WPS7827

Policy Research Working Paper 7827

Russian Federation

How Services Contribute to Competitiveness

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WORLD BANK GROUP
Trade and Competitiveness Global Practice Group
September 2016

Policy Research Working Paper 7827

Abstract

Globalization is creating many new trade and growth opportunities, with services trade increasingly becoming an issue for export-oriented economies. Services are important to country trade strategies, because they represent activities in which countries may have a comparative advantage, and they are drivers of competitiveness for the whole economy. This paper uses data from the World Development Indicators, two new databases (the Export in Value-Added database from the Global Trade Analysis Project, and Trade in Services data), and firm-level data. The paper employs a wide range of indicators to analyze the trade competitiveness of the services sector in the Russian Federation. Since service exports are less than would be expected considering Russia's level of development, the study finds that the contribution of services to export diversification could be heightened significantly. The scale of Russian business services exports is relatively low, although exports of traditional services, like transport and travel, are performing well. Despite the relatively minor importance of exports of modern services, the category of other business services has in recent years been growing fast, and business services have strengthened their revealed comparative advantages. Yet Russia still has much potential for expanding trade in modern services. There is also potential to diversify services exports to other markets, such as France, Germany, Japan, and elsewhere in Asia, which today seems underexploited. Finally, although exports of direct services are low, services such as transport, distribution, finance, and other business services are making major contributions to other exports, in particular energy.

This paper is a product of the Trade and Competitiveness Global Practice Group. It is part of a larger effort by the World Bank to provide open access to its research and make a contribution to development policy discussions around the world. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The authors may be contacted at ssaez@worldbank.org and erik.vandermarel@ecipe.org.

Russian Federation: How Services Contribute to Competitiveness

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JEL Classifications: F13; F14; F15; O14.

Keywords: Russia; Services; Competitiveness.

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1 Introduction

Globalization is creating many new trade and growth opportunities, with services trade increasingly becoming an issue for export-oriented economies. Services are important to country trade strategies for two reasons: (1) they represent activities in which countries may have a comparative advantage. If tradable, they contribute to diversification and to expanding the markets for exports. (2) They are drivers of competitiveness for the whole economy. Not only can they help diversify exports, but they also feature in the production of many other competitive products: the competitiveness of most goods exported in the global marketplace depends on access to both raw material and critical services inputs, especially efficient, competitively priced utilities; information and communications technology (ICT) and transport; banking, accounting, insurance, and other financial services; and such professional services as legal and marketing.

For countries in the Organisation for Economic Co-operation and Development (OECD), growth in services productivity has been shown to be a driver of economic growth, and productivity growth generally can be traced to producer services (see Francois and Hoekman 2010; Inklaar, Timmer, & Ark 2007, 2008; and Triplett & Bosworth 2004).[1] The literature in general has also found a positive relationship between productivity in services and productivity in the economy as a whole. Services imports serve as a channel for the transmission of new technologies, which allows for higher services exports in skill-intensive industries and higher value added in manufacturing exports (see Francois & Woerz 2008).[2] Trade has been vital in increasing the productivity of service sectors and over time has had considerable impact on productivity generally (Van der Marel 2011).

In examining the Russian Federation's services trade, this report identifies trends in the development of services both domestically and as exporters, assesses the potential for increasing services exports to neighboring markets, examines linkages between services and other sectors, and analyzes how the main service industries are regulated. Among questions addressed are: (1) Is there untapped potential to develop the services sector in Russia? (2) How do Russia's services exports perform in comparison to other countries? (3) How close are the linkages of services to other economic activities compared to direct services exports? (4) What is the trade potential for services? (5) What factors lie behind services trade performance? and (6) What is the regional pattern of Russia's services trade?

The paper uses the analytical model proposed in Sáez et al. (2014), which provides for integrated analysis and diagnostics of the trade competitiveness of the services sector using a wide range of indicators. Cross-country comparisons are based on World Development Indicators (WDI) and other publicly available World Bank data, and on two new databases:

(1) The Export in Value-Added database measures trade on a value added basis based on national input-output tables from the Global Trade Analysis Project (GTAP) project for 1992, 1995, 1997, 2001, 2004, 2007, and 2011. It also measures not only the direct contribution of services to total exports in terms of value added but also their indirect contribution through linkages. In other words, the data set

[1] Producer services include telecommunications, transport and distribution services, financial intermediation, and business services, among others.

[2] For the positive link between liberalization of services trade and manufacturing productivity, see Arnold, et al 2011 and Arnold, et al 2010) and Arnold et al (2008).

provides information on how services' value added is distributed among economic activities and how services linkages relate to trade over time.

The GTAP database represents the most comprehensive, convenient, and internationally-comparable source of sector-specific data across countries. Of the 129 regions in GTAP v.8, 112 represent individual countries and 17 represent composite regions. In the case of individual countries, the social accounting matrix (SAM) for each country relies on the most recent input-output data available from national sources for each country (see Aguilar and Walmsley, 2012). These are harmonized to a standard 57-sector format for ease of comparison. Limitations of the GTAP data include infrequency of updates (the most recent GTAP 9 pre-release takes the data only to 2011) and the fact that some input-output data may be adjusted to provide consistency with merchandise trade and macroeconomic data also used in the SAM. Therefore, results should be interpreted cautiously and should be seen as a first attempt to understand trade performance in developing countries.

(2) For the Trade in Services database, the World Bank merged and reconciled all available sources of data from the OECD, Eurostat, the United Nations, and the International Monetary Fund (IMF) to create a database on bilateral services trade. By mirroring flows, it provides a best available estimate of bilateral flows and their evolution in recent years for 200 countries. Data are reported in US$,[3] millions for 1981–2009. This database makes it possible to carry out a wide range of sophisticated assessments, such as estimating gravity models, measuring of the trade potential of country, trade diversification, and other analytical techniques.

(3) Finally, the report uses firm-level data for eight aggregated regions in Russia and at the much disaggregated regional level. The data come from the RUSLANA database, which contains balance sheet information on companies in Russia, such as stock data and exports revenue. Although RUSLANA distinguishes between domestic and exporting firms, trade flows are not covered, so the regional analysis relies on the number of exporters and their revenue as the best proxy for the export activities of Russian firms. These data are also the basis for exploration of the countrywide distribution of foreign direct investment (FDI) in Russia, the majority of which goes into services. Data on FDI revenues refer to 2012; however, firms covered are those that exported to any country in the world at least once between 2009 and 2013.

Assessing the competitiveness of Russian services begins with evaluating their role in the domestic economy, which is discussed in the first section. An important preliminary assessment consists in cross-country comparison of basic indicators, such as the share of a country's value added from services exports and its importance in relation to the domestic economy. Russia's performance is compared with that of Brazil, China, India, and South Africa, the other BRICS (Brazil, Russia, China, India, and South Africa) countries. The second section assesses ability to be competitive in the two functions of services trade—as a source of (a) export diversification and (b) greater competitiveness within the Russian economy. The third section examines how much value-added services and other exports contribute to the economy. Section 4 analyzes firm- and region-level services trade, following in section 5 by a diagnostic of determinants of services performance, identifying factors that facilitate and constrain their competitiveness, linking performance and determining factors, and suggesting policy options to address specific constraints. The final section draws conclusions.

[3] All monetary amounts are US$ unless otherwise indicated.

2 Services in the Domestic Economy

As countries become richer, services take on a larger role in the economy, in terms not only of a country's value added but also of its exports. However, not all services gain in importance as a country develops. A natural first step in analyzing Russia's performance is therefore to look at how the share of services relates to the domestic economy in terms of size, employment, and growth. This will indicate how the domestic importance of services translates into external competitiveness. If the translation is not direct, the question becomes whether the reason is that services produced in the economy are not tradable or whether there may be regulatory obstacles. Normally, a higher percentage of services value added in the domestic economy means that trade in services have a larger share of gross domestic product (GDP). The export potential for services is explored in section 2.

Because the services sector is labor-intensive, it normally accounts for a large share of employment. This is certainly true of Russia (see Figure 1), where in 2010 services employed about 60 percent of the labor force. Moreover, this share is increasing. The services employment share is thus much higher than in India and China,[4] though the figures for South Africa and Brazil are comparable.

The share of services in Russia's GDP is slightly below what would be expected for its level of development. Although between 2000 and 2013 Russia's share of services value added went up from 56 to 60 percent, it is still lagging behind South Africa and Brazil. Also, Figure 2 shows that Russia's services sector is relatively small compared to other countries at a similar level of development.

The potential for development of the services sector is also visible in Figure 3. Russia still has a relatively large industry base, which suggests two possibilities: (1) the services sector could grow if, following a global trend, manufacturing companies outsource such services activities as logistics and transportation that are still performed in-house, and (2) there is also scope for services to develop through supporting these manufacturing activities. Figure 4 also illustrates the growth potential of the Russian services sector. Not only are services leading growth in Russia but also average value-added growth is higher in Russia than in Brazil and South Africa, although below that of China and India, whose growth rates have been abnormal compared to other emerging economies.

3 Russian Services Exports

Russia's exports in the area of "traditional" services, such as transport and travel, are doing far better than in "modern" services, those that can be traded across borders even without proximity between buyer and supplier. In recent years, in the global economy modern services have had the most dynamic growth rates. Examples are communications, banking, insurance, business-related services, remote

[4] This is consistent with what it is common in resource-rich economies—for example, in many Latin American and Middle Eastern countries, where the share of services in GDP is relatively low compared to what would be expected given their level of development, though the share of employment in service sectors is quite high. It is also important to consider that this breakdown is imperfect. While certain activities may be included in one specific category the increase in inter-linkages between services and production activities (servicification) makes this separation difficult. This may be particularly important for the energy sector.

access services, medical records transcription, call centers, and some educational services. These differ significantly from traditional, more personal, services, which require face-to-face interaction.[5]

Given its level of development, Russia shows a relatively high share for transport services. This is a feature often observed in emerging countries (Sáez et al. 2014), but in 2013, among the BRICS (Brazil, Russia, China, India, and South Africa), Russia had the highest share in this category, which means that it still relies heavily on more traditional services. In South Africa and Brazil, services' value added makes an equal contribution to their economies. In travel services, Russia's export share is not only modest but also declining, though, Brazil actually shows a lower trade share.

The more modern category of other business services has been growing fast in recent years and building up its revealed comparative advantage (RCA). **Error! Reference source not found.** looks at the most disaggregated subsectors of other commercial services (OCS).[6] Other business services (which include professional services) is a category that has been growing fast in Russia, together with construction. Although exports of telecommunications and information and communications technology (ICT)-related services accounted for only 3.6 percent of OCS in 2005, its share hit 5.7 percent in 2011–13. Although China still has a higher share of OCS exports than Russia, the shares of other BRICS countries have been low in recent years.

The growth rates of telecoms, finance, and other business services exports have also been extremely dynamic. In particular, the RCA of other business services has risen in recent years (**Error! Reference source not found.**).[7] These sectors had growth of more than 15 percent between 2005 and 2013, and the share of other business services in total exports went up from 20 to 27 percent. **Error! Reference source not found.** also shows that traditional services sectors are still important for Russia's economy, with total shares in 2013 of 30 percent for transportation and 17 percent for travel services.

The untapped potential is further illustrated by the relatively low share of services exports relative to Russia's level of development. **Error! Reference source not found.** plots on the horizontal axis GDP per capita in purchasing power parity (PPP) (level of development), for both 2002–04 (panel A) and 2011–13 (panel B). Russia is below the predicted value line, which means that it is doing less well than some other countries at a similar level of development. Interestingly, Russia's contribution of services exports to GDP has been much lower than expected in recent years compared to South Africa, but China and Brazil are doing worse. The relationship between Russia's services trade and income level tracks that of its services value added.

Russia has scope for expanding exports of both traditional and modern services. **Error! Reference source not found.** shows the relationship between exports of both types of services and level of development for 2011–13. In Figure 6, modern services are proxied using the OCS category, which covers communications, construction, insurance, financial, Other business services (OBS), computer and

[5] The classification into traditional or modern is largely arbitrary because technology is increasingly affecting the tradability of services and reducing the need for proximity. The purpose of using this classification is simply to illustrate international trends.
[6] IMF *Balance of Payments Statistics* identifies three broad categories: Transport, Travel, and Other Commercial Services. The last category W includes financial, communication, construction, ICT-related, and other business services, royalties and license fees, and personal, cultural, and recreational services. This classification differs from the one used below in the section on trade in value added. It is important to highlight also that Balance of Payments (BoP) statistics does not cover all modes of supply. In particular, it does not cover mode 3 transactions (i.e. commercial presence in WTO/GATS jargon).
[7] This is a common Balassa index that measures the share of a sector's exports of a country in the country's total exports with the share of exports of all countries in that sector in the world's total exports for all sectors.

information, personal recreation and cultural, and finally royalties. Russia´s export structure is concentrated in traditional services; like South Africa, with respect to modern services Russia is somewhat behind other comparators, except India. In the performance of modern services over time, Russia has consistently underperformed other countries. The BRICS show varying levels of development but similarly low levels of modern services exports.

As in other developed countries, the structure of Russia's service exports is relatively dispersed. In the exports of richer countries, the shares of services subsectors are more equally distributed. **Error! Reference source not found.** shows the relationship between level of development and diversification for all countries, with Russia's peers highlighted. However, although developed countries have a more even export basket, they also export more in general, as is shown by the size of the hollow circles. Poorer countries seem generally to have somewhat lower entropy indexes, but as the figure illustrates, these vary a lot. Russia, for instance, is doing well given its level of development—much better than South Africa and Brazil. Yet, as the figure shows, Russia's services trade is rather small compared with some other countries that have similar export diversification (vertical axis).

Russia still trades mainly with countries with which it has close historical ties. **Error! Reference source not found.** looks at how Russia's share of exports to selected markets compares to the shares the rest of the world exports to the same countries; it seems to be disproportionately linked to Ukraine. Russia's presence in developed countries like Japan and Indonesia is relatively small. Russia could also increase its trade in services with the EU market—its trade relationships seem to be dependent on small-country markets like Bulgaria and not connected enough with larger and higher-income markets. For example, although trade complementarity with Germany is rising, Russia's services trade is not as intense as the intensity of all other countries that export to Germany. Trade intensities with China and the Republic of Korea seem to be somewhat larger than with other developed markets, which may be partially explained by the importance of trade in goods among these partners as well as by the extensive shared border with China.[8]

Russia's services trade can also be expanded by extending the intensive and extensive margins. In terms of intensive margins, Russia has increased the depth of its services exports to Ukraine, the United Kingdom, and France at the expense of the United States and Turkey (see Francois and Pindyuk 2012).[9] **Error! Reference source not found.** illustrates important current markets for Russia, showing the intensive margins for 2002 and 2010. Germany and Ukraine are now Russia's most important trading partners; together they absorbed just under 25 percent of its services exports. Ukraine has completely taken over the position of the U.S. as Russia's most important export partner. Germany is still second, but the U.K. has taken over third place from Turkey. The concentration of Russia's trade in its top three markets compares favorably with other countries. For instance, Ukraine's top two destinations absorb as much as about 50 percent, and Brazil's top two almost 40 percent.

[8] Trade in goods involves trade in transport services as well as business travel, communication services, insurance, and other financial services that facilitate and support trade.

[9] The following analysis uses the *Trade in Services Database* developed by Francois and Pindyuk (2012). The data set is constructed using mirror flows (deducing a country's export values from its partner's import values). However, only data on cross-border trade (mode 1) and consumption abroad (mode 2) can be collected in the data set as these are reported in *Balance of Payments Statistics*. FDI (commercial presence, mode 3) is an important channel for foreign providers supplying services. While the *Trade in Services Database* should be seen as the best current approximation to a comprehensive picture of global trade flows in services, it is still only a partial picture of the world.

Nonetheless, since 2007, Russia seems to have had difficulties adding new trading partners and in fact seems to have lost some.[10] During the great trade collapse in 2008, Russia was able to add some partners (**Error! Reference source not found.**), but Brazil, however, not only did so but ever since has been steadily bringing in new trade partners. There is a variety of reasons that might be the basis for this difference in performance, such as regulatory barriers or domestic enabling factors such as institutions or ICT infrastructure. Lowering artificial trade barriers helps attract new trade partners.

Error! Reference source not found. shows that Russia's exports to Germany, one of its most important markets, have been increasingly complementary, which means there is an excellent opportunity to intensify this relationship. It is also possible to increase complementarities with East Asian and South-East Asian countries, such as China, Japan, Korea, and the Philippines. However, Russia's trade complementarity with Indonesia has declined in the last few years. That means that Indonesia somewhat competes with Russia's services export basket and does not have potential as an export market in the near future.

Trade complementarities with India started from a low base but have been steadily increasing. It may be that Russia's exports are still too focused on construction, communication, and transportation (see Table 2) whereas India's export basket is dominated by ICT and computer services, in which it traditionally has had a comparative advantage. The analysis also shows that trade complementarity with Ukraine has been declining slightly over the whole period. Concentrating on countries with which it shares higher Trade Complementary Index measures, such as Germany, Korea, Japan, or China, is therefore recommended to open up opportunities for trade in services.

Russia can build its services exports on the basis of its current strengths. First, its services are quite sophisticated (Box 1).[11]

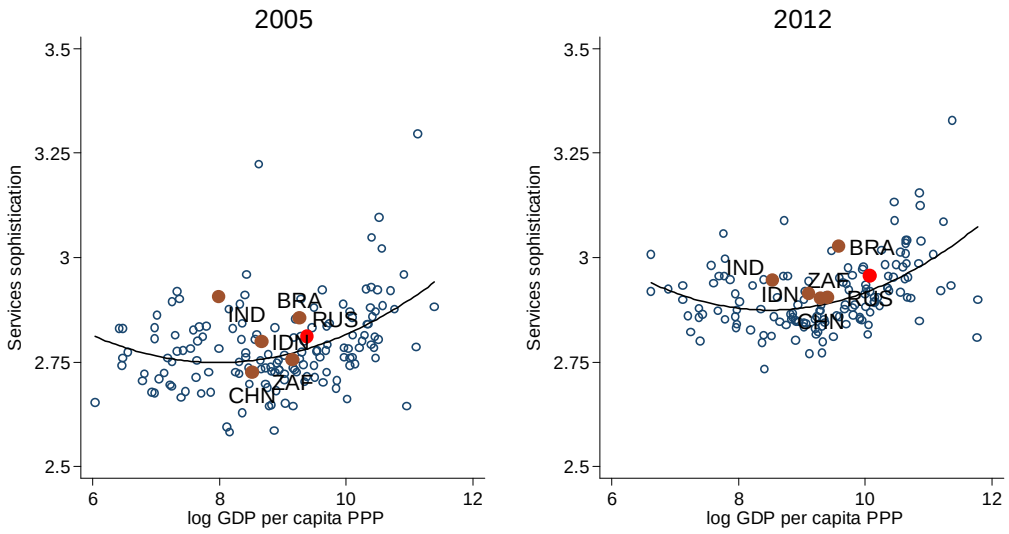
The second question is: What markets might service providers target? To reach an answer, a gravity analysis was performed using bilateral trade data to examine Russia's potential for trade in services relative to its actual trade flows.[12] First, two separate regressions were run: one with country-specific fixed effects (FE) to capture all factors that influence trade for all countries; and one without country effects but with the Services Trade Restrictiveness Index (STRI) measured so as to control for the trade-inhibiting effects of regulation. For all the countries discussed **Error! Reference source not found.** plots predicted bilateral trade levels for these two specifications.

[10] The information about bilateral trade in services is not as detailed as for goods and presents potential interpretation problems.
[11] Sophistication is measured by constructing an index of services export sophistication (EXPY). Any increase in a country's EXPY indicates a shift toward exports of more sophisticated products. Hausmann et al. [2007] call the sophistication of a particular service PRODY; it is calculated as the weighted average of the GDPs of countries exporting that service. The problem with using the EXPY measure, however, is that it has two components that can increase or decrease EXPY: RCA and per capita income. The latter is very large for some countries; thus, even if the RCA for modern service exports is not high, the "sophistication" of a country's services exports is found to be high.
[12] The gravity model has used extensively in the international trade literature due to its intuitive empirical and theoretical appeal. Anderson and van Wincoop (2003), Feenstra (2004), and Baldwin and Taglioni (2006), among others, have done exhaustive literature reviews on application of the gravity equation in the empirical trade literature.

Box 1: Russia's Export Sophistication

Though the sophistication of Russia's exports seems to have plateaued in recent years, it is still the highest among peer countries. Intuitively, measures of export sophistication capture whether a given country's export basket consists primarily of services typically exported by high-income economies (relatively sophisticated) or by low-income economies (relatively less sophisticated). Figure B1.1 illustrates the relationship between development and export sophistication. All of the BRICS increased the sophistication of their services between 2005 and 2012, Brazil the most and India the least. Interestingly, although Brazil is less developed in terms of GDP per capita and has a less diversified basket of services exports, those seem to become more sophisticated than Russia's. The sophistication of Russia's services exports has taken a dynamic path that much resembles China's. Finally, there is room for Russia to expand its export portfolio with services that have more value added, especially compared to India and Brazil.

