

Research Paper

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Russia's Role as an Arms Exporter

The Strategic and Economic Importance of Arms Exports for Russia



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HOUSE**
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Summary

- Russia is the world's second-largest arms exporter after the US, and is seeking to strengthen its position in new markets. Only the US possesses the same ability to be competitive across a wide range of weapons systems. Russia's large portfolio of orders suggests that it will occupy an important market position in the years to come, and that it is likely to continue to be seen as a reliable source of weapons for countries that do not enjoy warm relations with the US.
- Asia is the most important foreign market for Russian arms producers, accounting for 70 per cent of their exports since 2000. India, China and Vietnam are the principal sources of demand for Russian weapons in the region, and Russia is the dominant supplier in a large proportion of Asian countries. The Middle East and North Africa is the second-most important market, but competition from other suppliers is much more intense there. Latin America and Africa are of relatively modest importance.
- Arms exports play an important role in Russia's economy, accounting for a large proportion of manufactured and technology-intensive exports. This makes the armaments industry one of the leading sectors through which Russia is integrated with the global economy. Exports are not as important to the armaments industry as they were in the 1990s, but they help keep production lines in service and preserve a full spectrum of capabilities.
- Russia's arms industry has benefited from the rapid growth in domestic defence procurement since 2011. However, it is not clear whether the government's import-substitution plan will offset the reduced access to components of weapons systems caused by the sanctions imposed in the aftermath of the illegal annexation of Crimea in 2014. This could lead to shortages that impede production and, hence, export prospects.
- There are also broader weaknesses within the Russian defence industry that hamper innovation and could impair the ability of Russian firms to remain competitive in global markets. These include ageing physical capital, an ageing R&D workforce, and weak linkages between higher education and defence-industrial firms.

1. Introduction

Despite over 25 years of transformation, Russia's economy remains overwhelmingly reliant on the export of natural resources.¹ However, while many manufacturing industries either diminished or disappeared entirely after the end of central planning, Russia remains a world leader in the production and export of armaments, as it was during the Soviet period. This makes the industry – though much smaller than the strategically vital energy resources sector – important for several economic, social and political reasons.

Defence-industrial production is one of only a few technology-intensive economic sectors in which Russia can be considered a world leader. President Vladimir Putin has affirmed the potential of defence-industrial activity to 'serve as fuel to feed the engines of modernization in [Russia's] economy'.² However, there has not always been sufficient domestic demand to keep these engines running. In the 1990s, when defence procurement was drastically reduced, arms exports kept many enterprises afloat.³ Even today, after five years of rapid growth in Russian defence spending, export markets remain important to Russian firms. These markets are not only a source of current income, but also a potential source of future sales to compensate for the anticipated decline in domestic demand over the next few years.⁴

The defence industry is also socially important, as it accounts for a significant share of employment in Russia. With around 2.5 million workers, it is responsible for over 3 per cent of total employment, and around one-third of employment in manufacturing, with defence-industrial research and development (R&D) and production occupying a dominant place in many cities and regions.⁵

Arms exports perform political functions. First, they help support defence-industrial production in areas where domestic demand may be insufficient to maintain production lines. This helps preserve a wider spectrum of production capabilities than might otherwise be possible, as was the case during the 1990s. Exports can also be profitable for producers because government spending may contribute towards development costs.

Second, armaments exports can serve as a useful instrument of foreign policy. By supporting the formation of linkages with politically aligned states, the Soviet Union used arms sales to expand its

¹ Gaddy, C. and Ickes, B. (2013), *Bear Traps on Russia's Road to Modernisation*, London and New York: Routledge; Bradshaw, M. and Connolly, R. (2016), 'Russia's Natural Resources in the World Economy: history, review and reassessment', *Eurasian Geography and Economics*, 57: 5, DOI: 10.1080/15387216.2016.1254055.

