest World Economic Forum identifies Russia as a country in the 'efficiency driven' stage of economic development and not as an 'innovation driven' economy. What then, is appropriate for a country located this far behind the technological frontier?

Broadly speaking, it is possible for countries located far behind the 'technological frontier' to increase productivity levels by simply imitating or acquiring more advanced technologies developed elsewhere. It should be noted, however, that the very act of successfully imitating and appropriating existing technologies requires substantial institutional innovation. Successful imitative growth strategies, of the sort observed in many East Asian cases, have tended to exhibit the following characteristics: the existence of large firms which exploit economies of scale; limited labour mobility between firms, so that workers' skills remain largely specific to their firm; limited competition and entry, permitting large firms to survive longer and make long-term investments in capital and labour; and financial systems that are able to provide long-term bank finance.

The presence of this type of constellation of institutional conditions is unlikely to foster growth in innovative industries, such as nanotechnology, because activities in this sphere take place so close to the 'technological frontier'. Those countries that lie closer to the 'technological frontier' – or would like to develop industries that are placed closer to the frontier - need to rely primarily on new innovations, which are more difficult to generate, in order to grow further. New growth theory has linked productivity growth to innovation. Innovation, in turn, is motivated by the prospect of above-normal returns that successful innovators can realise. The theory suggests that innovation, and therefore productivity growth, can be supported in the following conditions:

- high labour market mobility, so that innovating firms that enter new markets can more easily find workers who match their needs;
- where there exists more intense product market competition and low barriers to entry;
- where there is a greater focus on tertiary and, particularly, graduate education, with universities that can produce researchers and generate the basic science that firms harness to innovate;

- a larger role for non-bank finance and stock markets that can help select the most promising innovative projects to finance*[21](#).

It is these conditions that will need to be present if Russia is to develop the industries identified by the Russian state as priority areas for industrial development. But how far does Russia have to move on this simple framework? The World Economic Forum (WEF) publishes an annual report that assesses the progress or otherwise of a large group of countries along a range of indicators. These indicators are composite measures, employing a range of survey data and qualitative analysis of countries' institutional conditions. It is possible to use these data to identify Russia's approximate position on the four areas described here as being important to facilitating growth in industries close to the 'technological frontier'.

According to the most recent WEF data, Russia's labour market conditions are not especially favourable. For 'labour market efficiency', which is a composite indicator capturing a number of elements of labour market conditions, including labour rigidity, pay and conditions, and hiring and firing practices, Russia is ranked 57th out of 133 countries. This overall position is not high enough to suggest that the conditions are present for growth in industries close to the 'technological frontier'. Indeed, this overall ranking disguises some severe weakness: for instance, on the rigidity of employment measure, Russia ranks 90th out of 133, a fact that should be of much concern to policy makers; quite simply, Russia will require a radical overhaul of its labour market practices if growth in innovative industries is to occur.

The situation is even worse along measures of product market competition. Here, Russia ranks a desultory 123rd out of 133 countries. Of the sub-components, the measure of 'intensity of market competition' sees Russia ranked 115th and ranked 108th on 'effectiveness of anti-monopoly policy'. This situation is dire and will require years of consistent and effective government policy to ameliorate. In comparative terms, Russia finds itself well below countries from the developing world that its government would no doubt consider unlikely to rival Russia in making breakthroughs in innovative activities. Such countries include Indonesia (84th), Burkina Faso (91st), China (38th), with even India, a country notorious for its labour market rigidities, ranking higher than Russia (92nd).

In the sphere of higher education, Russia performs best. On the 'higher education and training' indicator, Russia is ranked 50th out of 133 countries. But even here Russia is far from an internationally competitive position in industries close to the 'technological frontier'. Russia still ranks below a number of countries which are making efforts to build competitive innovative industries; Korea (15th) and Poland (26th) both rank above Russia in this area, Russia's main area of strength.