Figure B1.1. Export Sophistication and Development, 2005 and 2012



Source: IMF Balance of Payment Statistics and WDI. Note: Export sophistication/EXPY is a measure of the income content of a country's export basket. Captures whether a country's export basket consists primarily of services typically exported by high-income or low-income economies. GDP = Gross Domestic Product; PPP = Purchasing Power Parity; USD = United States Dollars; BRA = Brazil, CHN = China, IND = India, RUS = Russia, ZAF = South Africa.

Observations below the 45-degree line show that the levels predicted by the specification with fixed effects are lower than those predicted by the specification with no fixed effects. Such a result would suggest that national barriers to trade are lowering a country's trade potential. Since many observations for Russia lie below the 45-degree line, the levels predicted by the specification with fixed effects are lower than without. That potential trade is lower after properly controlling for country-specific obstacles

to trade suggests that such barriers are limiting services trade for Russia as well as other countries. Barriers might consist of too many restrictions, regulatory heterogeneity, or poor regulatory governance, all of which may dampen trade potential. The gravity model suggests potential markets for growth. It appears that Russia is over-trading with Ukraine, Turkey, and some Asian countries, such as China, Korea, and Indonesia, but under-trading with others, such as Brazil, Portugal, and Denmark. **Error! Reference source not found.** shows for Russia the actual and predicted bilateral export relationship (given by the FE Fixed-Effects gravity equation). If an observation is above the 45-degree line, the average observed export relationship for 2008–09 is more than what the gravity model predicts on the basis of a country's structural determinants, and Russia is said to be over-trading with its partners; if it is below the line, the observed relationship is less than the model predicts, and Russia is under-trading. The figure confirms the general conclusion of the analysis: there is scope to increase the role of services exports in total trade in Russia in terms of both their contribution to total exports and their potential as a source of diversification into more modern services. Russia also has the potential to increase trade to new markets, as well as expanding trade with the biggest markets in the EU, such as Germany, and in the Asia Pacific region, with Japan, China, Korea, and Indonesia.

4 Valuing Trade in Services

Services are strategic in driving competitiveness for the Russian economy. To illustrate, what follows analyzes how much value services contribute to Russia's exports. The objective is to assess more precisely the contribution of services to exports using different measures of their direct and indirect contribution to the value added in Russia's domestic production and exports.[13]

When assessing the contribution of services to the domestic economy, for Russia both backward and forward linkages are important because they represent the interdependence of sectors. Industries with strong backward and forward linkages are central to a country's development strategy. Strong backward linkages mean that an increase in final demand for a sector's output will have major impact on industries that supply inputs for production of that output. On the other hand, strong forward linkages mean that an increase in demand for the output of other sectors will have a large impact on the first. Strong linkages to value-added exports suggest a useful role in export strategy as well. For example, when assessing the impact of specific policies, how they may affect other economic activities may vary depending on the strength of linkages (see annex for definitions).

Tables 3 and 4 provide a clearer picture of how services link to both the domestic economy and to other Russian export activities. The tables make it possible to compare the sectoral composition of the domestic economy and the contribution to exports measured in terms of value added. The last column in both takes into account forward linkages and the last row backward linkages. For example, the share of services in GDP--utilities, transport, distribution, financial, and other business services—is 66.8 percent (last column fourth row). Total backward services linkages contribute to 66.9 percent of GDP, but the linkages are mainly to other services (58.3 percent) and much less to primary, energy, and manufacturing sectors (Table 3, intersection between fourth column and fourth row). Among services activities, the biggest backward linkages are with construction, trade, distribution and hotels, and other business services, which include ICT and professional services. Also the other services category, which

[13] Direct value added captures the true sector-specific value added generated within an economy and nets out domestic and foreign inputs.

represents 16 percent of total GDP, is important but covers mainly government services, such as public administration, defense, health, and education. Table 4 provides information about how services contribute to total exports. First, the contribution of all services to total exports is 9.2 percent. This means that services exports for final consumption are relatively low. For instance, other business services exported by Russia are only 2.7 percent of total exports and exports of transport services reach only 3.1 percent.

The real contribution of services to total exports increases significantly when forward linkages to other export activities are considered. The share of services in total exports then goes up to 34.3 percent. This is explained by the role of services in exports of energy, which represents about half of the contribution of services to total exports (16.4 percent). Thus, although direct services exports are low, services contribute as inputs to other export activities through forward linkages.

Disaggregation of this share also provides useful information: trade, distribution, and hotels are the main sectors linked to energy exports. Other services demanded by the energy sector are transport (2.7 percent), other business services (2.4 percent), and finance (1.6 percent). The second largest consumer of services in exports is manufacturing (7.7 percent), which mainly calls for trade and distribution (3.8 percent), transport (1.3 percent) and business services (1.1 percent). These results verify that there is great scope for diversifying services to other export activities, both within the services sector and in the primary and manufacturing sectors. The high concentration of services linkages to energy also indicates the relatively low development of services as an export activity.

Backward linkages of service exports are relatively low in Russia. This means that services mainly contribute to other export activities rather than being exported directly. Table 4 shows that services backward linkages are about 10.7 percent of total exports. This has important policy implications: (1) Low-cost high-quality services should be a priority for any diversification and competitiveness strategy. (2) Assessing and understanding Russian barriers to services development is crucial if they are to contribute more to economic diversification and competitiveness. Overall, services generate higher value added. **Error! Reference source not found.** shows how Russia compares with peer countries when breaking down gross and net measures of exports according to different peer countries for both machinery and business services. A clear difference between countries is visible since the share of value added is much more important for services than for goods. Whereas gross value shares still add up to a significant amount for goods, they are much less important when looking at services for Russia and most other countries. Yet the gap between gross and net value for Russia is still relatively small compared, for instance, to Brazil and India.

On average Russia brings forward as much value added in services as developed countries. **Error! Reference source not found.** shows the positive relationship between the significance of the value-added share exported in goods and GDP per capita. This implies that most of the value added in goods exported by developing countries comes from other sectors in the form of intermediate inputs (such as assembly) and is not brought forward by those countries themselves—most developing countries are situated below a ratio of 1. In contrast, richer countries seem to export more value added produced within their own goods sectors. The ratio for Russia is above 1 for exports of machinery. In contrast, the positive relationship between value added and development disappears completely in the services sector (Figure 16). The fitted values line flattens, which illustrates that the significance of the exported

value added in services is as important for poor as for richer countries. The value-added share compared to the gross value share is average for Russia and can be compared to South Africa. Brazil, China, and India are much better placed to capture value added in services than Russia.

The role of services as inputs is less important for the upper-middle-income group of countries in Europe to which Russia belongs.[14] Figure 16**Error! Reference source not found.** shows the share of services in total exports (goods and services)[15] for different income groups. The general value added of services in total trade is more or less similar for different upper- and lower-middle-income groups. First, the share of services in total exports, in gross terms, varies between income groups (Figure 16, panel A). High-income countries show a 25 percent share and European upper-middle-income countries are not far behind at about 19 percent. Other middle-income groups, such as those in Asia, are much lower at about 11 percent. The trend is similar when the share of direct value added of services in total exports is considered, excluding any forward linkages. When forward linkages are included, together with the direct measure of value added exports, the share percentages for each income group do not differ much. However, the gap between the direct measure (dark grey bar) and the direct measure when forward linkages (light grey bar) are included is greatest for Latin-American and Asian upper-middle-income countries and smallest for high-income countries generally and for upper-middle-income countries in Europe like Russia. Finally, Figure 16, Panel B, shows that within Russia's BRICS comparators, there is huge variance between these two measures. The gap between the direct measure and the measure with forward linkages included becomes more important. This suggests again that for Russia forward linkages play an important role compared to the direct value-added levels.

Forward linkages are gradually becoming increasingly important in Russia. Figure 17 shows the ratio of the direct value-added exports share including forward linkages to the share of gross exports; a value greater than 1 indicates that total value-added exports are larger than gross exports. The fact that services exports in value-added terms tend to be greater than gross exports was shown in Figure 17**Error! Reference source not found.** for business services, but it may differ within income groups and across time. Figure 17 shows that forward linkages for all services together have a relatively larger role in Russia than in other countries, such as India. The increase in Russia's position indicates some dynamism, yet it probably shows that backward linkages are still relatively important for the Russian services sector. The same value for manufacturing is below 1, signifying that this sector uses inputs from other sectors of the economy or imports them. Thus, it would generally be expected that backward linkages would be stronger than forward in manufacturing, particularly for Russia, which places lowest (see also Table 4).

In Russia, creation of value added is more important for the domestic market than for exports. This is usual for the BRICS, except for India. The trend is clear in **Error! Reference source not found.**, which presents sectoral contributions to total value added considering both direct and forward linkages, for both domestic and external markets (exports). Services are allocated to one of nine subsectors. Together with most of its comparators, Russia shows that, after considering forward linkages, the share

[14] The data are for 2011.

[15] There are three measures of this share: (1) The "Gross" value or as reported in the balance of payment statistics; (2) the "Direct" measure of services in terms of value added, and finally (3) the "Total" contribution of services measured in terms of value added. This last measure includes the direct contribution of services to total exports measured in terms of both their value-added content and their indirect contribution as measured by forward linkages to other export activities. This recognizes that services are inputs to other exports of goods and services, and shows which sectors contribute to the value added of final exports.

of services in total domestic value added (50.3 percent) is higher than in export value added (33.9 percent). The difference is much lower for South Africa or even China, and for India the pattern is reversed. This means that many services in Russia, such as construction, are oriented toward the domestic market; it also confirms that services that are important for the domestic economy also have untapped export potential.

In Russia the distribution and hotels services sector (Distribution in the Figure 18) is oriented relatively outward since this sector contributes most to export value added—more than 13 percent. Other business services and transportation also make relatively high value added contributions to exports. The contribution of other business services is actually lowest for Russia among all the countries compared, but for transportation Russia's scores are in line with its peers. Finance actually contributes more to exports, but the amount is relatively low compared to other countries. The fact that the percentage of both export and domestic value added by some services is high underscores that Russia shares a strong production base in these sectors on which it can capitalize. Other sectors contribute relatively little to external value added.

Russia´s exports of transport services are important in direct value added but not in forward linkages. Yet in Russia distribution, finance, and other commercial services are much more important for forward linkages. Figure 19 shows the composition of the value added of services by calculating the share of services exports in total exports for nine sub-sectors. For all peer countries, transportation is an important component of both gross services exports and exports measured on a value-added basis. However, this sector is not of great importance in explaining value-added linkages in the exports of other sectors, i.e. forward linkages.[16] In contrast, in some other emerging economies that are Russia's peers, such as Brazil and Indonesia, this is only somewhat the case. In Russia, forward linkages in the distribution and trade sector play an important role for explaining its share in forward linkages and less so in the case of the other commercial business services sector. But in other BRICS countries, other business services have a larger role in forward linkages. In most countries, communications has only a minor role in forward linkages.

In Russia, backward linkages have a comparatively larger role in transport, communications, and insurance than in other services (Figure 20**Error! Reference source not found.**). For most services, forward and backward linkages are equally important, as can also be seen in other countries. That means that these sectors export value added from other sectors as much as they contribute to the value-added exports of other sectors, since Russia seems to be situated close to or on the 45-degree line. On the other hand, forward linkages are very pronounced in finance, distribution, and construction and somewhat present in other business services.

Russia's peer economies show similar patterns for direct and total value-added services exports. However, is Russia's relative position compared to these countries where it might be expected given its level of development? Figure 21 benchmarks the performance of the BRICS countries based on level of development, proxied by GDP per capita in PPP. Figure 21 then plots gross, direct, and total value-added exports for Russia and the peer countries used in previous figures. Russia's share of services in total exports is seen to be in line with its level of development when forward linkages are considered, but both gross and direct shares are below what would be expected, as is evident from the fact that Russia,

[16] Table 3 shows figures for total value added where direct value added and forward linkages are totaled, while in Figure 25 the total value added is split into direct and forward linkages; in other words, the difference between total value added and direct value added illustrates forward linkages.

in red, is situated below the fitted values line. This is true whether looking at gross value, direct value added, or total value added, in which forward linkages are considered. Some of Russia's peers—e.g., India, South Africa, and Turkey—are above the predicted level of value-added exports, while others—e.g., China and Indonesia—are below. This confirms that Russia has scope to increase the role of services in its trade, both as exports for final consumption and as inputs into exports of new goods or other services.

Russia's positive performance of value-added exports in terms of level of development mainly stems from the distribution sector,[17] which together with transport services shows a pattern in which more developed countries tend to export relatively less value added in these two sectors. In business services, however, value added in exports appears to increase the more developed a country becomes. Russia's other business services position is below what could be expected; this is also true for communication.

Based on new indicators, Russia's services exports are clearly performing below expectations. Also, the analysis illustrates the importance of services as inputs to other export activities, in particular energy. When the role of services as inputs into other economic activities is factored in, the analysis concludes, their share in total exports is consistent with Russia's level of development. This is to a large extent what is found in such other resource-rich countries as Kazakhstan, and it has important policy implications: (1) To increase and maintain a country's competitiveness, efficient, high-quality, and low-cost services are necessary. (2) Other exports require the support of these services. (3) Finally, services as final exports can be developed if supportive policies are adopted (see section 5).

5 Services and Regional Development

Russia is the largest country in the world. It spans nine time zones, has a complex geography and a variety of climate types, and shares land borders with nine other countries. Thus services are critical not only for Russia's connections to the world economy but also to connect its regions with each other. This section explores the characteristics of regional services sectors using firm-level data and assesses the extent to which internationalization of services differs by region.

Firm-level data make it possible to explore more deeply the regional trade dynamics of Russian firms.[18]

Figure 22 shows the revenue generated by each firm exporting services as part of their total services revenue, averaged across each regional services sector. It shows that the export propensity of firms is rather small, between 1.6 (North Caucasus) and 4.5 (Far East). Moreover, average export revenue is 2.9 percent of total services firm revenue in most regions. The high share of the Far East is mainly due to high revenue for transportation (12.2 percent).

[17] The distribution services includes ISIC 50 Sales, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel; ISIC 51 Wholesale trade and commission trade, except of motor vehicles and motorcycles; ISIC 521 Non-specialized retail trade in stores; ISIC 522 Retail sale of food, beverages and tobacco in specialized stores; ISIC 523 Other retail trade of new goods in specialized stores; ISIC 524 Retail sale of second-hand goods in stores; and ISIC 525 Retail trade not in stores; ISIC 526 Repair of personal and household goods; ISIC 55 Hotels and restaurants.

[18] The firm-level analysis applies both to Russia's eight greater regions (Northwest, Central, South, Volga, Ural, Siberia, Far East, and North Caucasus), and to its 70 smaller regional districts. The data allow examination only of the number of exporting firms and their operational revenue in a single year, 2012; unfortunately, export and import data are not available in the database used.

Table 6 breaks down the average share of services in total revenue by sector. Only the Central region, which is the largest region economically and includes Moscow, has export revenue in most services sectors; the Far East, the North Caucasus, and other regions are heavily dependent on only a few sectors for export revenue. Transportation services averages 6.2 percent across regions, and professional services averages 5.5 percent.

The Central region is most competitive and the South and the Volga regions least competitive (**Error! Reference source not found.**). The table divides revenue for each active services firm and each exporting firm by regional population (the size of the market). The Central region is the most competitive. There is still much scope for services firms to become exporters, not only in the Central region but also in regions like the Northwest, which gets low marks for export competitiveness compared to all services firms active. Competitiveness is naturally low given that few firms do any exporting: only 1,414 Russian firms export, and only 299 of these (21 percent) export services. Of all firms supplying services domestically, only 0.03 percent does any exporting. Most of those are in the Central region (105), then Volga (48), Northwest (39), South (36), Ural (28), Siberia (26), Far East (15), and North Caucasus (2).

Each region has its own competitive service. Figure 23 replicates exporter revenue density from **Error! Reference source not found.** but now divided by services sector to evaluate the outward-oriented entrepreneurial activity of each region. The Northwest appears to be most competitive in construction and the Central region in distribution, followed by transportation. The South's main edge is in transportation, together with professional services. Finally, the Ural region also seems to be most competitive in transportation. In the Central region the competitiveness figures are highest, but the rankings for distribution draw from only 18 firms and for transport from only 13, while 42 firms are exporting professional services.

In Russia, both larger regions or districts and smaller are likely to be capable of exporting services successfully. Which are most likely to export? Competitiveness figures give only a first impression on which to base an answer. Generally, businesses in larger markets are also larger than the national average because they are able to capitalize on economies of scale and transportation costs. Hence, the larger the market, the more export revenue per firm (the unit of analysis) can be expected. Panel A of Figure 24**Error! Reference source not found.** shows that this relationship holds when all firms active in Russia are taken into account. Yet the association between export competitiveness and market size does not seem to hold for services. Panel B shows that both smaller and larger markets can capitalize on efficient production and export of services. A most likely candidate for this unusual pattern is technology, which will be dealt with further in section 5.

In all regions average firm size is dominated by large corporations, those with operating revenue of more than 450,000 RUB.

Figure 25**Error! Reference source not found.** shows that about 64 percent of all firms have generated that much operational revenue and another 28 percent are of medium size, with revenue of 45,000 to 450,000 RUB. Small services firms are scarce in Russia. The pattern of services firm size holds for all regions. Yet in both the Urals and Siberia more than 70 percent of the firms are large. In the South 10 percent of firms have less than 45,000 in revenue and in North Caucasus 9.1 percent are similarly small. Studying a sample of 32 developing and developed countries, Freund and Pierola (2015) found that on average the top 1 percent of firms accounted for 53 percent of exports. Since larger firms are generally

more productive and therefore more likely to export, the bigger Russian firms are undoubtedly responsible for most of the exports.

The North Caucasus is the most concentrated Russian region in terms of export markets. Figure 26**Error! Reference source not found.** shows export market concentration according to the Herfindahl-Hirschman Index. The North Caucasus relies on two export markets, those for construction and transportation (see also Table 6). The Volga region has the lowest concentration index; it is most diversified. Concentration is inevitable for some products, since most Russian services exports went to either Ukraine or the EU (2010 data).

Disaggregated, the Moscow region is the most diversified and the Arkhangelsk and Pskov regions the least. **Error! Reference source not found.** shows the five most diversified smaller regions (panel A) and the five most concentrated (panel B). The Nizhni Novgorod region is highly diversified—not surprising, because it adjoins the Moscow region. Yet regions more distant from the capital, such as Omsk and Voronezh, also have low concentration levels.

Among the most diversified regions, each has its own comparative specialization due to geographical endowments and development patterns. **Error! Reference source not found.** shows the Location Quotient index, which uses exporter revenue data. The index measures the extent to which each region has relatively high productivity compared to the national average. The pattern of specialization clearly differs by region. For instance, the Northwest has an obvious comparative advantage in administrative support activities and Siberia in financial and insurance services, followed by transportation. The Central region has high relative productivity in health, distribution, finance, and real estate. The Ural region scores high in information and communication services. The fact that each region has its own specialization suggests that services policies will affect each region to a different degree.

Russian regions also profit from foreign direct investment (FDI) in services, which makes services firms that provide inputs to goods manufactures more productive. For instance, Arnold et al. (2012) found that foreign presence in services firms brings productivity gains to manufacturing firms. The data allow only for analysis in terms of number of firms that receive FDI. Figure 27 shows that two types of FDI can be traced: (1) FDI in firms that have a global ultimate owner, and (2) foreign investment in domestic firms. In both cases, foreign investors own more than 50 percent of the recipient company. In Russia, FDI goes overwhelmingly to services, with only a small amount invested in manufacturing. Within services, most FDI goes to the distribution sector, followed by construction services and transportation.

The countrywide distribution of FDI recipients is largely similar in each region. Table 10 shows the distribution of FDI firms across regions in Russia and illustrates that distribution, construction, and other important sectors have a similar distribution of FDI recipient firms as Russia as a whole. Transportation, however, has low distribution shares in the Central region but relatively high shares in the Northwest, South, and Far East regions.

Box 2: FDI, Growth, and Regional Convergence

Ability to attract FDI is one of the strongest single predictors of the growth of per capita income in federal regions. This result was s obtained from estimating a cross-sectional model of regional income growth for the period 2001–11. The model is a modified version of that found in Mankiw, Romer, and Weil (1992), in which variables are measured as period averages, either in per capita terms or in shares; it is expressed as follows:

$$\begin{aligned} y_{i,t} - y_{i,t-1} \;=\; & \beta_0 + \beta_1 y_{i,t-1} + \beta_2 \text{human\_capital}_{i,t-1} + \beta_3 \text{exports}_{i,t-1} + \beta_4 \text{FDI}_{i,t-1} \\ & + \beta_5 \text{business\_climate}_{i,t-1} + \beta_6 \text{share\_mineral}_{i,t-1} + \beta_7 \text{share\_urban}_{i,t-1} + \varepsilon_{i,t} \end{aligned}$$

where y denotes real per capita income in region I, $y_{i,t-1}$ represents 2001, the initial year, human capital is measured by the percentage of the population enrolled in secondary school, FDI is measured in per capita U.S. dollars, business climate is based on scores from the consulting firm Expert RA for 2003, mineral exports are expressed as a share of total merchandise exports, and urban population as a share of total population. For dependent variables other than income, t-1 denotes averages for the period.