² Putin, V. (2012), 'Ukaz o realizatsii planov razvitiia Vooruzhennykh Sil i modernizatsii OPK' [Decree on the implementation of the development plan for the Armed Forces and the modernization of the defence-industrial complex], Decree No. 603, 7 May 2012, <http://kremlin.ru/news/15242>; Putin, V. (2012), 'Byudzhethnoe poslanie Prezidenta RF o byudzhethnoi politike v 2013–2015 godakh' [The budget message of the President of the Russian Federation concerning budgetary policy in 2013–15], 28 June 2012, <http://www.kremlin.ru/acts/15786>.

³ Cooper, J. (2013), 'From USSR to Russia: The Military Economy', in Hare, P. and Turley, G. (eds) (2013), *Handbook of the Economics and Political Economy of Transition*, London and New York: Routledge.

⁴ Public statements from leading officials suggest that the state defence order will decline in value over the next few years. To replace domestic demand, defence enterprises are being encouraged to increase exports or increase production of non-defence products. See, for example, RIA Novosti (2016), 'V "Rostekhe" otsenili perspektivy zagruzki rossiyskogo OPK po gosoboronzakazu' [Rostec evaluates the prospects of Russian defence industry capacity for the state defence order], 3 November 2016, https://ria.ru/defense_safety/20161103/1480598361.html; and Zamakhina, T. (2016), 'Masshtab imeyet znachenie' [Scale matters], *Rossiyskaya Gazeta*, 27 November 2016, <https://rg.ru/2016/11/27/putin-prizval-obespechit-shirokij-vygod-predpriyatij-rf-na-vneshnie-rynki.html>.

⁵ Assumes an active labour force of about 75.5 million, of which 10.7 per cent were employed in manufacturing activities in 2014. Authors' calculations based on data from Rosstat, 2016.

spheres of influence and create a more favourable political and strategic situation.⁶ For the Soviet Union, '[p]olitical goals were the dominant factor when the decision to export conventional arms was taken'.⁷ Arms exports today help Russia achieve a wide range of national security objectives, including supporting its image as a global power, maintaining an independent foreign policy, expanding its influence in the regions to which it is able to export arms, and initiating and strengthening defence relations.⁸

In 2012, President Putin stated that arms exports were 'an effective instrument for advancing [Russia's] national interests, both political and economic'.⁹ In 2013, the deputy prime minister for the defence industry, Dmitry Rogozin, stated in even balder terms that the Federal Service for Military-Technical Cooperation – the agency leading arms sales abroad – was 'the country's second foreign policy agency' and that its objective in selling arms was so that Russia could 'gain or increase [its] influence' in other countries.¹⁰ Emphasizing the role of good political relations in facilitating arms sales, he added that Russia only sells weapons to 'friends and partners'.

If one of the consequences of arms exports is increased political influence abroad, then Russia's performance in this strategic industry is of geopolitical, as well as economic, significance for the country.

This paper explores the following questions: What role does Russia play in the global arms export industry? In which areas of the world is Russia most active as a supplier? What is the place of arms exports in the Russian economy? And what are the prospects for Russian arms exports?

⁶ On the role of arms exports in Soviet foreign policy, see Anthony, I. (ed.) (1998), *Russia and the Arms Trade*, Stockholm: SIPRI; and Pierre, A. and Trenin, D. (eds) (1994), *Russia in the World Arms Trade*, Washington, DC: Carnegie International Endowment for Peace.

⁷ Kirshin, Y. (1998), 'Conventional arms transfers during the Soviet period', in Anthony (1998), *Russia and the Arms Trade*.

⁸ Blank, S. and Levitsky, E. (2015), 'Geostrategic aims of the Russian arms trade in East Asia and the Middle East', *Defence Studies*, 15:1, DOI: 10.1080/14702436.2015.1010287.

⁹ President of Russia (2012), 'Meeting of the Commission for Military Technology Cooperation with Foreign States', 2 July 2012, <http://en.kremlin.ru/events/president/news/15865>.

¹⁰ RIA Novosti (2013), 'Rogozin: FSVTS segodnya yavlyayetsya vtorym vneshnepoliticheskim ведомством' [Rogozin: FSVTS is now the second foreign ministry], 11 December 2013, https://ria.ru/defense_safety/20131211/983472868.html.