The final area considered to be of importance for growth in industries close to the 'technological frontier' is the financial system. Unfortunately, this is perhaps Russia's single weakest area. On the measure of financial market development – a measure that captures financial market sophistication; financing through local equity market; ease of access to loans; venture capital availability; restriction on capital flows; strength of investor protection; soundness of banks; regulation of securities exchanges; and legal rights index - Russia ranks 125th in the world. This is because the quality of financial mediation in Russia is extremely poor.

There are four main factors underpinning the weakness of the financial sector in Russia*[22](#). First, the state plays too large a role in the allocation of surplus savings due to its overbearing presence in the Russian banking sector. Second, the Russian banking system is composed of many small, ineffective banks as well as a few large, state-controlled banks that favour lending primarily to large enterprises or to those from selected regions of the country (in both cases, the recipient firms are

often politically well connected). Third, the financial system is bank-centric, with few sources of non-bank finance. Finally, there is a low level of market penetration by foreign banks. Because real interest rates are negative, and because of these structural flaws within the financial system, demand for credit exceeds supply in Russia, leading to credit rationing that favours larger, more established organisations and discriminates against newer, smaller entrants. As a result, the size of the Russian banking system is extremely small by international standards. This is especially significant for Russia because, as a country that registers a consistent surplus on the current account of the balance of payments - meaning the country is not liquidity constrained, quite the opposite - Russia is in the favourable position of possessing the necessary capital to fund investment. However, because the financial system is so poorly developed, this capital tends to find its way abroad where it can be used more efficiently.

In addition to the other well documented problems with Russia's business environment – such as high levels of corruption, excessive state interference in the economy, and an archaic and decaying infrastructure – the problems outlined here suggest that significant development in industries close to the 'technological frontier' – such as those identified as areas for state support in recent Russian government structural policy documents (i.e., nanotechnology, energy efficiency, nuclear technology, space technology and communication, pharmaceuticals, and strategic information technology) appears quite unlikely to result in anything other than the development of small 'enclaves' of innovation, weakly linked to the wider Russian economy. What, then, should Russia be doing?

Because Russia is so far behind the technology frontier it has a huge opportunity to upgrade technologically through cooperation with foreign companies and the import of embodied technology. This, of course, is what the EU is already providing at the moment, albeit on a smaller scale that is necessary for the modernization process to take off in Russia. Currently, Russia has an investment rate of around 20 per cent of GDP, well below the 25-30 per cent that most informed opinion consider necessary to generate meaningful structural transformation^{*23}. Therefore, a necessary condition for Russian economic modernization is an increased rate of private investment. Given medium- and long-term fiscal projections, the state does not have the resources to carry out this effort on its own. Once this process begins it is likely that the EU would, as it has recently, provide the technology – in the form of imports and IFDI – to help Russia diversify and upgrade.

However, effective acquisition of foreign technology requires absorptive capacity. Therefore, rather than focus on expending vast resources on key objectives for Russian policy makers should be to first stimulate private investment, then to attract inward FDI (IFDI) and increased machinery imports, while simultaneously enhancing Russia's absorptive capacity. Policies to increase the absorptive capacity of the Russian economy would move beyond simple measures to attract FDI. Instead, resources should be channelled towards building industry-specific and technology-specific support services. Here, foreign investment agencies would focus on attracting FDI and then embedding them within Russia's domestic economy by integrating FDI and stimulating multiple linkages between foreign and domestic firms. Alternatively, specialised trade agencies might work to create 'search networks' among domestic and foreign enterprises, promoting the benefits of technology acquisition and disseminating success stories. In order to ensure that Russia benefits from such activity, it would be necessary for public policy to focus on integrating foreign investment (and machinery) into the domestic economy. This means avoiding the temptation to attract FDI simply for its employment generating qualities, but instead adopting a strategic approach towards attracting FDI. Without such a strategic approach, there is a danger that EU MNEs would benefit disproportionately from the relationship.

This second approach – an innovation policy based on technology acquisition, absorption and diffusion – is more suited to Russia's current level of development. It has the advantage of building

on existing trading patterns, demanding an intensification of existing tendencies, rather than the creation of radically new arrangements. It is also a set of policies that is better suited to implementation at a de-centralised level, whether it be by enterprises or regional government. It is, in short, a quite different approach to the (federal) state-led innovation policies targeted at industries close to the technological frontier that are in vogue at the present time.