Along with attracting more FDI, more rapidly growing regions are likely to have higher business climate scores and their populations are more likely to be rural than urban. Other things being equal, poorer regions grow more rapidly than rich regions ("beta convergence"). The other variables (human capital, total merchandise exports, share of mineral exports) are not significant as independent determinants of regional growth; however, regions that are more attractive to FDI also tend to export more.

As an illustration of the importance of FDI, if annual FDI inflows into the Krasnoyarsk Republic ($14.90 per capita in 2011) were to rise to the level of St. Petersburg City ($219.20 per capita), its annual growth in per capita income would go up an estimated 2–2.27 percent, amounting to 30 percent higher income after a decade. In the case of business climate, if the initial business climate score of the Komi Republic (3B2, "Marginal potential-moderate risk") were to be raised by one point, to 3B1 ("Reduced potential-moderate risk"), estimated annual growth would go up from 4.27 percent to 4.55 percent, amounting to a 32 percent increase in per capita income after a decade.

Russia's poorest regions have on average caught up to its richest regions over time ("sigma convergence"): the coefficient of variation of real log per capita GDP declined from 0.0627 in 2003 to 0.0585 in 2011, with a brief reversal in the global crisis year of 2009.

6 Trade Diagnostics for Russia

Services industries are subject to specific regulatory requirements that are translated into policy. These measures can have two negative effects on trade in services: escalate the costs, and restrict growth and expansion. Services trade costs can be as much as twice as high as costs for trading goods, according to

recent research (see Miroudot et al. 2010). Policy measures that affect only services are sometimes explicitly protectionist. This is the case, for instance, when measures are explicitly designed to reserve a market for domestic companies, to insulate them from foreign competition. Much more often, however, exports of services suffer from measures implemented to pursue a legitimate objective that accidentally and unnecessarily restrict trade in services. Such objectives are often pursued because services markets suffer from market imperfections. The anti-export bias on trade in services arises if regulations are applied in ways that are economically inefficient and exacerbate costs by imposing unnecessary restrictions on free trade in services between countries. In other words, how services are regulated is critical to how well a country's trade performs.

Overall, regulatory restrictions on services in Russia compare favorably with those of other countries at a similar income level. As can be seen in Figure 28, panel A, where the STRI index is illustrated on the vertical axis and GDP per capita on the horizontal axis, Russia's STRI restrictions are in line with what could be expected based on its level of development, as are some peer countries, such as Turkey. Other direct comparators such as Brazil have lower restrictions and are therefore below the fitted values line in this figure. Both panels show a clear link between level of development and lower services restrictions, and although Russia's economic situation is still behind most of the other developed markets, its restrictions are very much in line with what could be expected in terms of added-value production (panel B).

Russia still has relatively high regulatory restrictions in telecommunications, insurance, and financial services, and they are somewhat high in professional services, but overall its regulatory burden is lower than in some of its peers.[19] Figure 30 shows that Russia has not discriminatory restrictions on the retail sector (distribution), but the restrictions on telecoms, insurance, and finance are comparable to those of India and China and more restrictive than the world average. South Africa and Brazil have less restrictive policies on these services. Although restrictions on professional services are still relatively high, compared to peer countries and the world, Russia's barriers in this sector are relatively low.

Russia still remains somewhat protective of insurance and transport in cross-border transactions and somewhat more liberal where finance and professional services are concerned. Figure 29**Error! Reference source not found.** shows that Russia is relatively more open to cross-border trade in financial services than its peers. Yet Brazil, South Africa, and China have lower barriers in transport and insurance. The main restriction in insurance in Russia is the prohibition of cross-border transactions for non-life and life insurance**.** This is the terminology to classify the industry, but there are also limitations on establishment of foreign insurance companies. Foreign investment in the insurance sector is capped at 25 percent of the aggregate charter capital of all insurance companies. Once this threshold is reached, no new license is issued to organizations that are affiliates of foreign companies (controlled by a foreign parent) or those in which foreign investors hold more than 49 percent of the authorized capital.

Restrictions on direct investment or commercial presence explain the general pattern of services restrictiveness in Russia. Telecoms, professional, and to a lesser extent insurance services have highly regulatory policies on direct investment and reflect the average level of restrictions for Russia. They are much higher than the world average and are on a par with India. The main restrictions on telecoms relate to direct investment in both fixed and mobile networks and on insurance major restrictions apply

[19] The professional services indicator refers exclusively to legal and accountancy and auditing services.

to automobile, life, and reinsurance. There are also investment-related restrictions on financial services, mainly on banking. Cross-border life and auto insurance services are virtually closed, and there are major restrictions on reinsurance transactions. There are also some limited restrictions on cross-border trade in transportation services.

In its accession to the WTO, Russia adopted significant liberalization commitments. The number of sectors covered by its services commitment is large but some limitations remain (Figure 30). For instance, for service providers that wish to establish a commercial presence, there are restrictions on e.g., land acquisition, privatization, and type of commercial presence. Also, the lack of commitments related to use of subsidies basically allows the Russian government to discriminate in favor of national providers. Finally, regarding temporary movement of natural persons, the commitments adopted relate to intra-corporate transferees and business visitors only; they do not include commitments on providers of independent and contractual services. Figure 31 describes the type of limitations that apply to the sectors committed. For example, for construction services the only condition scheduled relates to subsidies under national treatment.

Figure 31 confirms that commitments adopted are extensive in terms of sectoral coverage, modes of supply, and overall quality of commitments. Some limitations are specific to certain sectors such as foreign ownership which the Russian Federation was also able to maintain mainly in telecommunication and banking sectors. Moreover, Figure 32 confirms also that limitations are concentrated in a few sectors mainly professional, business, telecommunication, banking, transport services.

Russia's barriers are comparable to European countries.[20] This can be seen in Table 11 which presents the average tariff equivalent for Russia and a host of other comparable countries over the period 2009-2011 for two separate values of the elasticity of substitution (the two values can be seen as a band in between which the exact tariff equivalent can vary), and for which we have country information. Although according to this *indirect* method of measuring trade barriers more trade barriers are captured than can possibly measured with the regulatory indexes, the results in Table 7 are nevertheless largely in line with the previous outcome using *direct* index approaches such as the STRI. For example, Russia's estimated trade barriers in services are below that of Belarus (although not for some of the other ones such as Germany, Czech Republic, or Romania) with an estimated tariff equivalent of a bit over 54 percent assuming the lower elasticity value.

Russia's trade in services performance depends as well on policies related to the domestic economic and institutional situation: they are referred as "domestic enabling factors." Domestic enabling factors (or fundamentals) promote trade in services, but at least the short run they are given. These factors include a country's factor endowments such as the level of human capital, including skills and entrepreneurial ability, natural resources such as those attracting tourism. They also include infrastructure essential to services trade such as a good telecommunication networks that facilitate the delivery of services. Finally, institutions as an enabling factor also belong to this group of policy factors, such as the quality of a

[20] Gravity models can also be used to quantify country-specific barriers. Instead of using indexes, a quantity-based approach is used to measure barriers to services trade by estimating tariff equivalents. The methodology most commonly applied in the literature was proposed by Park (2002), which computes the average protection applied by each importer from the residuals of an estimated gravity model of trade for services. The approach compares actual levels of trade flows to potential levels of trade, where potential trade flows are predicted using the gravity model of trade based on the physical and economic characteristics of countries and their trading partners. As the residuals may be capturing other things beyond trade barriers, actual and predicted trade is normalized relative to a theoretical situation considered to be the free-trade benchmark. This benchmark is chosen as the country in the sample with the greatest level of actual imports relative to predicted imports.

country's rule of law or regulatory environment belong to this group of policy factors, such as the quality of a country's rule of law or regulatory environment (Goswami et al 2012; van der Marel 2011).

Russia's barriers are comparable to those of European countries, as can be seen in Table 11, which presents average tariff equivalents for Russia and a host of comparable countries over the period 2009–2011 for two separate values of the elasticity of substitution (the two values can be seen as a band in which the exact tariff equivalent can vary) for which there is country information. Although according to this indirect method of measuring trade barriers, more are captured than can possibly be measured by the regulatory indexes, the results in Table 11 are nevertheless largely in line with the previous outcome using direct index approaches, such as the STRI. For example, Russia's estimated trade barriers in services are below those of Belarus, although not for Germany, the Czech Republic, or Romania, with an estimated tariff equivalent of just over 54 percent, assuming the lower elasticity value.

Russia's trade in services also depends on policies related to the domestic economic and institutional situation—"domestic enabling factors." These factors (or fundamentals) promote trade in services, but at least in the short run they are given and cannot be influenced by policies. Among these enabling factors are a country's factor endowments, such as the level of human capital, skills, and entrepreneurial ability; natural resources, such as those attracting tourism; and infrastructure essential to the services trade, such as good telecommunication networks that facilitate delivery of services. Finally, institutions may also be enabling factors, such as how well a country adheres to the rule of law and the quality of the regulatory environment (Goswami et al. 2012; van der Marel 2012).

The importance of the rule of law is related to the type of services an economy like Russia is capable of exporting. Services that are more complex tend to also be more sophisticated and have higher value added. The reason for their complexity is that many different contracts apply to their production processes. For optimal exploitation of trade in these services, the rule of law must be strong enough to enforce contracts. Figure 33 shows that there is a positive relationship, which appears to increase disproportionately at the high end of a country's development, between rule of law and the importance of complex services.[21] Russia is situated just above the average fitted values line, meaning that the competitiveness of its complex services is relatively fine from the rule of law point of view. However, Russia's exports in these sectors is still extremely low, confirming again that there is potential for increasing the role of more sophisticated and high value-added service exports.

In addition to institutions, governance structures are of major importance for economic activity. Figure 34 illustrates a negative relationship between restrictiveness and regulatory quality. This means that the higher the restrictions in services trade policies and on direct investment in services, the lower the regulatory quality. In other words, governments with good regulatory policies facilitate well-functioning and competitive services markets. In terms of policy, this means that addressing trade restrictiveness is a necessary (though not a sufficient) condition for increasing competitiveness: domestic institutions may have a complementary role in creating competitive markets. While Russia is where it is expected to be, there is still much room for improvement through deregulation of services policies.

[21] The horizontal axis shows the index of Rule of Law taken from the World Bank's governance indicators. The vertical axis shows the share of trade in those services sectors which are considered as complex, namely Professional services such as accounting and legal services, plus Finance and Insurance services. This measure is based on Costinot's (2007) calculations.

Telecoms infrastructure is a major driver of the tradability of services. Russia's restrictions on investment in telecoms are still relatively high, which is likely to make it harder to raise the value of the services trade to the economy. Studies have found close links between FDI and cross-border trade in services (see Lennon, et al 2009; Lennon 2008; Lennon 2009). It also appears that outward FDI and services exports are complementary, and so are cross-border trade and trade in direct investment services. These findings are relevant to policy since a large proportion of services trade is facilitated through foreign affiliates. The importance for Russia of the complementarity between cross-border trade and direct investment is illustrated in Figure 35. Both figures show a negative relationship between restrictiveness and the share of services exports in GDP. For telecoms, Russia falls below the fitted value line—an unfavorable position that means there is still much room for improvement. In finance, Russia is performing as might be expected: it has relatively high regulatory policies in this area, and also relatively little trade. Lowering restrictive regulations on investment would probably reinforce Russia's competitiveness in services.

Russia's human capital endowments and ICT performance are much lower than expected given the importance of services trade in Russia's economy. A number of services sectors have been found to be significantly more skill-intensive than some goods industries (Nusbaumer 1987; Gibbs 1986; Jensen 2008; van der Marel 2012) and this is reflected in trade patterns. Examples are such modern services as computer and related or other business services. These services tend to be ICT-intensive and, just like goods, they can be unbundled, disembodied, or splintered in the value chain (Ghani 2010). Endowments of human capital can therefore be critical to export of modern services and consequently to economic output. Figure 36**Error! Reference source not found.** documents a positive association between the two variables showing that countries that are better endowed with high-skilled labor and have qualitatively better education export more services. Russia is below the fitted values line; it is vital that policies for the services sector take into account skills availability and upgrading as major determinants of future success.

The growth of telecom infrastructure is the most powerful symbol of the vitality of the services sector. It is also an important foundation for building up other services. ICT developments have been reducing the costs of delivering many cross-border services from extremely high to virtually zero. Electronic infrastructure has also been found to have a positive effect on services exports (Freund and Weinhold 2004). This suggests that although services generally require physical proximity, close monitoring, and advanced customization because of quality concerns, a large group of services exports can nonetheless be easily traded at a distance. Expanding Russia's services trade will depend critically on the policies that affect telecoms infrastructure. Together with policies to make Russia more attractive to foreign investors, a strategy is needed to ensure that ICT is optimized.

7 Conclusions

Services trade can make a major contribution to Russia's development. The findings from this analysis can orient the decisions of policy makers:

As inputs into other export activities, services support Russia's current exports of goods; this is the case of other business services, distribution services, and transport services. In the latter case, backward linkages are also important. Other export activities, such as manufacturing, consume relatively few

services. This means that as they diversify into new products may, they require more support from services. Participation in global value chains is closely associated with development of new services and investment opportunities.

Services as final export activities are under-developed; in terms of export diversification, they offer an untapped opportunity. This is illustrated by the relatively low share of services in total exports compared to what would be expected given Russia's level of development. Exports of traditional services, such as transport and travel, are performing well, but not modern services, even though in global trade modern services have in recent years had the most dynamic growth rates. Examples of modern services are communications, banking, insurance, business-related services, remote access services, transcribing medical records, call centers, and some educational services.

Although direct services exports are low, services make a considerable indirect contribution to the economy as inputs to other export activities; clearly, services linkages to other economic activities are significant. When trade is measured in terms of value added (excluding foreign and national inputs), the contribution of Russian services to total exports is 8.5 percent, so that the share of services exports for final consumption is low. However, the share of services in total exports goes up significantly when the contribution of services to other economic activities is considered, at which point services constitute 32.6 percent of total exports. This is explained by the role of services in exports of energy, which represent half of the total contribution of services to total exports (16.3 percent).

There are also potential new markets that Russia could explore, from Europe to Latin America and the Asia Pacific Region. Russia's presence in such developed countries as Japan and France is relatively small. And, although trade complementarity with Germany is rising, Russia's services trade with Germany is not as intense as that of all the other countries that export to Germany.

There is also scope for developing services across regions as well as for engaging in more services activities. Services are concentrated in the central regions, but the propensity of firms to export is highest in the Far East region (4.5) and smallest in the North Caucasus region (1.6). Average export revenue per region is only about 3 percent of the total revenue of firms, and most regions have export revenue from only a few services sectors, mainly transportation and professional services. Outside the Central region, regions like the Far East or the North Caucasus are very much dependent on just a few sectors for export revenue.

Building up Russia's services exports will depend to a large extent on supply-side policies. In terms of services trade policies—those that limit or discriminate against foreign providers—Russia's regime is relatively open and will become even more so as the services commitments adopted on accession to the WTO come into effect. Despite these efforts, there is also scope for additional liberalization of certain investment measures in the services sectors. For examples, the OECD FDI Regulatory Restrictiveness Index shows that many services activities maintain still important levels of restrictiveness compared to other OECD countries. This may benefit the emergence of new and efficient service activities by increasing competition and imports of services as well supporting current and new exports. This will also affect the enabling factors that have great influence on services: institutions, governance, the rule of law, infrastructure supportive of services, and human capital.

In investigating what affects Russia's services performance, Russia was found to still have relatively onerous restrictions in some services sectors. Moreover, Jensen, Rutherford and Tarr (2004) estimate

that the largest expected gains from Russia's accession to the WTO are derived from liberalization of barriers against multinational service providers. Telecommunications, insurance, and services suffer from restrictions that are comparable to those of such restrictive countries as India and China and are more restrictive than the world average. To optimize production and trade in services, a solid rule of law is necessary to enforce contracts, and sound governance structures are of vital importance. The importance of the rule of law relates to the type and complexity of services an economy is capable of exporting. Services that are more complex are also generally more sophisticated and have higher value added.

To elevate the importance of services trade in its economy, Russia's human capital endowments and ICT performance need to be enhanced. Many services sectors are significantly more skill-intensive than goods industries, something that is reflected in services trade patterns. Endowments of human capital are thus a critical determinant of exports of modern services, and consequently economic output. It is a fact that countries with a higher skilled labor force and qualitatively better education export more services. Electronic infrastructure also has a positive effect on services exports. ICT has substantially expanded the scope of services trade, especially cross-border. The growth of telecommunication infrastructure is one of the most powerful symbols of the vitality of the services sector.

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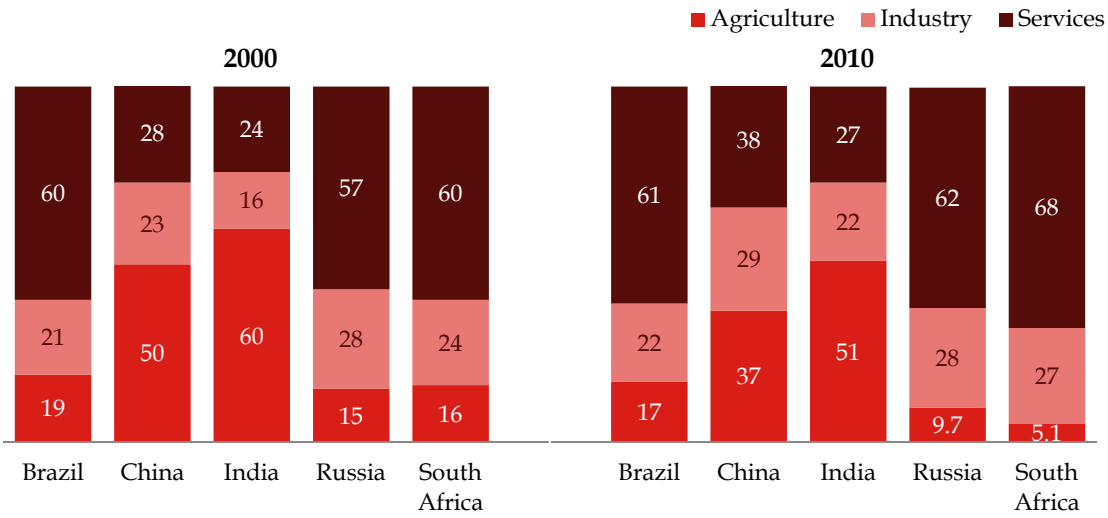
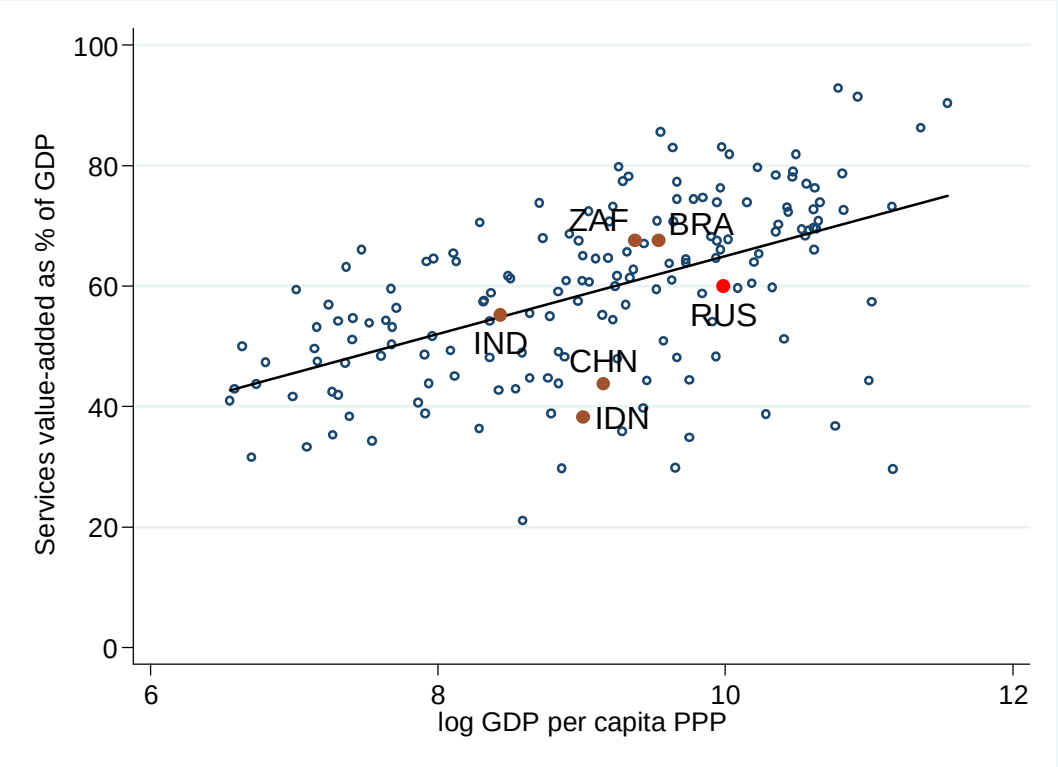
Figures and Tables

Figure 1. Employment by Sector, 2000 and 2010



Source: World Development Indicators.
Note: Figures for Brazil and Russia are for 2009 rather than 2010.

Figure 2. Services Value Added and Level of Country Development, 2013



Source: World Development Indicators.
Notes: GDP = Gross Domestic Product; PPP = Purchasing Power Parity. BRA = Brazil, CHN = China, IND = India, RUS = Russia, ZAF = South Africa.