2. Russia's Position as a Global Arms Supplier

Russia is the world's second-largest exporter of armaments after the US, whether measured by the volume of weaponry sold or the financial value of transactions. In this section we examine how Russia's position in the global arms industry has evolved since 2000. Notwithstanding short-term fluctuations, the country has sustained a market share significantly higher than it enjoyed in the 1990s in the immediate aftermath of the collapse of the Soviet Union (which for decades alternated with the US as the largest arms exporter). We also highlight those areas of the arms industry where Russia is most competitive and where it is weakest, both in terms of weapons categories and geographic markets; and examine trends in markets in which Russian exporters are expanding, or seeking to expand, their footprint or in which challenges to their position are emerging.

Measuring the arms trade

Measuring precisely the role that a country plays in the global arms trade is far from easy. Broadly speaking, two methods are available for comparing arms sales across time and countries. The first involves estimating the material volume of arms transfers – 'military capability transfer'. The second measures the financial value of arms transfers. While the two are correlated in broad terms, they are not necessarily equivalent as some countries pay more than others for the same weapons systems.

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Matters are complicated by the fact that not all countries report their arms transfers each year, and that the definitions of what constitutes an arms transfer vary between countries and sources. For instance, the Stockholm International Peace Research Institute (SIPRI) defines arms transfers quite narrowly, as encompassing the exchange of major conventional weapons and components, but excluding the transfer of services, technology, support equipment and small arms.¹¹ By contrast, the definition used by the US Congressional Research Service (CRS) and the US Department of State covers 'all categories of weapons and ammunition, military spare parts, military construction, military assistance and training programs, and all associated services'.¹²

¹¹ Conventional weapons and components include fixed- and rotary-wing aircraft (including unmanned); armoured vehicles; artillery above 100 mm in calibre; sensors; air-defence systems and large air-defence guns; guided missiles, torpedoes, bombs and shells; ships of 100-tonne displacement or more, armed with 100-mm-calibre artillery, torpedoes or guided missiles; engines for combat-capable aircraft, large military aircraft, combat ships, large support ships and armoured vehicles; gun or missile-armed turrets for armoured vehicles and ships; reconnaissance satellites; and air refuelling systems. The SIPRI Arms Transfers Database also includes licensed production. Holtom, P., Bromley, M. and Simmel, V. (2012), 'Measuring International Arms Transfers', Stockholm: SIPRI, <http://books.sipri.org/files/FS/SIPRIFS1212.pdf>.

¹² See Theohary, C. (2015), 'Conventional Arms Transfers to Developing Nations, 2007–2014', Washington, DC: US Congressional Research Service, <https://www.fas.org/spp/crs/weapons/R44320.pdf>. The data in the US Department of State's World Military Expenditures and Arms Transfers (WMEAT) database correspond closely with the data from the CRS. See US Department of State (2015), *Sources, data and methods of WMEAT 2015*, <http://www.state.gov/documents/organization/251079.pdf>. The accuracy of these measures has been questioned. For example, in 2006 the CRS estimate of German arms exports was lower than the sum of two large known arms transfer agreements that were made that same year, without taking into account all the other agreements concluded by Germany that year. See Holtom, Bromley and Simmel (2012), 'Measuring International Arms Transfers'.

To overcome the inconsistency in definitions and reporting procedures, the SIPRI database of global arms transfers uses a comparable unit of analysis, the 'trend-indicator value' (TIV). According to SIPRI: 'The TIV is based on the known unit production costs of a core set of weapons and is intended to represent the transfer of military resources rather than the financial value of the transfer.'¹³ Clearly, in order to permit comparability a certain degree of discretion is used in assigning values to different weapon systems. Thus, while TIV is a useful tool for comparing trends in arms transfers by geography and period, the measure should be treated with some caution and not, as SIPRI points out, be compared directly with gross domestic product (GDP) or defence expenditure.