Such a development strategy should not, however, be confused with the development paths observed in low-income, labour intensive economies like China and India. Not only is Russia's level of per capita income much higher, it is also likely to experience a shrinking working age population in the near future. As such, focussing on labour intensive sections of the global production network is not an option for Russia. However, this does not mean that focusing solely on activities close to the technological frontier is the best alternative. Instead, a strategy aimed at increasing Russia's absorptive capacity is the most likely route to generating rapid gains in total factor productivity (TFP) across the Russian economy. It is this type of rapid TFP growth that is considered to be integral to Russia's economic well-being, with Jim O'Neill arguing again that Russia's future as one of the dynamic BRIC economies is, given its deteriorating demographic profile, entirely contingent on its success in achieving sustained TFP growth. Focusing on technology absorption is likely to result in faster TFP growth and will provide the foundations for the emergence of increasing numbers of Russian firms with the potential to compete at the global technological frontier.

To sum up, with a more appropriate innovation policy, the Russian government would focus its efforts at facilitating technology acquisition, absorption and diffusion. **Increasing the technological intensity of Russia's production structure and improving the capital-labour ratio will not only help Russia combat the negative economic effects associated with its deteriorating demographic profile, but it will also help Russia forge a role in the global economy that is distinct from the low cost imitators from Asia.** The PfM, in a modified form to that which exists presently, could help Russia in this process, while creating a much-needed source of demand for a decidedly demand-deficient EU economy.

The need for prioritisation

The second main problem with the PfM as it stands at the moment is the absence of any clear set of priorities in what might be achieved from the partnership. The dozen or so 'priority areas' outlined in the joint statement are not priorities at all, more a laundry list of the vaguely defined desiderata of both parties. Moreover, the resources allocated to achieve these aims are paltry. In this respect, the EU should assume the bulk of the responsibility. While the demands of the Russians were, from the outset, comparatively narrow – i.e., a clear and consistent focus on acquiring the technical know-how to assist a broader process of economic modernization – the EU insertion of references to civil society, the reduction of corruption, and other overtly political demands means that there are too many targets and not enough ammunition. Even in the absence of resource constraints, it is unlikely that the EU will ever be able directly to shape domestic institutional developments in Russia in the way that it did in Central and Eastern Europe.

A more successful partnership should be based on co-operation in a few key areas where success is achievable, mutually beneficial and builds on existing links. Russia's bilateral partnerships for modernization provide a good idea of where the wider EU efforts should move towards. These bilateral agreements – some of which preceded the EU-Russia PfM – are much narrower in focus, highlighting clearly defined areas for co-operation where the partner in question possesses obvious competencies. Thus, the agreement signed with Germany in 2008 deals with five discrete areas: health, energy efficiency, logistics, training, and improving the Russian business regulations. This focus has resulted in the emergence of a number of concrete projects with tangible, albeit small-scale, benefits to both partners. While such initiatives are unlikely to result in

the wide-scale modernization of the Russian economy, they do increase the size of the 'constituency for modernization' in Russia. Other bilateral agreements, such as that recently signed with Finland, hope to achieve similar results.

By effectively de-politicising and, to some extent, de-centralising co-operation in a few technical areas (e.g., customs administration, product standards, etc.) the PfM may achieve some results rather than nothing at all. For this to occur, the EU will need to shift its focus away from, however weakly, attempting to effect wholesale institutional reform in Russia by linking it to Russia's desire for economic modernization. Instead, by employing a narrow and explicitly technical focus, EU member states will benefit in the short- to medium-term from increased economic ties (e.g., from increased capital and machinery exports to Russia). In the medium- to long-term, Russia will, if it is able to experience significant economic modernization, be more likely to enter a more positive trajectory of institutional development. Thus, while the longer-term objective of wholesale institutional development will remain, the sequencing of what should be emphasized at which point should be modified.

The Partnership for Modernization: what is to be done?