Figure 3. Value Added by Sector, Russia and Peers, 1990–2013

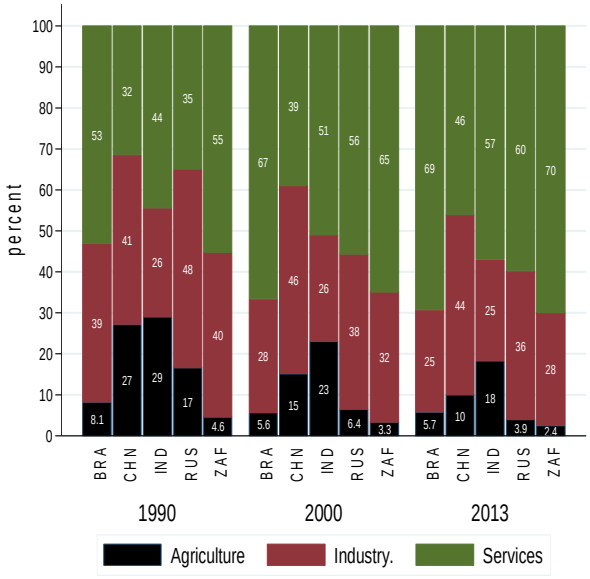
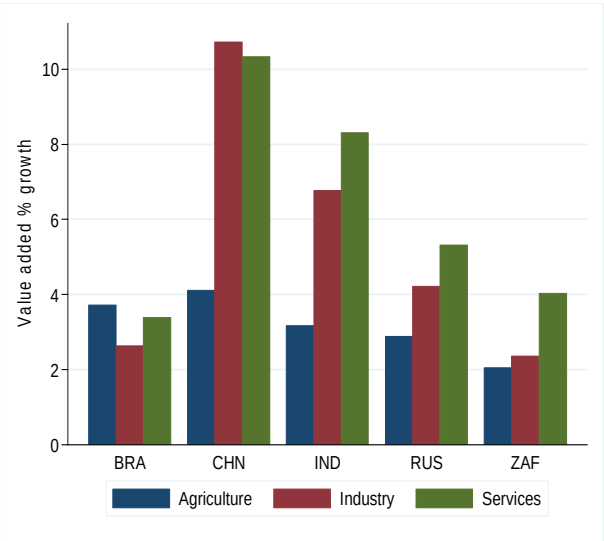


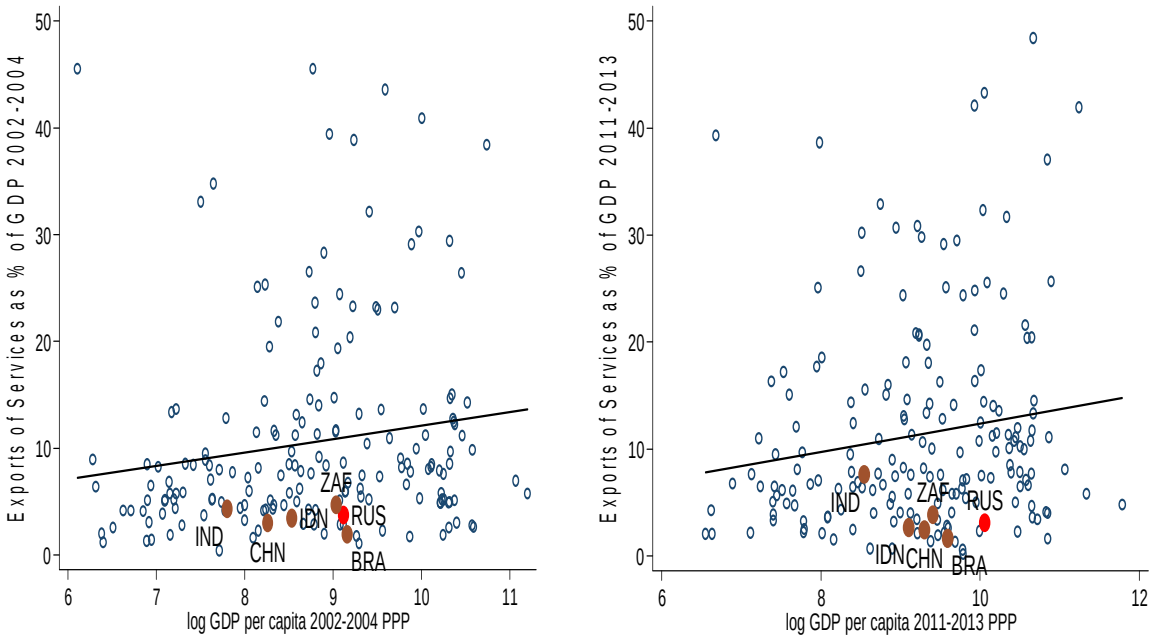
Figure 4. Growth in Value Added by Sector, Russia and Peers, 2000–13



Source: World Development Indicators.
Notes: BRA = Brazil, CHN = China, IND = India, RUS = Russia, ZAF = South Africa.

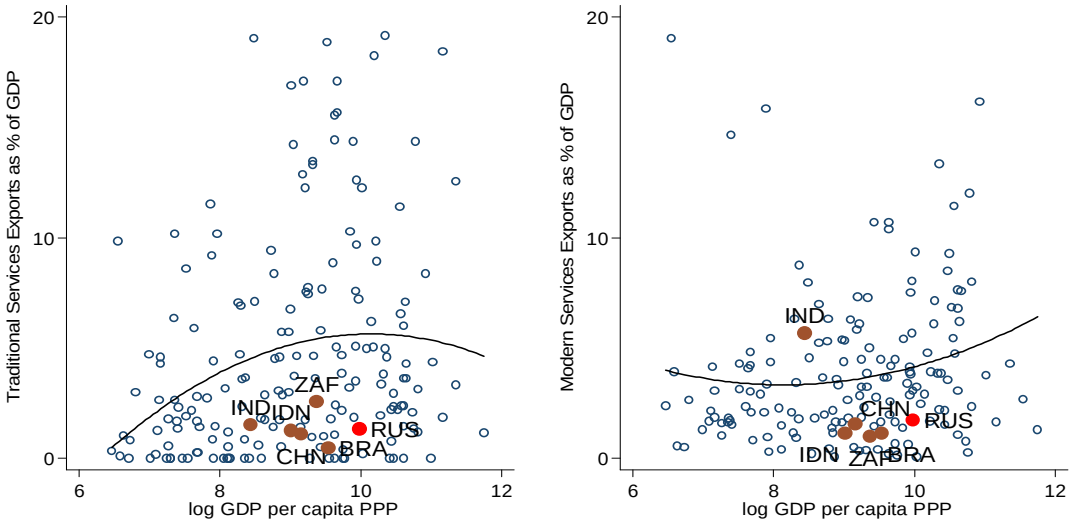
Figure 5. Services Exports and Level of Development

A. 2002–04 **B. 2011–13**



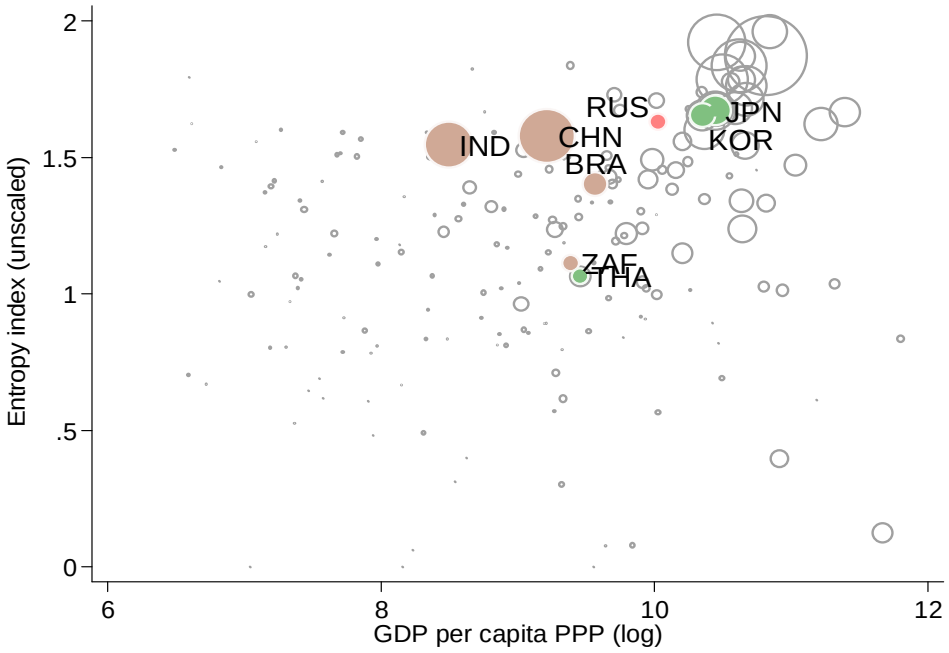
Source: World Development Indicators.
Notes: GDP = Gross Domestic Product; PPP = Purchasing Power Parity; BRA = Brazil, CHN = China, IND = India, RUS = Russia, ZAF = South Africa.

Figure 6. Modern vs. Traditional Exports and Level of Development, 2011–13



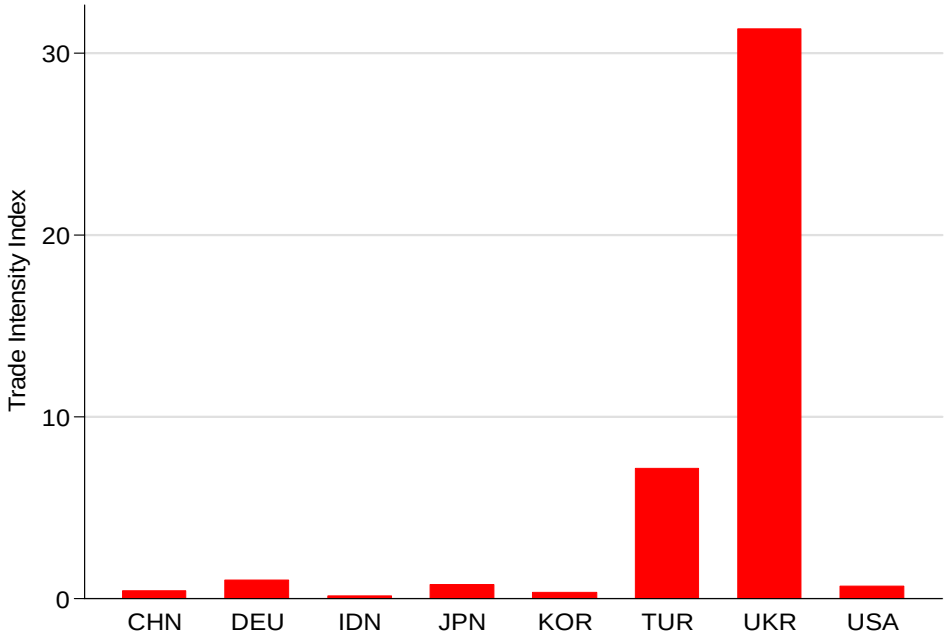
Source: World Development Indicators.
Notes: GDP = Gross Domestic Product; PPP = Purchasing Power Parity; BRA = Brazil, CHN = China, IND = India, RUS = Russia, ZAF = South Africa.

Figure 7. Diversification and Development, Russia and Peers, 2000–10



Source: World Bank Trade in Services database and WDI.
Notes: Theil's Entropy Index. Standard diversification measure. Measures the size of exports of each sector in relation to each other within a geographical unit. GDP = Gross Domestic Product; PPP = Purchasing Power Parity; USD = United States Dollars; BRA = Brazil, CHN = China, IND = India, RUS = Russia, ZAF = South Africa.

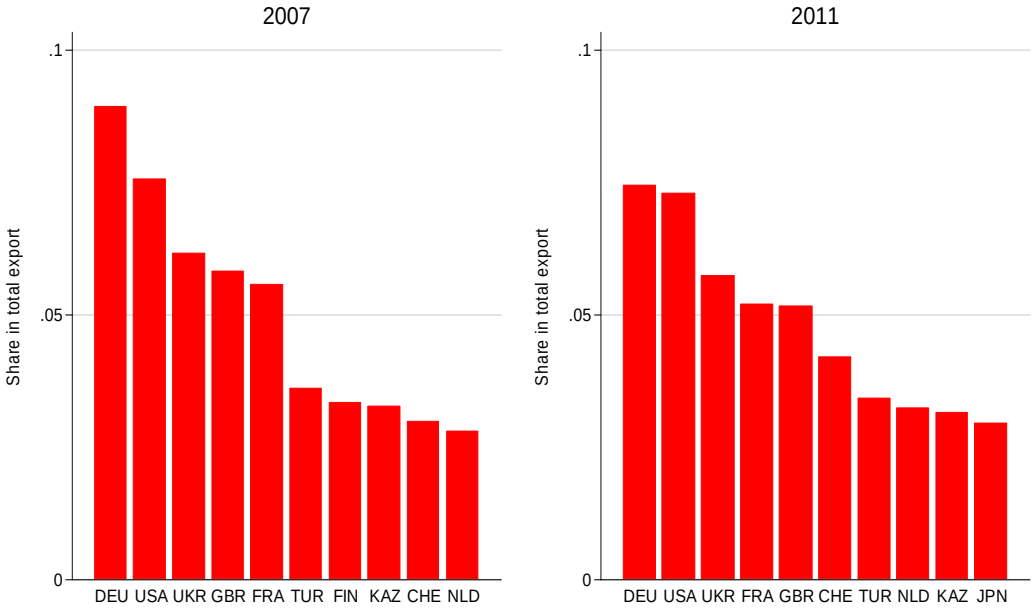
Figure 8: Russia's Trade Intensity, 2011



Source: World Bank Trade in Services Database.
Note: Trade Intensity Index (TII) is an index indicating the extent to which a country is present in the export market of a trading partner relative to other trade partner countries. CHN = China, DEU = Germany, IDN = Indonesia, KOR = Korea, ROM = Romania, TUR = Turkey, UKR = Ukraine, USA = United States of America.

Figure 9. Russia's Intensive Margin of Trade, 2007 and 2011

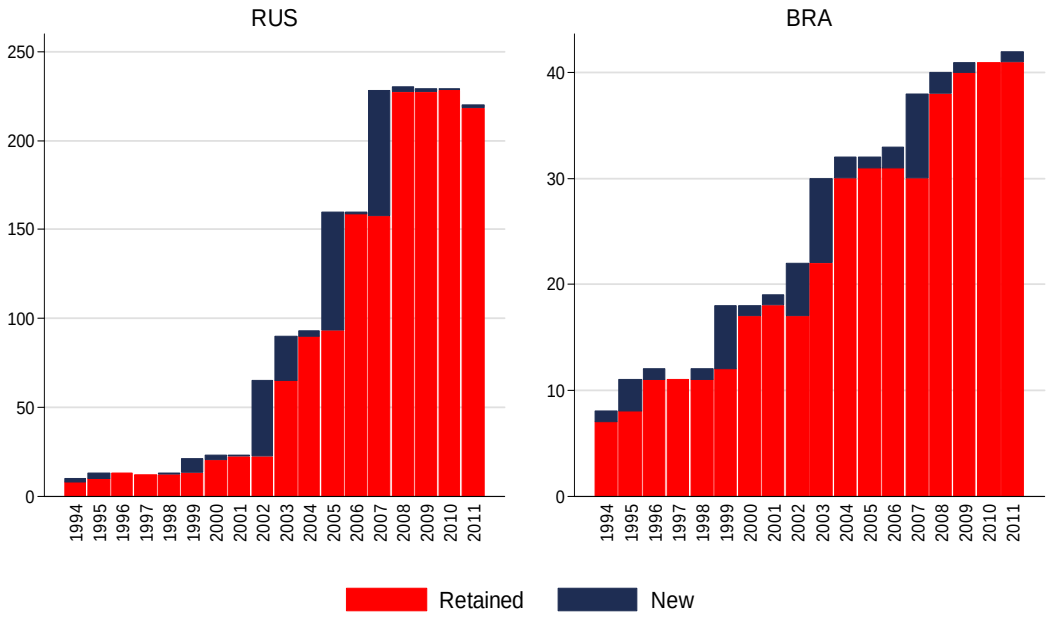
A. **B.**



Source: World Bank Trade in Services Database

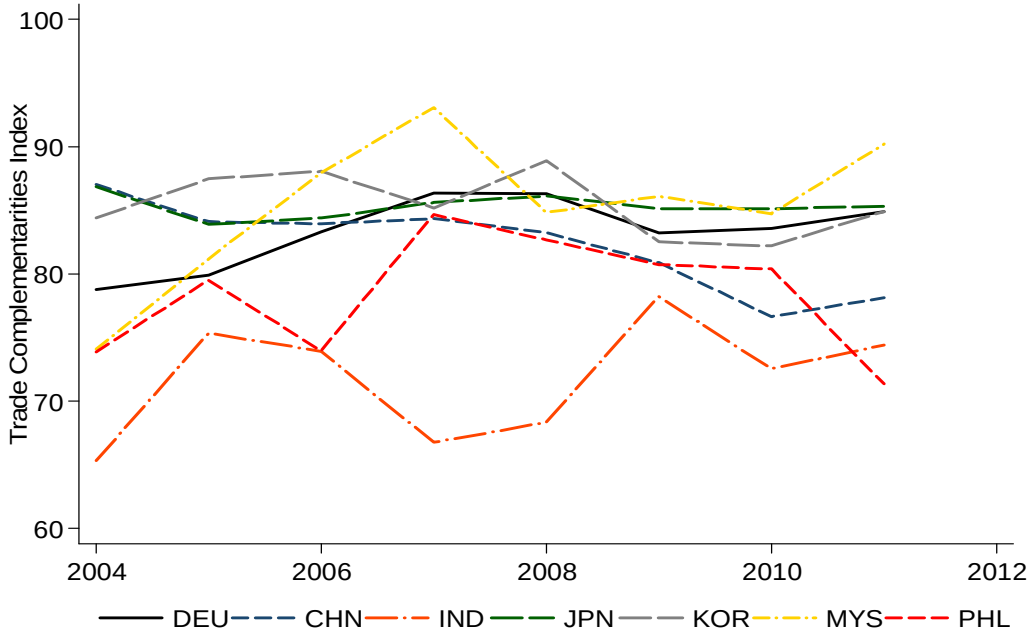
Note: Intensive margin is the indicator that assesses whether exports are growing because a country is exporting more of the same goods and services to the same market rather than exporting new goods and services or reaching new markets. DEU = Germany, USA = United States of America, UKR = Ukraine, GBR = Great Britain, FRA = France, TUR = Turkey, FIN = Finland, KAZ = Kazakhstan, CHE = Switzerland, NLD = Netherlands, JPN = Japan.

Figure 10. Extensive Margin of Trade, Russia and Brazil, 1994–2011



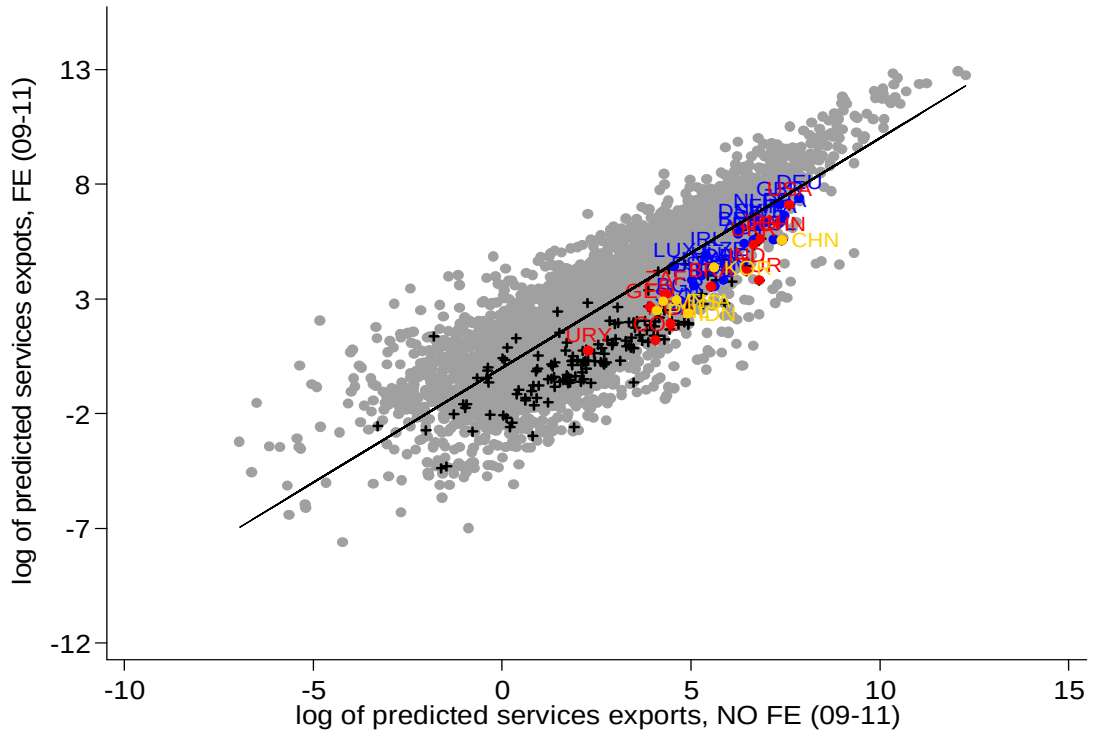
Source: World Bank Trade in Services Database.
Note: Extensive margin is an indicator that assesses whether exports are growing because a country is exporting new goods and services or reaching new markets rather than exporting more of the same goods and services to the same markets.