While the measure used by SIPRI allows for comparison of the *material* scale of arms transfers and their composition (i.e. the types of weapon systems sold), we also need to estimate the *financial* scale of arms transfers so that, for example, the share of arms exports in a country's overall export basket can be estimated. The Russian Centre for Analysis of Strategies and Technologies (CAST) estimates Russian arms transfers by combining two measures: the value of weapons, components and spare parts traded via Rosoboroneksport (the state intermediary agency for Russian exports and imports of defence-related and dual-use products, technologies and services); and cost estimates for components, instruments and accessories supplied by companies that do not export through Rosoboroneksport.¹⁴

The choice of data source significantly affects estimates of the scale of Russian arms exports. CAST's estimates of the total value of deliveries are consistently higher than those provided by the CRS and the US Department of State, even if only the data from Rosoboroneksport are included. For instance, CAST estimated total Russian arms exports at \$14.5 billion in 2015, of which Rosoboroneksport reported \$13 billion. Yet in the same year, the CRS recorded \$9 billion in Russian export sales.¹⁵

Given the constraints imposed by differing and often divergent data sources, the analysis in this paper is based on the SIPRI database when examining the role of Russian arms exports in the global arms trade; and on the CAST data when estimating the importance of such exports to the Russian economy.

Russia's share of global arms exports

According to data from SIPRI, Russia accounted for nearly 21 per cent of global arms sales in 2016,¹⁶ ranking behind only the US by material scale of exports. Russia's prominence in global arms markets is not a new development. Between 2000 and 2016, the country was responsible for an annual average of 25 per cent of global exports (see Figure 1). In some years, most recently in 2013, the value of Russia's arms exports even surpassed that of the US's. While countries like China, Germany, France and the UK are also significant arms exporters, they remain well behind Russia and the US in terms of the volume of arms exported. This makes armaments exports one of the few areas of manufacturing

¹³ SIPRI (undated), 'SIPRI Arms Transfers Database – Methodology', <https://www.sipri.org/databases/armstransfers/background>. As SIPRI points out: 'Weapons for which a production cost is not known are compared with core weapons based on: size and performance characteristics (weight, speed, range and payload); type of electronics, loading or unloading arrangements, engine, tracks or wheels, armament and materials; and the year in which the weapon was produced. A weapon that has been in service in another armed force is given a value 40 per cent of that of a new weapon. A used weapon that has been significantly refurbished or modified by the supplier before delivery is given a value of 66 per cent of that of a new weapon.'

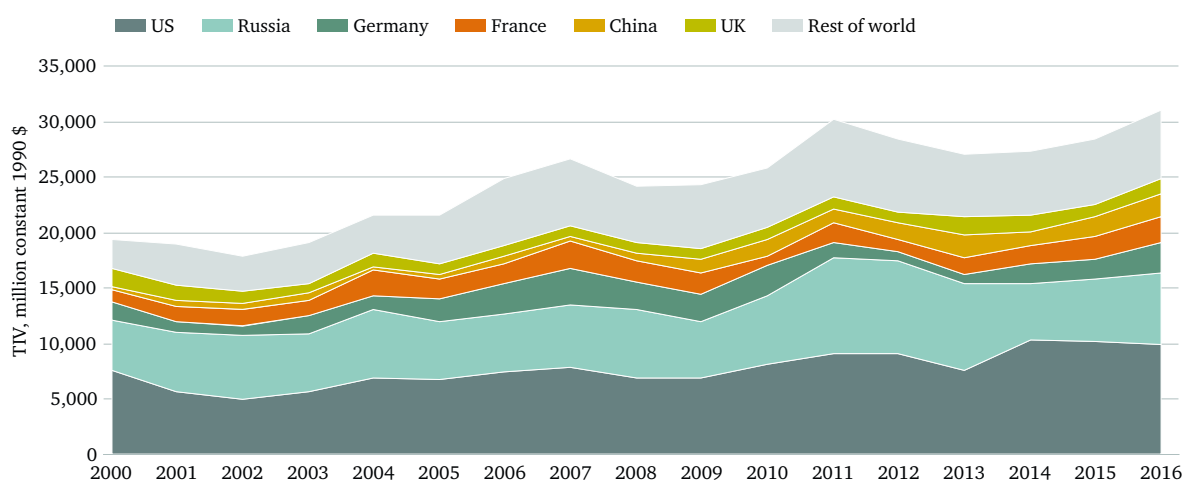
¹⁴ CAST data available at <http://cast.ru/eng/projects/useful-figures.html>.