This paper has argued that the Russian government's existing innovation policies are inappropriate for its current developmental needs, and that the PfM, with its focus on multiple objectives, is ill-suited to helping Russia in its desire to effect economic modernization. Such a negative outcome will suit neither party. What sort of PfM should emerge in the future? A successful partnership will need to be based on three core principles.

First, any partnership needs to satisfy at least the basic interests of each party. In this instance, it is clear that the Russian side demands the transfer of technology, whether that through research collaboration, IFDI, or embodied technology in imported machinery. For the EU, scaling back the broader political aims of the PfM, at least in the short term, and focusing on supporting the creation of a growing source of demand for EU exports in what are troubling economic times, should make a modified PfM an attractive proposition.

Second, the partnership also needs to be based on what is appropriate to Russia's needs given its stage of economic development. In this area, both parties should adapt their current approaches. For Russia, a domestic policy shift needs to take place, moving away from the existing (federal) state-led innovation policies targeted at industries close to the technological frontier, towards a policy based on technology acquisition, absorption and diffusion. However, although this modified approach will be necessary, it is far from sufficient; a rapid and sustained increase in the rate of private investment in Russia is perhaps the most crucial ingredient for any successful modernization project. Only Russians can make this happen.

For the EU, intensified efforts should be made to support EU outward FDI into Russia and to promote EU exporters of the technology – at all levels, not just at the technological frontier – that Russia needs to increase productivity levels in the Russian economy. This means building on the existing, informal partnership for modernization that takes place between EU and Russian enterprises. EU member states have seen their share in the Russian market erode in recent years; reversing this tendency will benefit the EU and will provide Russia with what it really needs to achieve economic modernization.

Finally, the partnership needs to be based on objectives that are practically achievable. For the Russians, the fascination with technological innovation needs to be replaced with a desire to

undertake the institutional innovation required to stimulate technological acquisition, absorption and diffusion. This will require less grandiose, but ultimately far more effective, measures directed at providing an environment conducive to private investment. This doesn't mean wholesale institutional reform – or the unfeasible creation overnight of Swedish quality public institutions – but it will require taking action that ordinary Russian enterprises will appreciate rather than focusing on high-profile, expensive, and ultimately low impact projects like Skolkovo or Rusnano. Bringing Russian market regulations into line with those of the EU will not make for the same headlines, but they may increase the incentive for Russian enterprises to purchase EU technology.

On the part of the EU, there should be an appreciation that Russia is unlikely to respond in a positive manner to attempts to promote democratisation or improved governance. This will only come when sufficient demand for better governance emerges from Russians themselves. A large body of research suggests that a decades long process of economic modernization is the most likely way for such demand to develop in Russia. Therefore, economic relations should be low-key and technocratic in nature, focusing on providing the conditions in which EU enterprises can exploit the market opportunities that will emerge in Russia if private investment takes off. Competition to supply these markets will be fierce, and the laboured linkage of economic cooperation and political modernization in Russia will likely prove counter-productive for both parties.

In short, the modernization of the Russian economy is likely to take some time. The EU is well placed to assist in – and to benefit from – this process, although only the Russians can take the decisive measures to make modernization a reality. But for both parties, a focus on inappropriate and unfeasible objectives – whether it be the creation of high-tech industries from scratch, or wholesale political reform – should be jettisoned. Instead, success will require sober pragmatism, a little creative thinking, and most importantly a commitment to the consistent implementation of comparatively mundane, but ultimately more effective, policies.

Richard CONNOLLY

[*1](#) Barysch, K. *The EU and Russia: Strategic Partners or Squabbling Neighbours?* – London: Centre for European Reform, 2004.

[*2](#) Cooper, J. Can Russian Compete in the Global Economy? // *Eurasian Geography and Economics* – 2006 – Vol.47, No.4; Connolly, R. The Structure of Russian Industrial Exports in Comparative Exports // *Eurasian Geography and Economics* – 2008 – Vol. 49, No.5.