Figure 11. Trade Complementarity, Russia and Peers, 2004–11



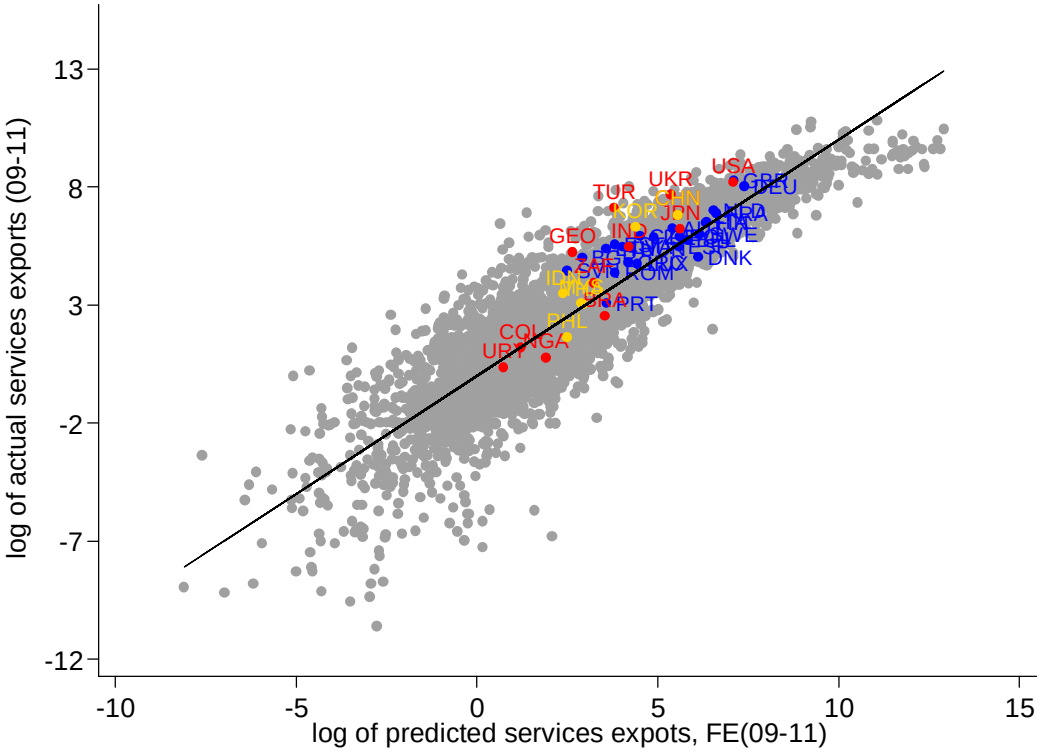
Source: World Bank Trade in Services Database.
Note: Trade Complementarities Index (TCI) is an index indicating extent to which a country's export profile is similar to a partner country's import profile. DEU = Germany, CHN = China, IND = India, JPN = Japan, KOR = Korea, MYS = Malaysia, PHL = Philippines

Figure 12. Predicted Trade Estimates with and without Fixed Effects, 2009–11



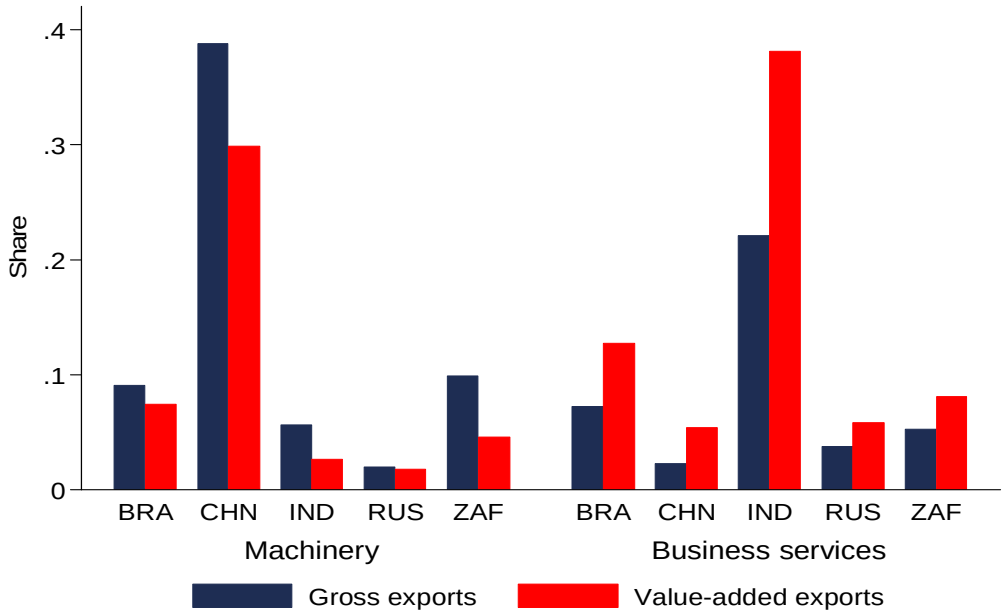
Source: WDI, Trade In Services database, World Bank (TIS), STRI, and Centre d'Etudes Prospectives et d'Informations Internationales (CEPII).
Notes: In the figure, Russia's bilateral exports with other EU countries are in blue and are labelled according to their 3-digit ISO-country code. Also included are other countries with whom Russia trades, shown in red (other middle-income countries) and yellow (East and South East Asian countries); plus a 45-degree line is depicted. FE = Fixed Effects, BGR = Bulgaria, AUT = Austria, BEL = Belgium, CZE = Czech Republic, DNK = Denmark, EST = Estonia, FIN = Finland, FRA = France, DEU = Germany, GRC = Greece, HUN = Hungary, IRL = Ireland, ITA = Italy, LVA = Latvia, LTU = Lithuania, LUX = Luxembourg, NLD = Netherlands, POL = Poland, PRT = Portugal, ROM = Romania, SVN = Slovenia, ESP = Spain, SWE = Sweden, GBR = Great Britain, RUS = Russia, GEO = Georgia, UKR = Ukraine, TUR = Turkey, COL = Colombia, NGA = Nigeria, URY = Uruguay, USA = United States of America, CHN = China, JPN = Japan, BRA = Brazil, ZAF = South Africa, IND = India, IDN = Indonesia, CHN = China, KOR = Korea, MYS = Malaysia, JAP, Japan, THA = Thailand, PHL = Philippines.

Figure 13. Gravity Model of Russia's Services Exports, 2009–11



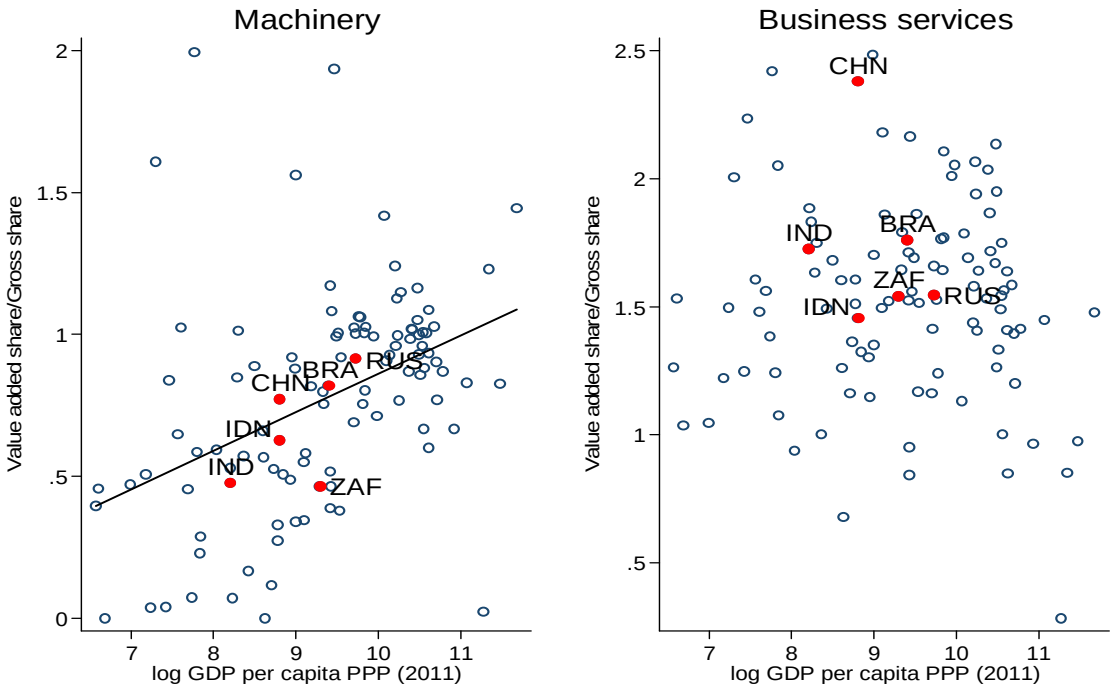
Source: World Development Indicators, TIS, STRI, and CEPII.
Note: Bilateral trade between Russia and EU countries is given in blue; other countries with whom Russia trades are in red. East and South-East Asian countries, such as Japan, China, Korea, and Indonesia, are in yellow

Figure 14. Gross Exports and Value-added Shares for Goods and Services, 2011



Source: World Bank Trade Value Added Database and Francois et al, 2013
Note: Business services were chosen because in recent years this has been the most dynamic services category.

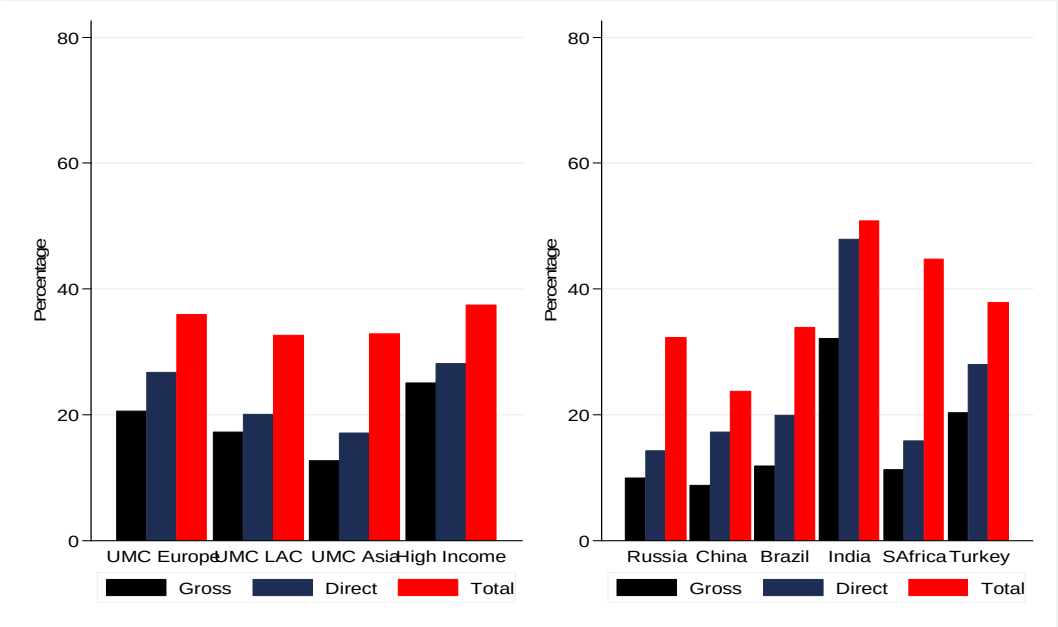
Figure 15. Export Value Added / Gross Export Share against Development, 2011



Source: World Bank Trade Value Added Database and Francois et al, 2013.
Note: Business services was chosen because in recent years this has been the most dynamic services category. GDP = Gross Domestic Product, PPP = Purchasing Power Parity, BRA = Brazil, CHN = China, IND = India, RUS = Russia, ZAF = South Africa.

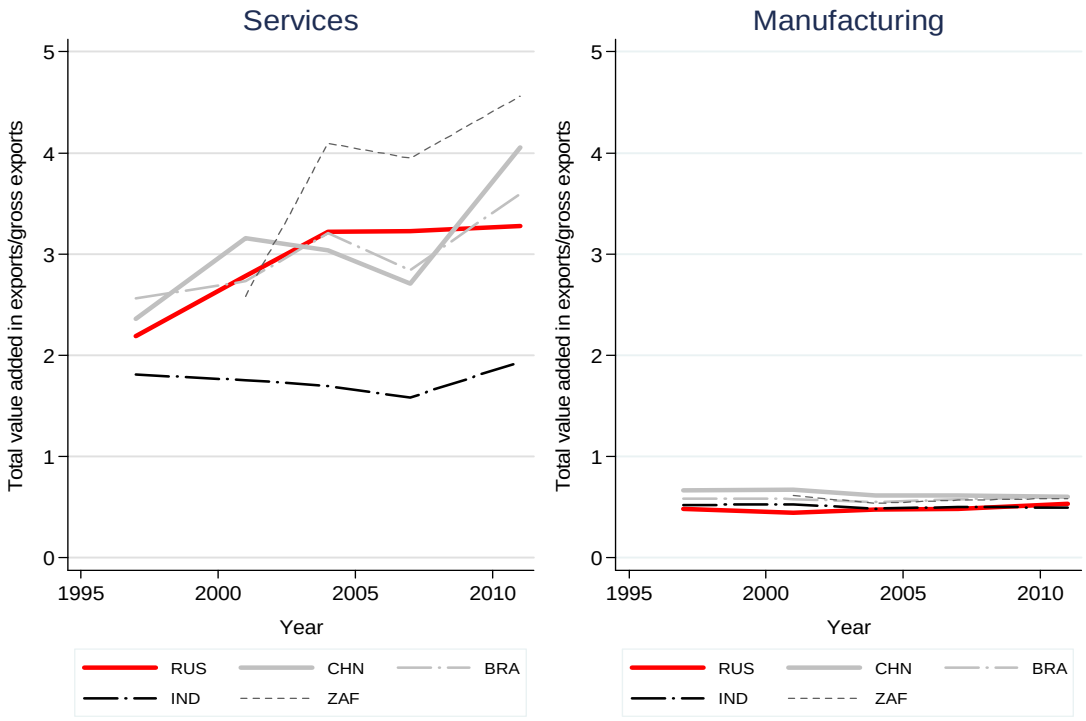
Figure 16. Share of Services Exports in Total Exports, 2011

A. B.



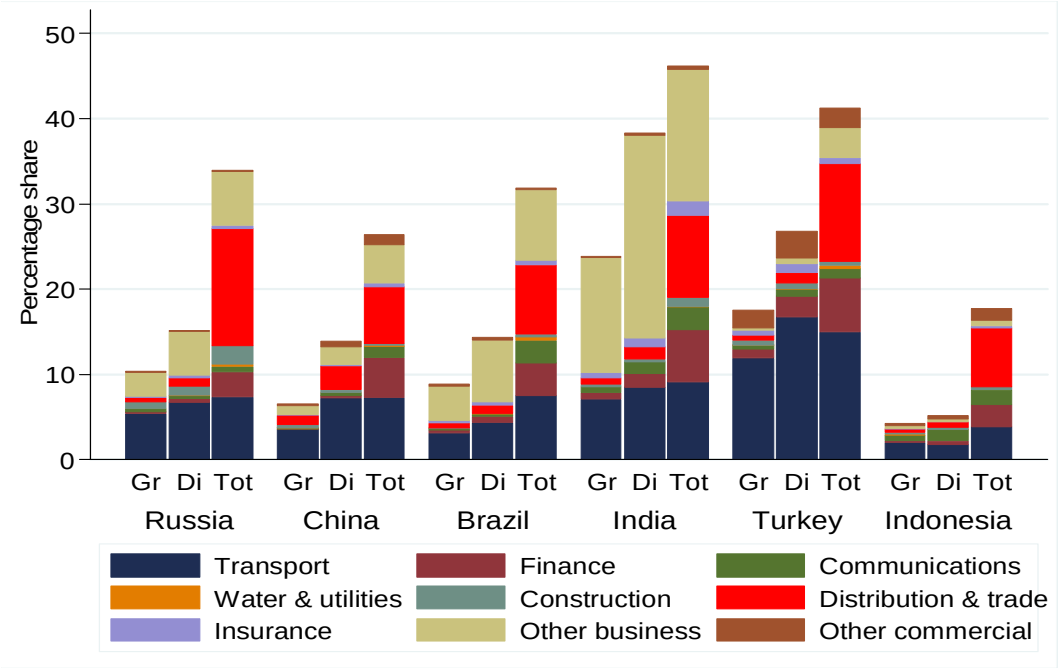
Source: World Bank Trade Value Added Database and Francois et al., 2013.
Note: Gross = Gross Exports, Direct = Direct value-added exports; Total = Direct value-added and forward linkages exports, UMC = Upper Middle-income Countries,

Figure 17. Ratio of Total Value-added Exports (with Forward Linkages) to Gross Exports



Source: World Bank Trade Value Added Database and Francois et al., 2013.
Note: RUS = Russia, CHN = China, BRA = Brazil, IND = India, ZAF = South Africa

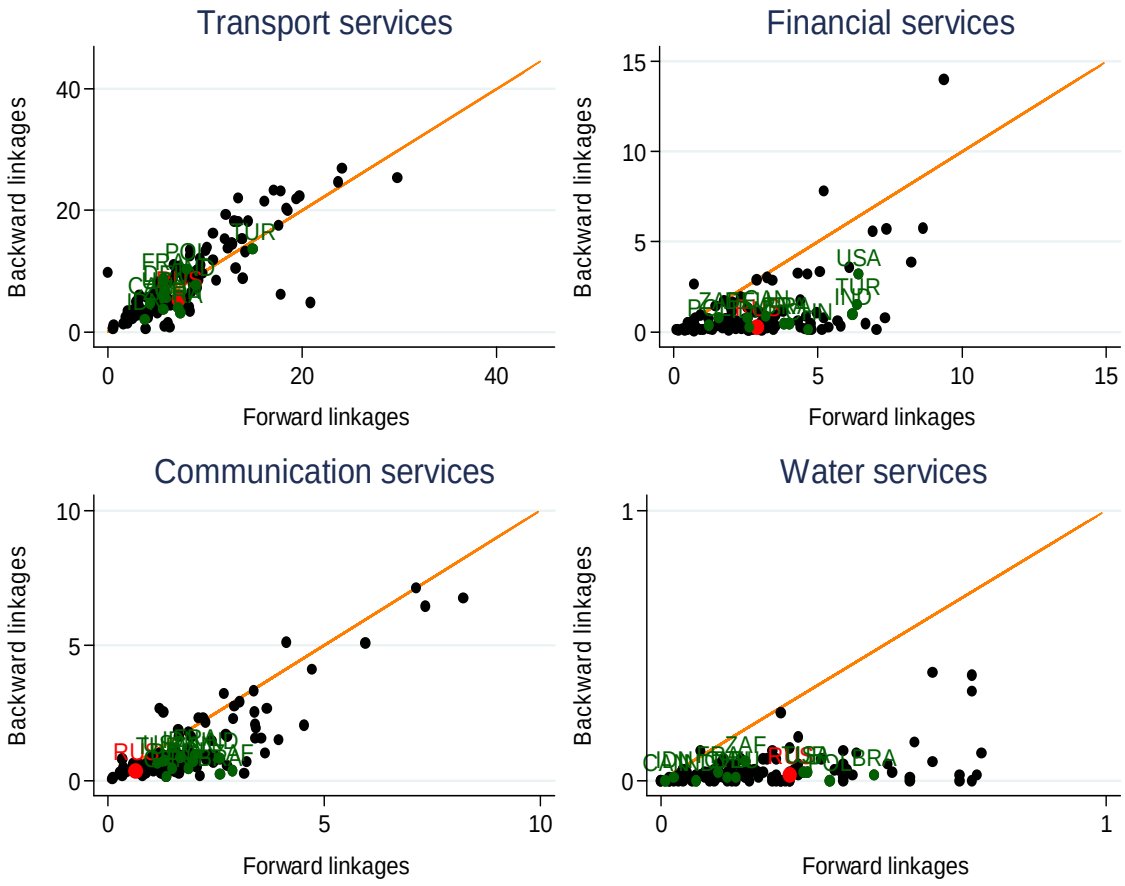
Figure 18. Share of Services Exports in Total Exports by Services Type, 2011



Source: World Bank Trade Value Added Database and Francois et al, 2013.
Notes: Gr: Gross share; Di: direct share; and Tot: direct + forward linkages