¹⁵ Theohary (2015), 'Conventional Arms Transfers to Developing Nations, 2007–2014'.

¹⁶ SIPRI (2017), 'SIPRI Arms Transfers Database', <https://www.sipri.org/databases/armstransfers> (accessed 23 Feb. 2017). This paper draws repeatedly on the data in the SIPRI Arms Transfers Database. All references to trade volumes – such as countries' or regions' shares of Russian arms exports, or Russia's share of their arms imports, etc. – are based on TIV values sourced from the SIPRI database and accessed by the authors on 23 February 2017.

in which Russia can be considered a world leader. Moreover, this strong performance looks set to continue, with export orders of \$45–50 billion reported to be on the books.¹⁷

Figure 1: Share of total global arms exports, 2000–16 (TIV, million constant 1990 \$)



Source: SIPRI Arms Transfers Database, 2017.

Russia's strength in global arms exports is not uniform across broad categories of weapon systems. As illustrated in Figure 2, the country occupies a particularly strong position in air-defence systems (with 41.1 per cent of global sales in 2010–16), missiles (25.6 per cent) and aircraft (24.7 per cent), reflecting long-standing strengths of its industry. By contrast, it is less competitive in sensors (8.4 per cent of global sales) and artillery systems (7.0 per cent). Nevertheless, only the US possesses the same ability to be competitive across such a wide range of weapon systems.

This full spectrum of capabilities reflects the strength of Russia's defence-industrial base, which despite more than a decade of chronic underfunding after 1990 remains able to produce large volumes of robust and capable equipment.¹⁸ Because of the legacy of hyper-militarization during the Soviet era, long-standing security concerns and heightened threat perception, the maintenance of an independent defence-industrial base has historically been a priority for Russia.¹⁹ This looks set to continue, as efforts are under way to reduce dependence on imported components in the manufacture of final weapons systems.²⁰

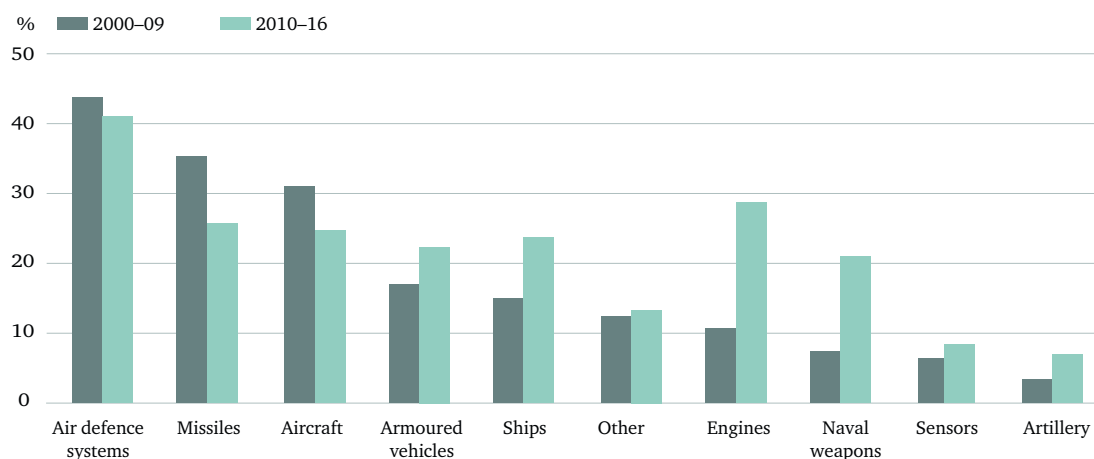
¹⁷ RIA Novosti (2016), 'Portfel' zakazov "Rosoboroneksporta" prevysil \$45 milliardov' [Rosoboronexport's order book exceeds \$45 billion], 3 November 2016, https://ria.ru/defense_safety/20161103/1480594485.html.