[*3](#) Research that draws a link between structural transformation and income includes: Imbs, J., Wacziarg R. Stages of Diversification // *American Economic Review* – 2003 – Vol.93, No. 1; Klinger B., Lederman D. Diversification, innovation, and imitation inside the global technological frontier – Washington, D.C.: World Bank, Development Research Group, Trade Team, 2006; Hausmann, R., Hwang J., Rodrik D. What you Export Matters // *Journal of Economic Growth* – 2007 – Vol. 12. No. 1, а также McMillan M.S., Rodrik D. Globalization, Structural Change and Productivity Growth. Working Paper No. 17143, NBER URL: <http://www.nber.org/papers/w17143> дата обращения: June 2011.

[*4](#) All trade data are derived from the UN Comtrade database (2010). Data for the EU share of world trade includes intra-EU trade.

*5 *Демографический ежегодник России*. 2010: Стат. сб./ Росстат. – М.: Федеральная служба государственной статистики Российской Федерации, 2010; World Bank. *World Development Indicators*. ESDS International (Mimas), University of Manchester, November 2011.

*6 World Bank. *World Development Indicators*. ESDS International (Mimas), University of Manchester, November 2011.

*7 Magnus G. *The Age of Ageing*. New York: Wiley, 2009.

*8 Gilman M. Golden Days of Being a Net Saver are Over // *Moscow Times* – December 9, 2010 – URL: <http://new.themoscowtimes.com/mobile/article/425910.html>

*9 This compares to a figure of 74 per cent for the same period using Rosstat data. However, these data are inflated by large inflows from Cyprus, a small country that also serves as a tax haven for many Russian businesses. Thus, the vast majority of FDI inflows from Cyprus are most likely to be recycled or repatriated Russian inflows.

*10 See Hanson P. *Western Business and Russian Modernization*. – CREES Annual Conference Paper, June 2011.

*11 Maddison A. *The World Economy: Historical Statistics*. – Paris: OECD, 2003.

*12 Hanson P. *Western Business and Russian Modernization*. – CREES Annual Conference Paper, June 2011 – p.2.

*13 Although it should be noted that the very act of successfully imitating and appropriating existing technologies might itself require substantial institutional innovation (see Nelson and Pack, 1998; Nelson, 1998).

*14 Hanson P. *Western Business and Russian Modernization*. – CREES Annual Conference Paper, June 2011 –p.3. Productivity growth will also be shaped by other factors such as the domestic institutional environment, the development of local technology, and by management and organisational practices. As for foreign influences, inward foreign direct investment can also generate productivity growth.

*15 Formally, ignoring time periods, the diffusional effect, d , is stated as:

$$d_R = I_R/K_R \times MK_G/I_R \times (Y_G/Y_R - 1)$$

where I_R/K_R is the ratio of new investment in machinery in Russia to the existing stock of machinery; MK_G/I_R is the ratio of imported foreign (in Hanson's example, German) machinery to total new investment in machinery in Russia; and $(Y_G/Y_R - 1)$ is the proportion by which productivity in Germany exceeds that in Russia (in this instance, it is assumed that the German productivity level is twice that of Russia).

*16 It is, however, plausible that 'Chinese' machinery exports to Russia comprise a large proportion of production by advanced economy multi-national enterprises (MNEs) which use Chinese labour for final stage assembly.

*17 The USA and Japan also export a significant quantity of machinery to Russia.

*18 Council of the European Union, 'Joint Statement on the Partnership for Modernization', EU-Russia Summit, Rostov-on-Don, June 1st, 2010, available at: http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/er/114747.pdf.

*19 E.g. Easterly W. *The Elusive Quest for Growth. Economists' Adventures and Misadventures in the Tropics*. Cambridge: MIT Press, 2001; Ross M. Does Oil Hinder Democracy // *World Politics* – 2001 – Vol.53, No.3.

*20 See Connolly, R. Financial Constraints on the Modernization of the Russian Economy // *Eurasian Geography and Economics* – 2011 – Vol. 52, No.3.

*21 Aghion P., Boulanger J., Cohen E. Rethinking Industrial Policy // *Policy Brief* – 2011/04, Bruegel.

*22 Connolly, R. Financial Constraints on the Modernization of the Russian Economy // *Eurasian Geography and Economics* – 2011 – Vol. 52, No.3.

*23 See Ibid.