Figure 19. Backward and Forward Linkages, Export of Selected Services, 2011

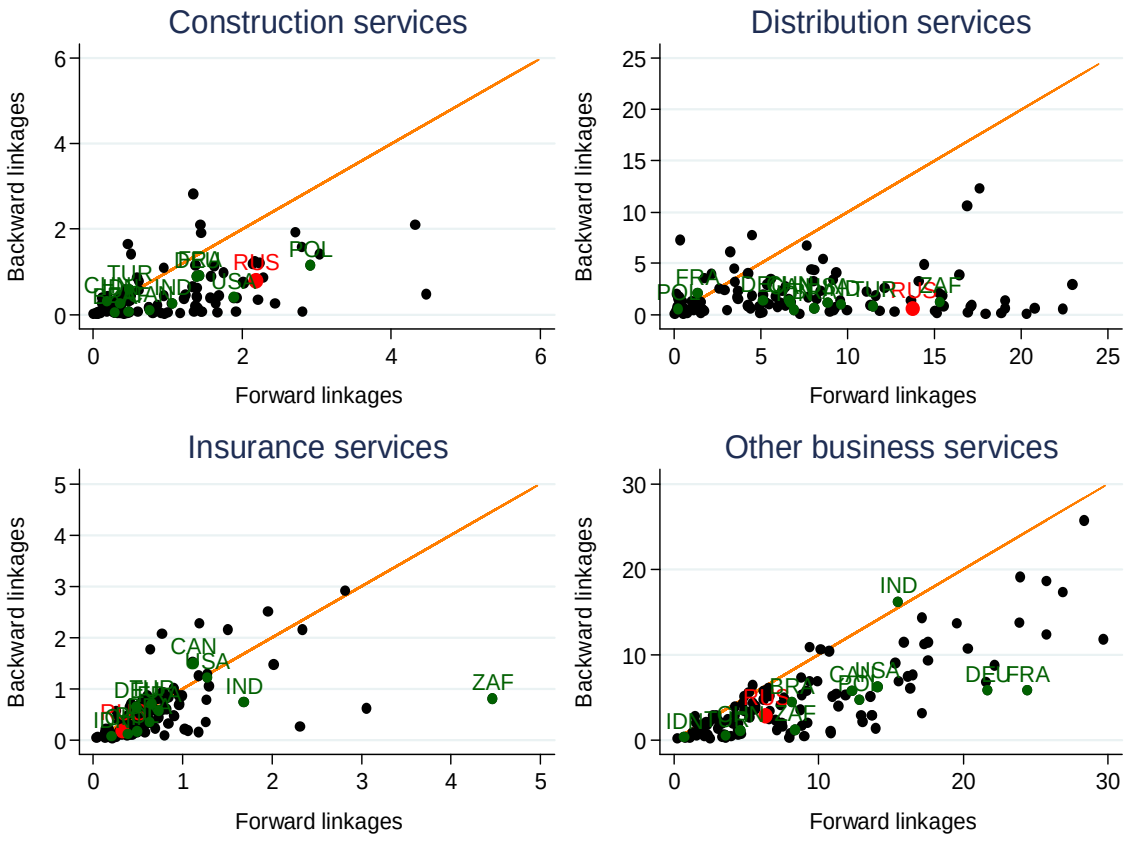
(Panel 1)



Source: World Bank Trade Value Added Database and Francois et al., 2013.
Notes: BGR = Bulgaria, AUT = Austria, BEL = Belgium, CZE = Czech Republic, DNK = Denmark, EST = Estonia, FIN = Finland, FRA = France, DEU = Germany, GRC = Greece, HUN = Hungary, IRL = Ireland, ITA = Italy, LVA = Latvia, LTU = Lithuania, LUX = Luxembourg, NLD = Netherlands, POL = Poland, PRT = Portugal, ROM = Romania, SVN = Slovenia, ESP = Spain, SWE = Sweden, GBR = Great Britain, RUS = Russia, GEO = Georgia, UKR = Ukraine, TUR = Turkey, COL = Colombia, NGA = Nigeria, URY = Uruguay, USA = United States of America, CHN = China, JPN = Japan, BRA = Brazil, ZAF = South Africa, IND = India, IDN = Indonesia, CHN = China, KOR = Korea, MYS = Malaysia, JAP, Japan, THA = Thailand, PHL = Philippines.

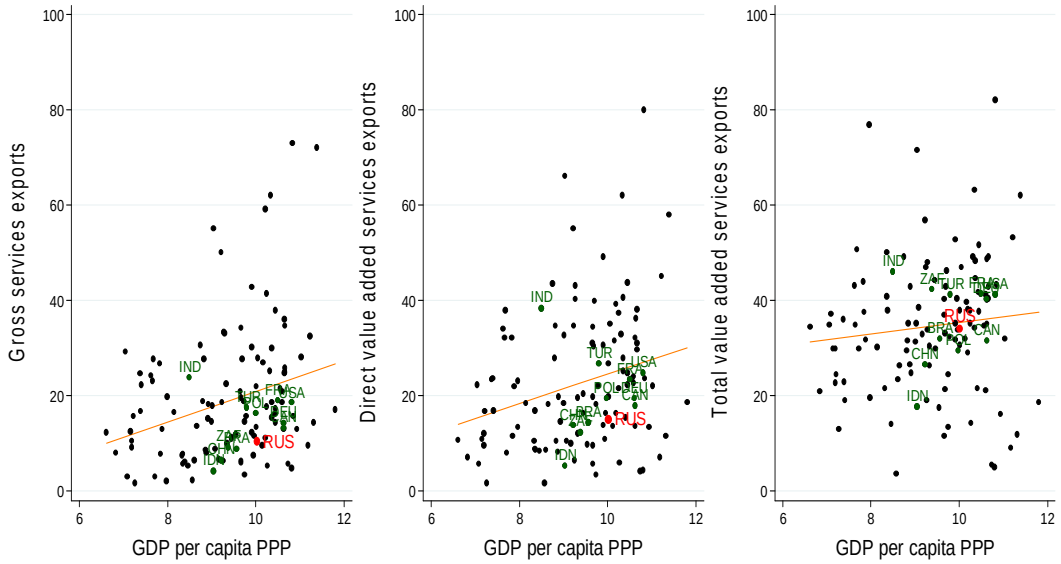
Figure 20. Backward and Forward Linkages, Export of Selected Services, 2011

(Panel 2)



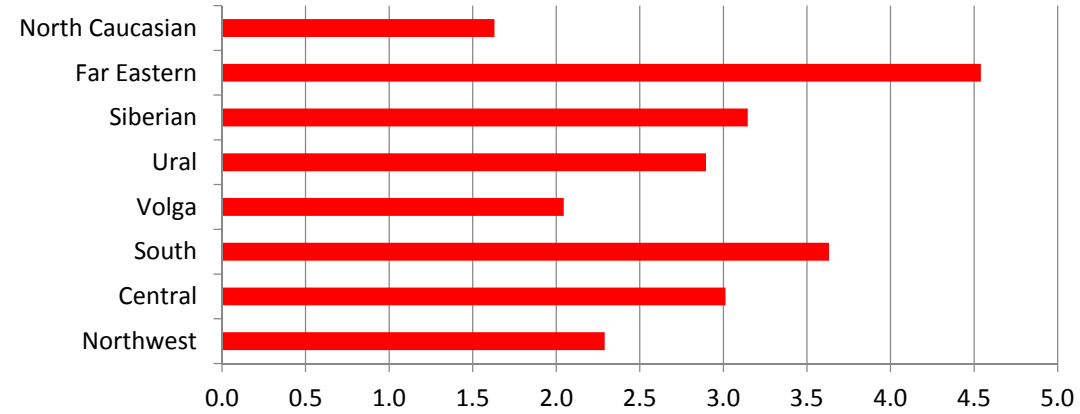
Source: World Bank Trade Value Added Database and Francois et al., 2013.
Notes: BGR = Bulgaria, AUT = Austria, BEL = Belgium, CZE = Czech Republic, DNK = Denmark, EST = Estonia, FIN = Finland, FRA = France, DEU = Germany, GRC = Greece, HUN = Hungary, IRL = Ireland, ITA = Italy, LVA = Latvia, LTU = Lithuania, LUX = Luxembourg, NLD = Netherlands, POL = Poland, PRT = Portugal, ROM = Romania, SVN = Slovenia, ESP = Spain, SWE = Sweden, GBR = Great Britain, RUS = Russia, GEO = Georgia, UKR = Ukraine, TUR = Turkey, COL = Colombia, NGA = Nigeria, URY = Uruguay, USA = United States of America, CHN = China, JPN = Japan, BRA = Brazil, ZAF = South Africa, IND = India, IDN = Indonesia, CHN = China, KOR = Korea, MYS = Malaysia, JAP, Japan, THA = Thailand, PHL = Philippines.

Figure 21. Services Exports, Value Added to Other Exports, and Level of Development, 2011



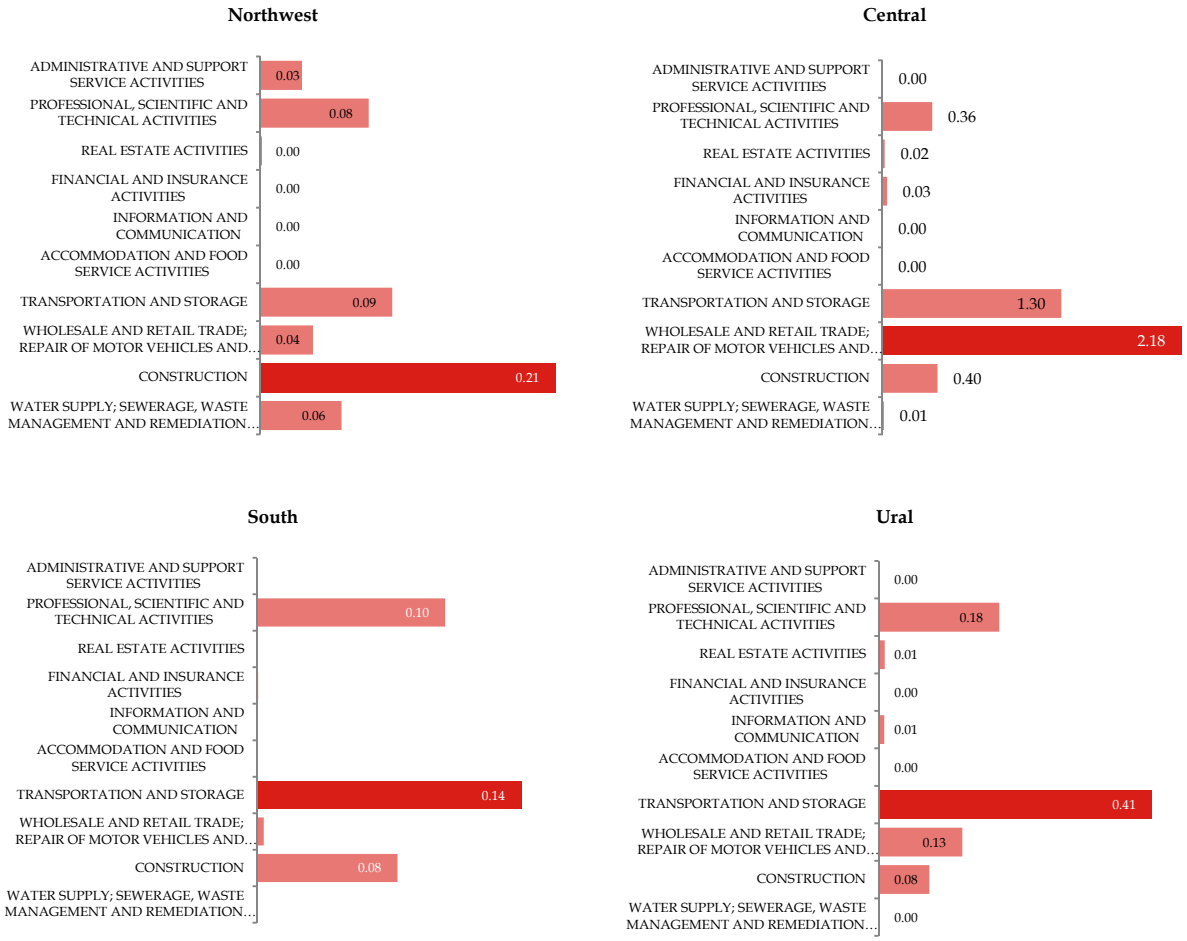
Source: World Bank Trade Value Added Database and Francois et al., 2013.
Notes: RUS = Russia, BRA = Brazil, IND = India, CHN = China, ZAF = South Africa, IDN = Indonesia, FRA = France, USA = United States of America, TUR = Turkey, CAN = Canada, POL = Poland, DEU = Germany.

Figure 22. Services Revenue as Percent of Total Revenue, all Regional Firms



Source: RUSLANA.

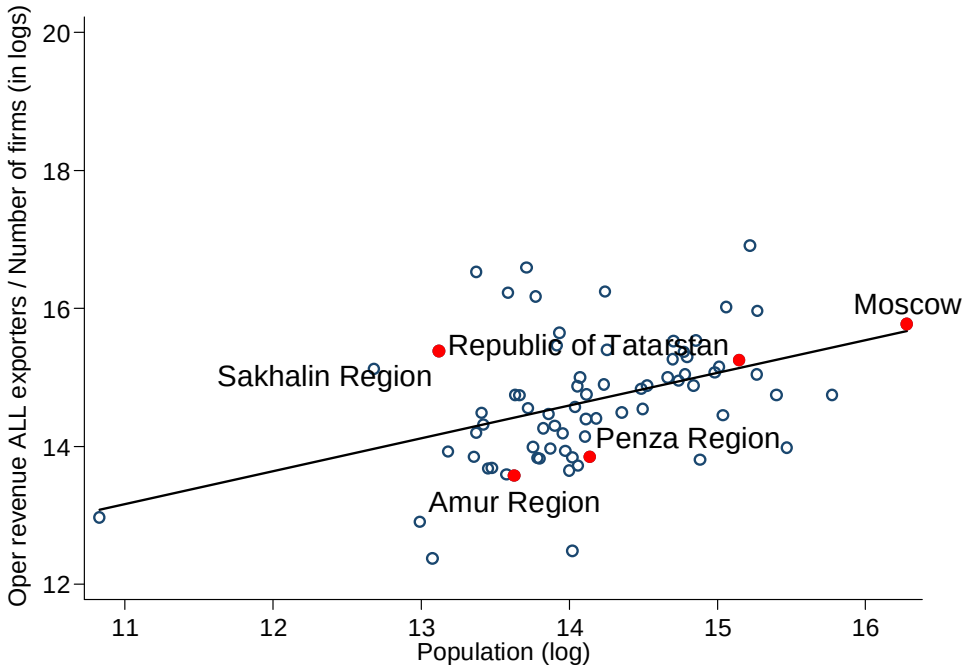
Figure 23. Services Exporter Revenue Density, Selected Regions



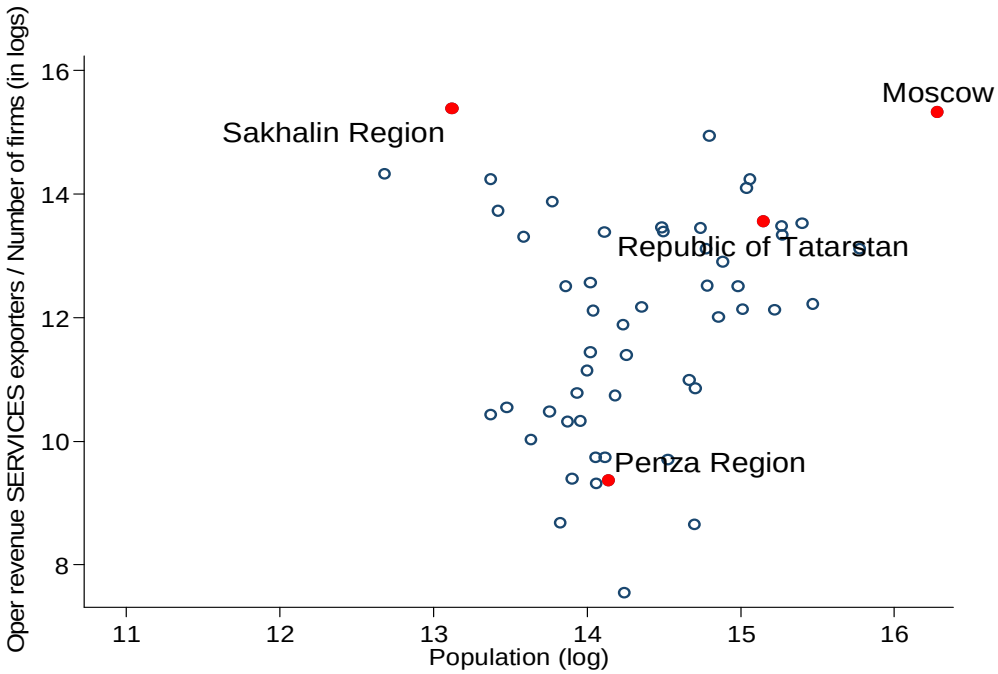
Source: RUSLANA.
Note: Per capita density is per million population.

Figure 24. Export Revenue and Market Size by District

B. **Revenue from all exports**

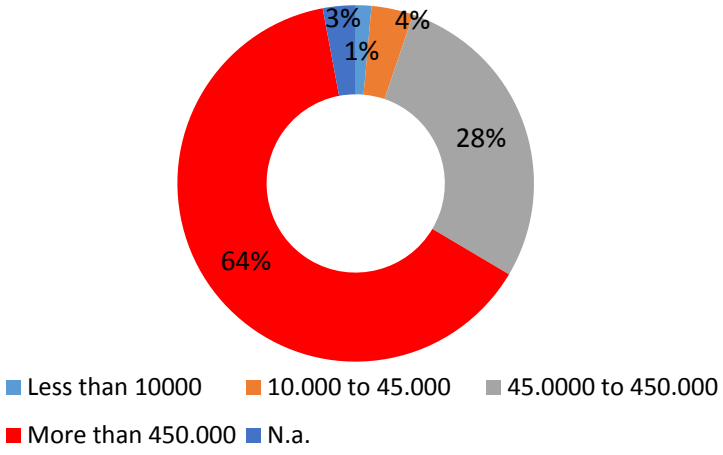


B. Revenue from services exports



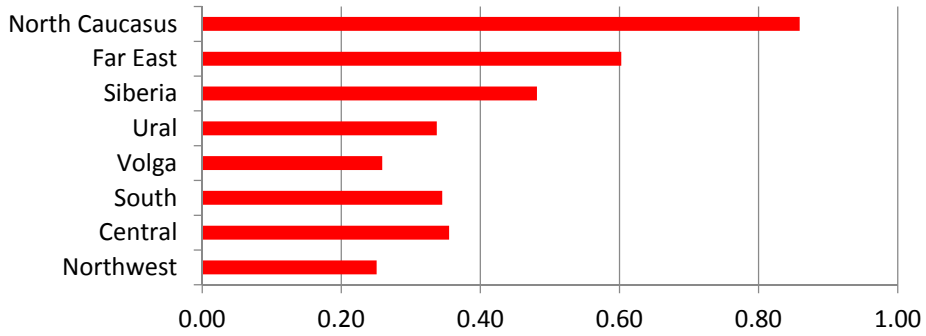
Source: RUSLANA.

Figure 25. Distribution by Size of Firms Exporting Services.



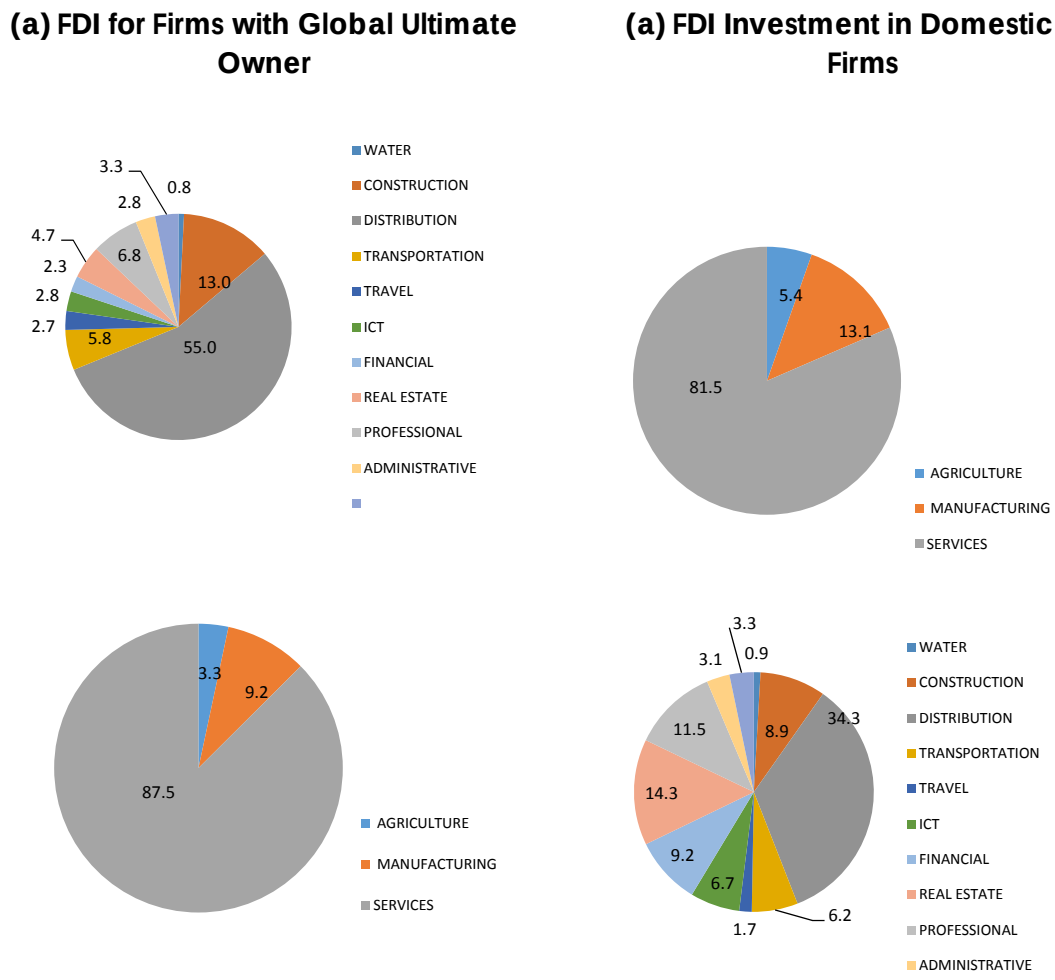
Source: RUSLANA.

Figure 26. Market Concentration (HHI Index) by Region



Source: RUSLANA.

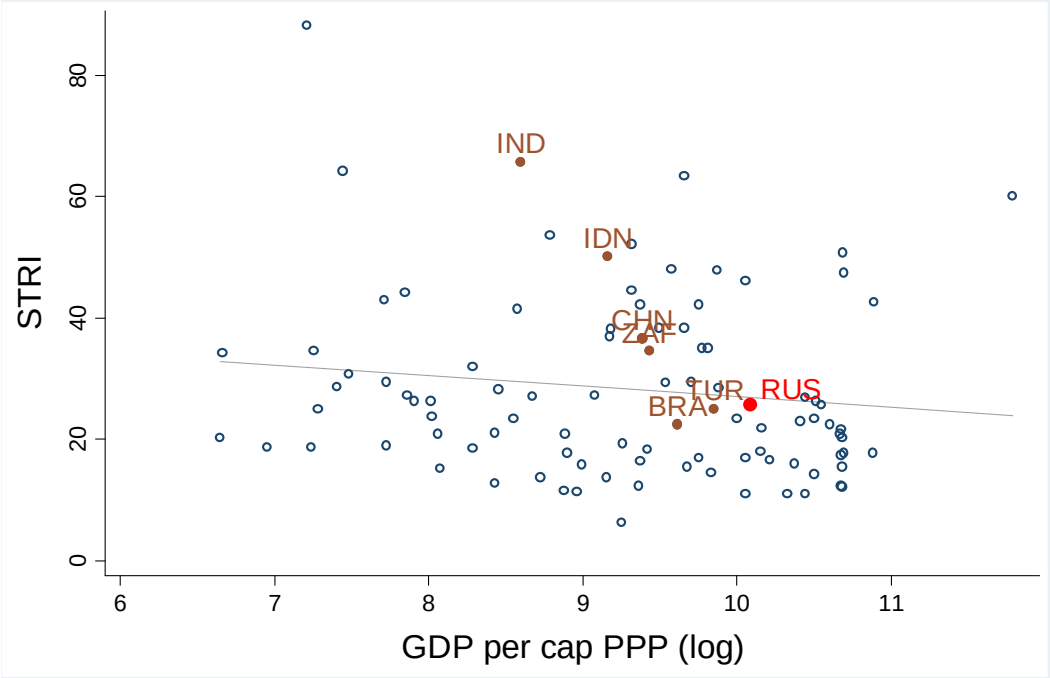
Figure 27. Distribution of FDI by Region, Number of Firms



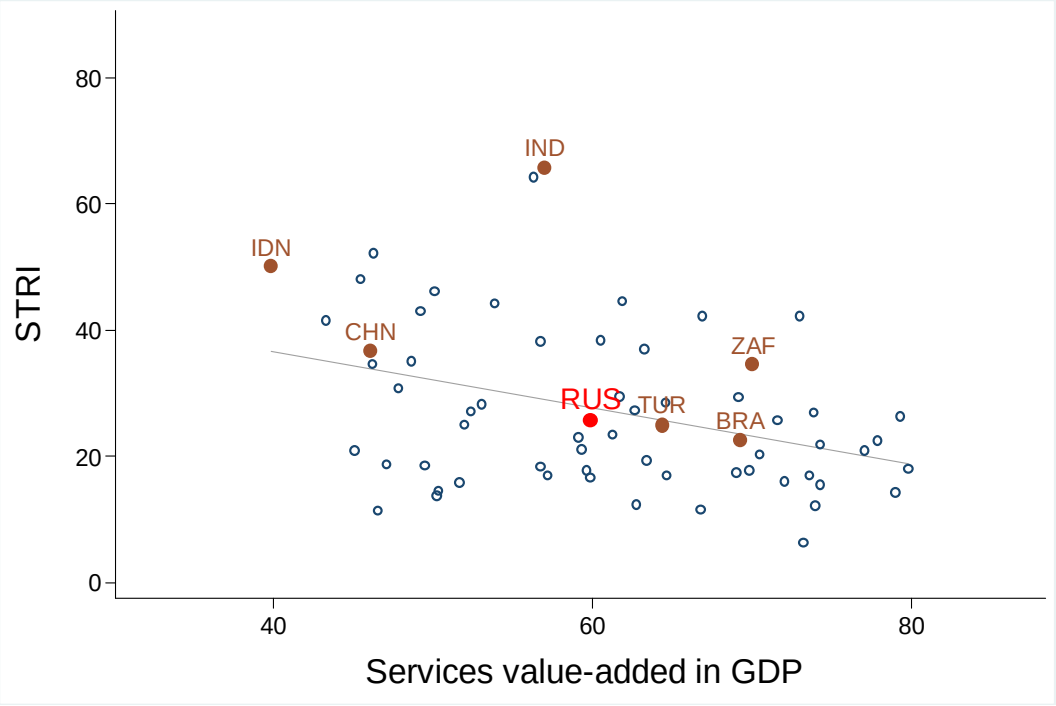
Source: RUSLANA.

Figure 28, Restrictions in Services, Development, and Services Value Added in GDP, 2013

C. STRI and Development



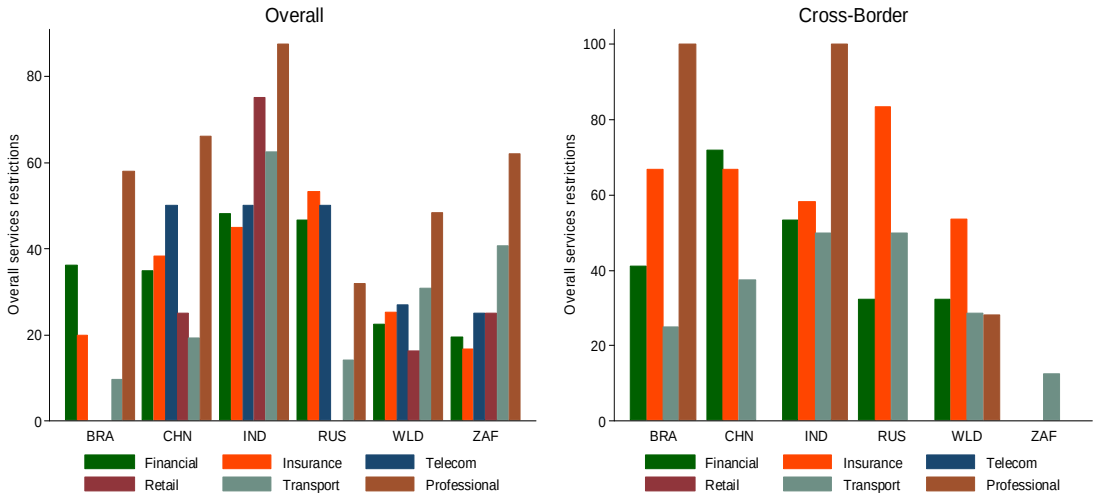
B. STRI and Services Value Added



Source: Borchert et al, 2012a, 2012b, and WDI

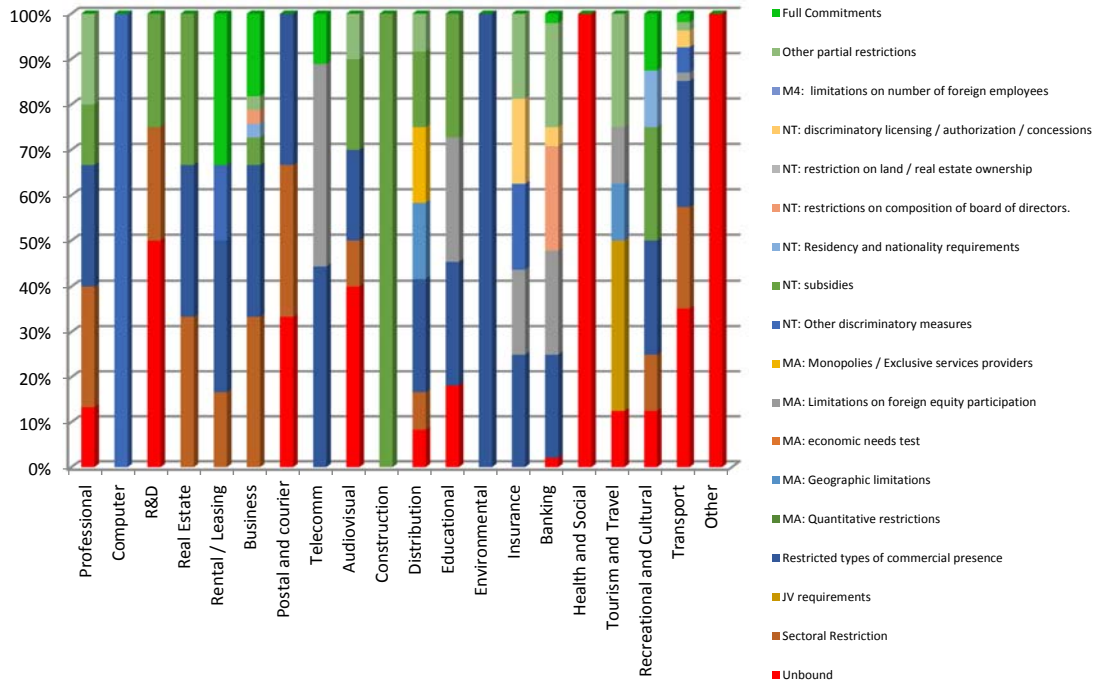
Notes: GDP = Gross Domestic Product, STRI = Services Trade Restrictiveness Index; RUS = Russia, BRA = Brazil, CHN = China, IDN = Indonesia, IND = India, TUR = Turkey, ZAF = South Africa.

Figure 29. Overall & Cross-border Restrictions on Services Trade, Russia and Peers, 2008 – 09



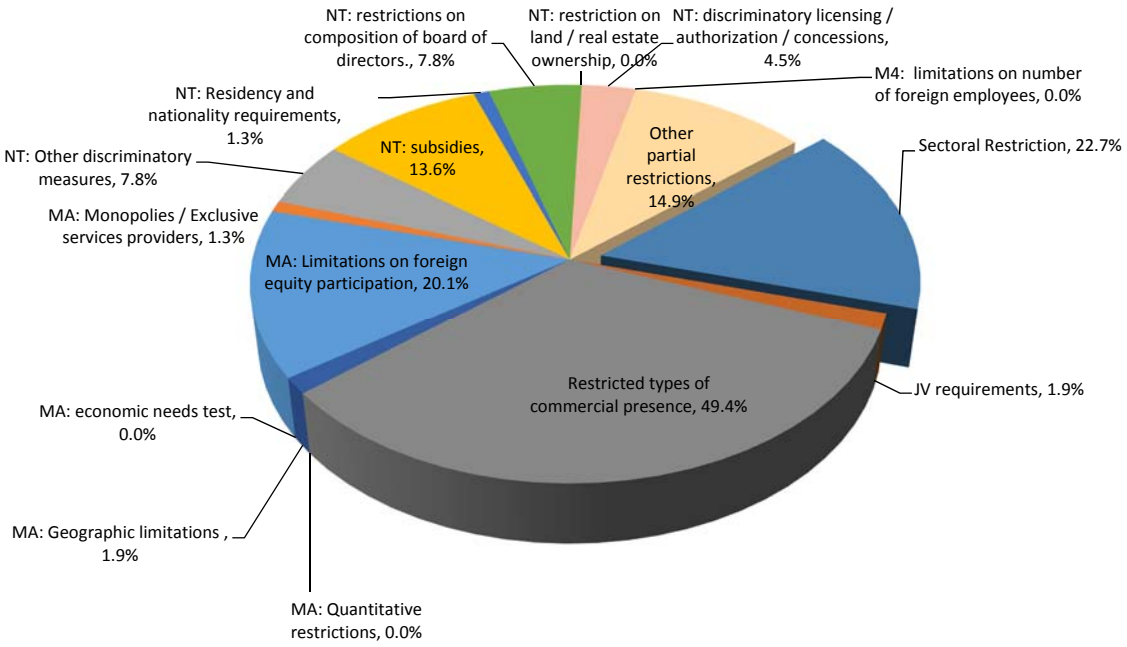
Source: Borchert et al, 2012a, 2012b, and WDI; GDP = Gross Domestic Product, STRI = Services Trade Restrictiveness Index; RUS = Russia, BRA = Brazil, CHN = China, IDN = Indonesia, IND = India, TUR = Turkey, ZAF = South Africa.

Figure 30. Russian Federation: GATS Terms by Sector and Measures, Percent



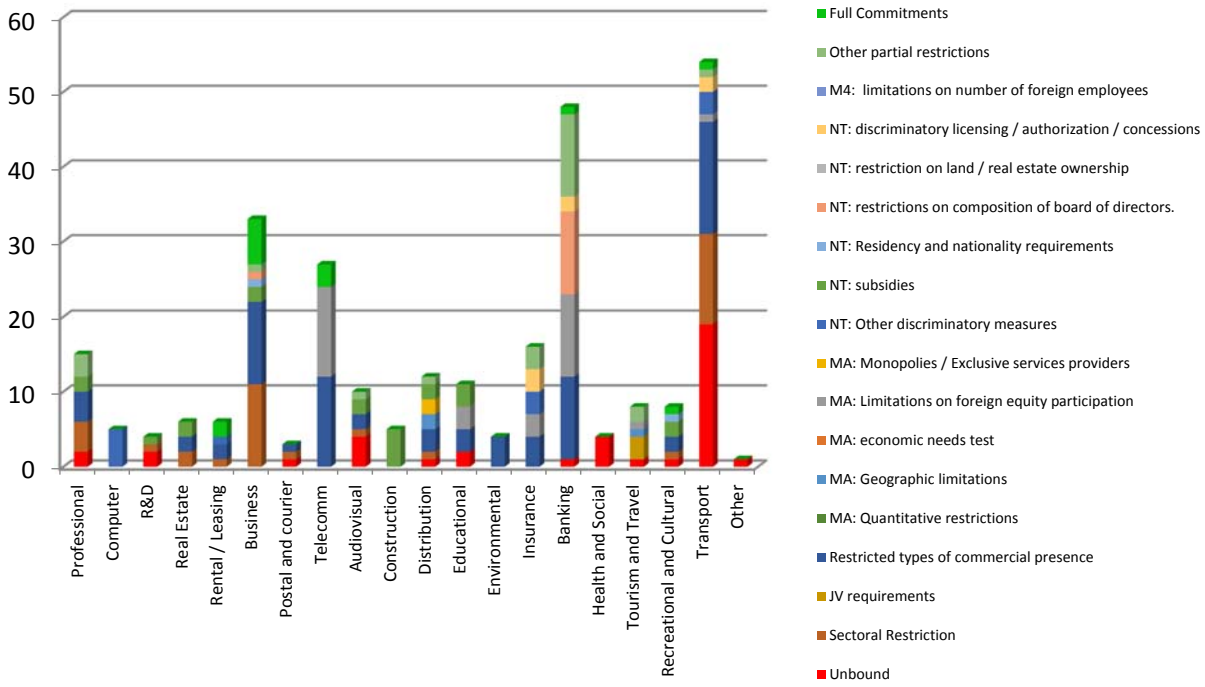
Source: WTO, WT/ACC/RUS/70/Add.2, WT/MIN(11)/2/Add.2, 17 November 2011.

Figure 31. Russian Federation: Type of Limitations Scheduled under GATS commitments



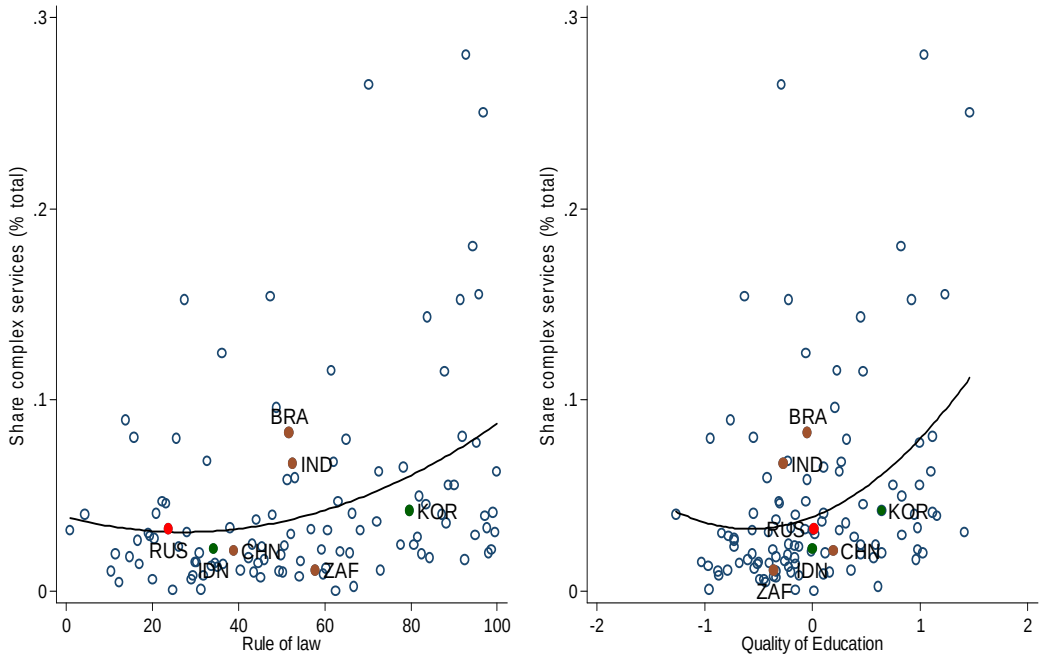
Source: WTO, WT/ACC/RUS/70/Add.2, WT/MIN(11)/2/Add.2, 17 November 2011.

Figure 32. Russian Federation: GATS commitments by Sector and Type of Measures



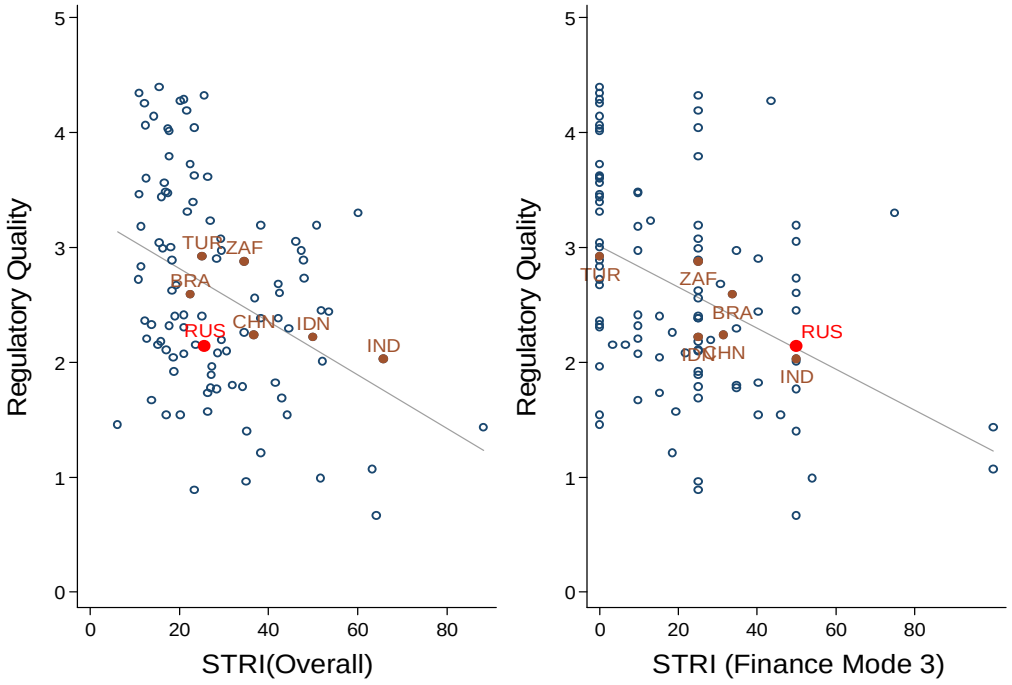
Source: WTO, WT/ACC/RUS/70/Add.2, WT/MIN(11)/2/Add.2, 17 November 2011.

Figure 33. Complexity of Services and the Rule of Law, 2011



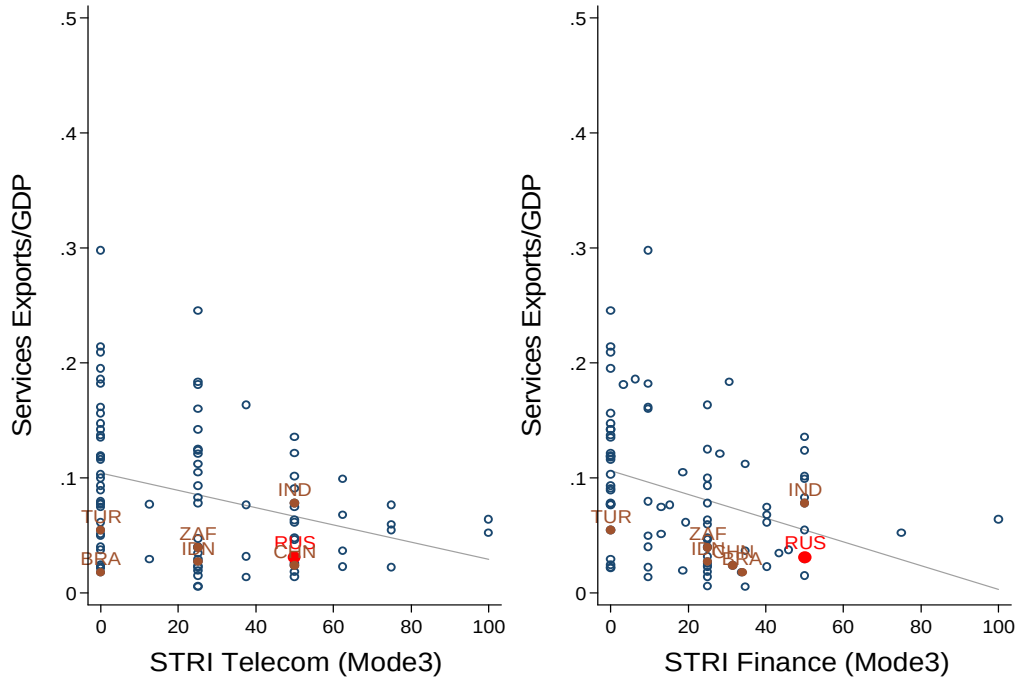
Source: World Bank Trade in Services Database; Governance Indicators.
Notes: WEF; BRA = Brazil, CHN = China, IND = India, RUS = Russia, WLD = World, ZAF = South Africa, IDN = Indonesia, KOR = Korea.

Figure 34. Services Trade Barriers and Regulation, 2012



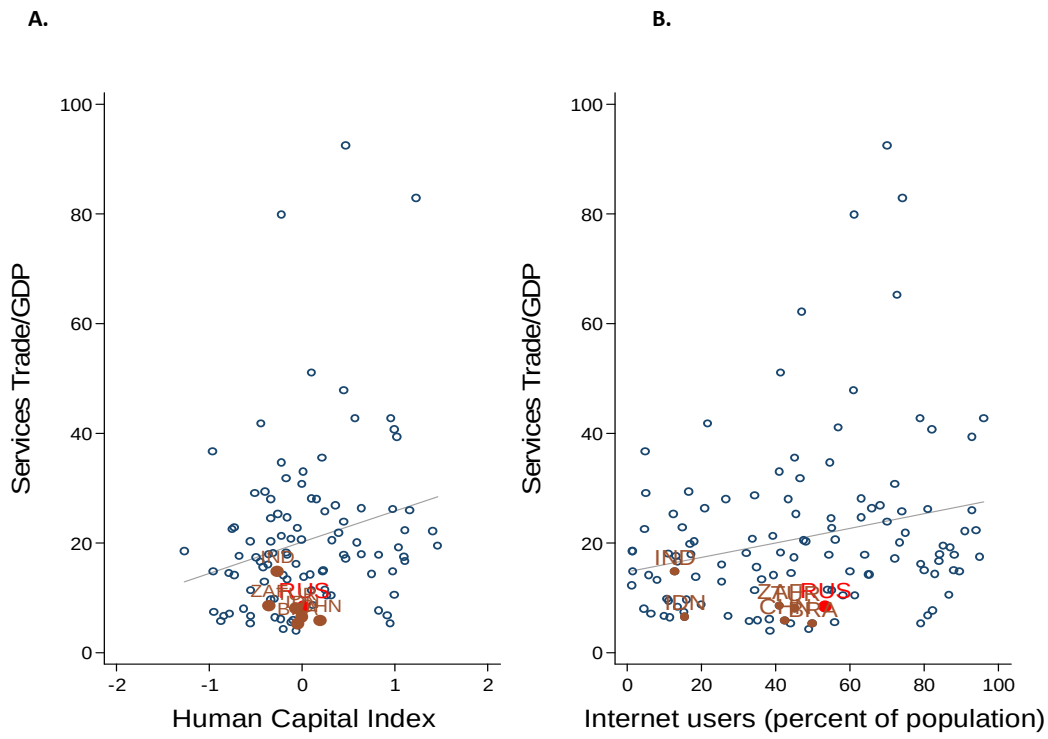
Source: World Bank Governance Indicators; STRI.
Notes: BRA = Brazil, CHN = China, IND = India, RUS = Russia, WLD = World, ZAF = South Africa, IDN = Indonesia, KOR = Korea.

Figure 35. Barriers to Direct investment Services and Cross-border Services Trade, 2012



Source: World Bank Governance Indicators; STRI.
Note: The horizontal axis shows the World Bank's STRI index for direct investment in telecommunications (left panel) and financial services (right panel) since Russia still shows more restrictions on direct investment for these sectors. Both vertical axes depict services trade (in logs) for cross-border trade and consumption abroad. BRA = Brazil, CHN = China, IND = India, RUS = Russia, WLD = World, ZAF = South Africa, IDN = Indonesia, KOR = Korea.

Figure 36. Services Trade and Endowments, 2013



Source: World Development Indicators; World Economic Forum.
Notes: GDP = Gross Domestic Product. RUS = Russia, BRA = Brazil, IND = India, IDN = Indonesia, TUR = Turkey, CHN = China. Panel A shows the simple relationship between a country's human capital index and the extent of services exports in GDP. In addition to the number of people with an educational degree, the x-axis also takes into account qualitative aspects of education at all levels and information on both the present and the future workforce. This proxy is taken from the World Economic Forum's Human Capital Report.

Table 1. Shares of Disaggregated Services in Other Commercial Services Exports, 2005 and 2011–13, (percent)

	Brazil		China		Indonesia		India		Mexico		Russia		Turkey	
	2005	2011-13	2005	2011-13	2005	2011-13	2005	2011-13	2005	2011-13	2005	2011-13	2005	2011-13
Construction	0.1	0.1	2.9	7.1	3.7	3.2	0.7	0.6	0	0	11.6	7.9	3.2	3
Financial	3.7	7.4	0.2	0.7	2.8	1.4	2.2	4.3	0	0	1.4	2.2	1.3	1.4
Insurance	1	1.4	0.6	1.7	0.1	0.1	1.8	1.8	9.9	13.1	1.1	0.7	1.2	2.1
Intellectual property	0.7	1.5	0.2	0.5	2	0.3	0.4	0.2	0.4	4.3	0.9	1	0	0
Maintenance & repair	0	0	0.7	0.7	0.3	0.4	0	0	0	0	3.2	2.8	0	0
Manufacturing services	-3.4	0	19.8	9.6	4.4	3.4	0	0	0.0	0	4.9	3.6	0	0
Other business	44.4	54.8	22.4	26.1	21.8	30.4	23.9	19.1	0.0	0	20.2	26.3	0.7	.7
Personal, cultural, & recreational	0.4	0.1	0.2	0.1	0.4	0.8	0.2	0.4	2.4	0.5	0.7	1	3.9	2.9
Telecom	2.3	1.9	2.6	7.9	8.7	6.7	43.7	47.4	3.5	1.4	3.6	5.7	1.5	1
Transportation	22.8	15	17.4	19.6	21.5	16.4	12.6	12.9	8.6	5.6	31.9	30.5	18.5	28.3
Travel	28.0	17.8	33	26	34.3	36.9	14.5	13.1	75.2	75.2	20.5	18.2	69.8	60.7

Source: IMF, *Balance of Payments Statistics.*

Table 2. Revealed Comparative Advantage, Value and Shares for Russia, 2005 and 2013, (US$, millions)

	2005			2013			2005–13
	Value	Share	RCA	Value	Share	RCA	Annual Average Growth
Transportation	9,100	32%	1.34	21,000	30%	1.30	11.9
Other business services	5,800	20%	0.98	18,000	27%	1.13	16.8
Travel	5,900	21%	0.7	12,000	17%	0.89	10.8
Construction	3,300	12%	2.98	5,700	8%	2.34	9.8
Telecom	1,000	4%	0.79	4,200	6%	0.78	21.7
Manufacturing services	1,400	5%	0.95	2,300	3%	0.93	8.8
Maintenance & repair	920	3%	2.57	1,800	3%	2.27	9.7
Finance	390	1%	0.25	1,700	2%	0.33	24.9
Personal, cultural, & recreational	190	1%	0.69	770	1%	1.20	20.2
Intellectual property	260	1%	0.25	740	1%	0.14	14.9
Insurance	320	1%	0.88	580	1%	0.48	9.8

Source: IMF, Balance of Payments Statistics.

Table 3. Total Value-added, All Sectors, 2011, Percent

	Russia		China		Brazil		India		South Africa	
	Dom	Export	Dom	Export	Dom	Export	Dom	Export	Dom	Export
Transport	6.7	7.3	6.4	7.2	5.2	7.5	7.8	9.1	3.8	5.7
Finance	1.8	2.9	4.6	4.7	5.4	3.8	5.2	6.2	1.6	1.6
Communications	1.0	0.6	2.0	1.4	4.0	2.6	1.9	2.6	3.7	2.9
Water	1.0	0.3	0.2	0.2	0.7	0.5	0.2	0.1	0.5	0.2
Construction	9.7	2.2	7.1	0.2	5.8	0.3	7.5	1.1	3.2	0.5
Distribution	21.6	13.8	7.7	6.6	13.5	8.1	14.6	9.6	12.9	15.3
Insurance	0.4	0.3	0.5	0.4	1.7	0.6	1.2	1.7	6.7	4.5
Other business services	8.0	6.4	5.2	4.6	7.7	8.2	5.1	15.5	11.2	8.4
Other services	0.5	0.1	2.3	1.2	2.3	0.3	0.3	0.4	4.2	3.4
Total services	50.8	33.9	36.1	26.4	46.2	31.9	43.8	46.2	47.8	42.4
Agri., energy & minerals	19.9	51.1	16.3	17.7	10.1	36.3	23.2	23.2	7.3	18.4
Manufacturing	13.3	14.7	32.6	54.2	17.8	31.0	15.8	29.8	20.8	37.7
Other	16.0	0.3	15.0	1.7	25.9	0.9	17.3	0.8	24.2	1.5

Source: World Bank Trade Value Added Database and Francois et al, 2013.

Table 4. Services in the Domestic Economy, 2011

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Primary	4.3	0.1	2.3	1.2	0.0	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.5	7.9
Energy	0.3	7.0	1.9	2.9	0.1	0.7	0.4	0.7	0.0	0.0	0.0	0.1	0.1	0.8	12.0
Manufacturing	0.2	0.4	8.2	4.5	0.0	1.9	0.6	0.3	0.0	0.0	0.0	0.2	0.1	1.2	13.3
Services	**0.8**	**2.9**	**4.8**	**58.3**	**0.7**	**11.7**	**14.9**	**4.3**	**0.7**	**0.3**	**0.3**	**4.4**	**1.0**	**20.1**	**66.8**
Electricity, gas, & water	0.0	0.0	0.1	0.9	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.0
Construction	0.0	0.2	0.3	9.2	0.0	8.5	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.3	9.7
Trade, distribution, & hotels	0.4	1.4	2.5	17.3	0.1	1.7	12.9	0.8	0.0	0.0	0.0	0.2	0.2	1.4	21.6
Transport	0.1	0.5	0.7	5.3	0.0	0.7	0.8	3.0	0.0	0.0	0.0	0.1	0.1	0.6	6.7
Communication	0.0	0.0	0.1	0.9	0.0	0.0	0.1	0.0	0.5	0.0	0.0	0.0	0.0	0.2	1.0
Finance	0.1	0.3	0.4	1.0	0.0	0.2	0.2	0.1	0.0	0.2	0.0	0.1	0.0	0.2	1.8
Insurance	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.4
Other business services	0.1	0.4	0.7	6.8	0.0	0.4	0.8	0.3	0.0	0.0	0.0	3.9	0.1	1.2	8.0
Other consumer services	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.5
Other services	0.0	0.0	0.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.9	16.0
Backward/ Demand	5.6	10.3	17.2	66.9	0.8	14.5	16.2	5.4	0.7	0.3	0.3	4.8	1.3	22.5	100.0

Source: World Bank Trade Value Added Database and Francois et al, 2013.
Note: Column headings are: (1) Primary; (2) Energy; (3) Manufacturing; (4) Services; (5) Electricity, Gas, and Water; (6) Construction; (7) Trade, Distribution, and Hotels; (8) Transport; (9) Communication; (10) Finance; (11) Insurance; (12) Other Business Services; (13) Other Consumer Services; (14) Other Services; (15) Forward/Supply.

Table 5. Services Linkages to Total Exports, 2011

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Primary	3.3	0.3	1.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4
Energy	0.4	39.7	4.8	0.9	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.1	0.0	0.0	45.7
Manufacturing	0.3	2.2	11.6	0.6	0.0	0.1	0.0	0.3	0.0	0.0	0.0	0.1	0.0	0.0	14.7
Services	**1.0**	**16.4**	**7.7**	**9.2**	**0.0**	**0.6**	**0.5**	**4.3**	**0.3**	**0.2**	**0.2**	**2.6**	**0.1**	**0.2**	**34.3**
Electricity, gas, & water	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Construction	0.0	1.0	0.5	0.7	0.0	0.5	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	2.2
Trade, distribution, & hotels	0.5	8.0	3.8	1.5	0.0	0.1	0.4	0.8	0.0	0.0	0.0	0.1	0.0	0.0	13.8
Transport	0.1	2.7	1.3	3.1	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	7.3
Communication	0.0	0.3	0.1	0.3	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.6
Finance	0.1	1.6	0.8	0.4	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0	2.9
Insurance	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.3
Other business services	0.1	2.4	1.1	2.7	0.0	0.0	0.0	0.3	0.0	0.0	0.0	2.4	0.0	0.0	6.4
Other consumer services	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Other services	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3
Backward/ Demand	4.9	58.6	25.8	10.7	0.0	0.8	0.5	5.4	0.3	0.3	0.2	2.9	0.2	0.3	100.0

Source: World Bank Trade Value Added Database and Francois et al, 2013
Note: Column headings are as follows: (1) Primary; (2) Energy; (3) Manufacturing; (4) Services; (5) Electricity, Gas, and Water; (6) Construction; (7) Trade, Distribution, and Hotels; (8) Transport; (9) Communication; (10) Finance; (11) Insurance; (12) Other Business Services; (13) Other Consumer Services; (14) Other Services; (15) Forward/Supply.

Table 6. Export Revenue as a Percent of Total Revenue, All Firms, by Region and Sector

Industry	Northwest	Central	South	Volga	Ural	Siberia	Far East	North Caucasus
Water supply; waste mgmt.	6.8	0.5		0.9				
Construction	2.7	1.3	2.0	2.2	1.1	0.8		2.7
Distribution	0.1	1.3	0.0	0.4	0.7	0.9	1.0	
Transportation	1.6	7.6	6.2	1.5	7.2	12.9	12.2	0.5
Tourism		0.1			0.6			
Info and telecom		0.0			2.5			
Financial and insurance		0.0	0.2			0.5		
Real estate	0.1	0.2	0.1		1.0			
Professional	2.0	1.4	13.3	5.7	10.1	0.7		
Admin support	2.7	0.1			0.0		0.4	
Public administration		23.1						
Education								
Health		0.3						
Arts and recreation								
Other service activities				1.6				

Source: RUSLANA.

Table 7. Exporter Revenue Density by Region, All Services Firms and Exporting Firms

	Firm density (Services)	
Region	**All services firms**	**Exporting**
Northwest federal region	600	5
Central federal region	1,323	16
South federal region	287	3
Volga federal region	268	3
Ural federal region	433	10
Siberia federal region	293	6
Far East federal region	314	7
North Caucasus Federal District	66	0

Source: RUSLANA.
Note: Per capita density is per million population.

Table 8. Export Market Concentration by District (HHI Index)

A. Most diversified

Region	HI
Moscow	0.222
Moscow Region	0.262
Nizhni Novgorod Region	0.300
Omsk Region	0.317
Voronezh Region	0.339

B. Most concentrated

Region	HI
Arkhangelsk Region	0.999
Pskov Region	0.983
Astrakhan Region	0.962
Leningrad Region	0.954
Kamchatka Territory	0.861

Source: RUSLANA.

Table 9. Export Market Concentration by Region (HHI Index)

Northwest		Central		South	
Sector	**LQ**	**Sector**	**LQ**	**Sector**	**LQ**
Admin. Support	13.45	Health	1.75	Professional	2.60
Water supply	11.33	Distribution	1.38	Construction	1.80
Construction	3.19	Finance	1.36	Transport	1.23
Professional	1.27	Real estate	1.07	Finance	0.40
Real estate	0.59	Tourism	0.95	Real estate	0.28

Volga		Ural		Siberian	
Sector	**LQ**	**Sector**	**LQ**	**Sector**	**LQ**
Health	13.70	Info. & comm.	7.20	Financial	2.08
Professional	2.49	Tourism	4.25	Transport	1.79
Construction	2.29	Real estate	3.11	Distribution	0.75
Water	1.52	Professional	1.85	Construction	0.39
Distribution	0.69	Transport	1.42	Professional	0.26

Source: RUSLANA.

Table 10. Distribution of Firms with Foreign Stakeholders by Region, Percent

	Northwest	Central	South	Volga	Ural	Siberia	Far East	North Caucasus
Water	0.9	0.5	1.2	3.5	1.8	1.9	1.5	1.0
Construction	9.9	8.3	12.0	9.9	9.1	10.4	10.6	7.3
Distribution	31.1	34.9	33.5	34.9	32.4	33.5	38.6	32.3
Transportation	10.8	4.4	16.1	6.3	7.2	6.0	13.7	11.5
Travel	2.1	1.2	3.7	1.9	3.4	2.2	4.2	7.3
ICT	5.7	7.1	3.2	7.4	4.6	8.8	3.3	4.2
Financial	4.8	11.3	5.0	5.6	7.7	3.3	2.0	1.0
Real estate	17.8	14.4	12.0	11.9	15.4	10.4	6.8	17.7
Professional	9.8	12.5	7.3	9.5	9.1	11.3	11.7	6.3
Administrative	4.4	2.8	2.0	3.7	2.7	3.8	5.3	1.0
Other	2.7	2.6	4.1	5.3	6.6	8.4	2.2	10.4

Source: RUSLANA.

Table 11. Tariff Equivalents of Cross-border Barriers to Trade in Services

	Tariff equivalent (%)	
Importer	**σ = 1.95**	**σ = 5.6**
Belarus	65.2	119.6
Germany	59.4	115.3
Slovak Republic	58.3	114.4
Czech Republic	56.8	113.2
Poland	56.5	112.9
Slovenia	56.3	112.9
Romania	56.3	112.8
Latvia	54.7	111.5
Russian Federation	54.3	111.2
Greece	54.2	111.1
Lithuania	54.1	111.0
Bulgaria	53.8	110.8
Hungary	53.3	110.4
Estonia	51.5	108.8
Cyprus	49.4	107.1

Source: World Development Indicators, World Bank Trade in Services Database, and CEPII.
Note: σ is the elasticity of substitution. For robustness, two separate values are assumed: $\sigma = 1.95$ and $\sigma = 5.6$..

ANNEX MEASURING THE VALUE ADDED IN EXPORTS

Exports (of both goods and services) can be measured as:

Gross exports: The transaction value of a sector's exports. This captures both the value added embodied in the production of the export and all domestic and imported intermediate inputs. Gross measures of trade statistics are registered in customs or balance of payments, usually at the transaction value, that is, the price actually paid or payable for the goods and services.

Direct value added of exports: A sector's domestic value added embodied in its own exports, measured as gross exports less domestic and foreign inputs. This measure captures the true sector-specific, or the direct, value-added contribution of exports.

Total value added of exports: This measure adds to the direct value added of exports the value added of inputs produced domestically. It captures the indirect contribution through value chain linkages with other export activities, expressed in terms of forward or backward linkages. This is increasingly important in an environment where global production is fragmented across production sharing networks.

Based on these definitions, the following terminology is used when speaking about contribution to exports:

Forward linkages: The value added when considering the contribution of that particular sector as an input to other sectors' exports. This treats the particular sector as an upstream activity. In other words, forward linkages show how important particular service is as inputs to other export activities.

Backward linkages: The value added when considering the contribution of all other sectors to that particular sector's exports. This treats the particular sector as a downstream activity. In other words, backward linkages show how important a service sector is for the demand of other sector's value added.

Source: Saez et al. (2014), Francois, Manchin, and Tomberger (2013).