¹⁸ On defence-industrial performance since 2011, see Cooper, J. (2016), *Russia's State Armament Program to 2020: A Quantitative Assessment of Implementation 2011–2015*, Stockholm: Swedish Defence Research Agency, https://www.researchgate.net/profile/Julian_Cooper2/publication/299338379_Russia's_state_armament_programme_to_2020_a_quantitative_assessment_of_implementation_2011-2015_FOI_Report/links/56f11db508aead0f31f235d.pdf; and Connolly, R. and Sendstad, C. (2017, forthcoming), 'Russian Rearmament: An Assessment of Defense-Industrial Performance', *Problems of Post-Communism*, Abingdon: Taylor & Francis.

¹⁹ Shlykov, V. (1995), 'Economic Readjustment within the Russian Defence-Industrial Complex', *Security Dialogue*, 26:1; Shlykov, V. (2004), 'The Economics of Defense in Russia and the Legacy of Structural Militarization', in Miller, S. E. and Trenin, D. (eds) (2004), *The Russian Military: Power and Policy*, Cambridge, MA: MIT Press, pp. 160–82; Gaddy, C. (1996), *The Price of the Past: Russia's Struggle with the Legacy of a Militarised Economy*, Washington, DC: Brookings Institution.

²⁰ Frolov, A. (2016), 'Svoi vmesto chuzhikh' [At home instead of abroad], *Russia in Global Affairs*, 30 November 2016, <http://www.globalaffairs.ru/number/Svoi-vmesto-chuzhikh-18493>.

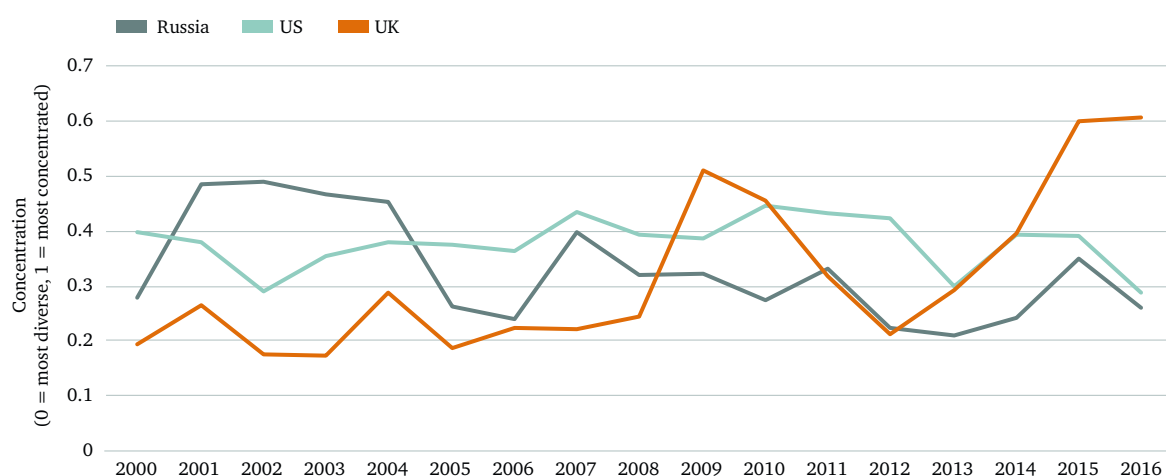
Figure 2: Russia's share of global exports in selected categories of weapon systems, 2000–09 and 2010–16 (% of total global arms exports)



Source: SIPRI Arms Transfers Database, 2017.

Russia's global market share is growing in most of the product categories in which its share was low in the first decade of this century, indicating that its industry is developing competitiveness in an increasingly diverse range of products. As shown in Figure 3, the overall trend between 2000 and 2016 was for the basket of Russia's armaments exports to become more diverse. Whereas Russia tended to enjoy higher market shares in air-defence systems, missiles and aircraft in the early 2000s, in the past few years it has notably increased its competitiveness in engines, ships and naval weapons. In 2016 its arms export profile was less concentrated than the profiles of many of its competitors, including the US and the UK.

Figure 3: Concentration of Russian, US and UK armaments export profiles by weapon category, 2000–16 (0 = most diverse, 1 = most concentrated)



Note: This figure uses the Herfindahl Index statistical measure of concentration. Sources: SIPRI Arms Transfers Database, 2017; authors' calculations.

Not only is Russia exporting a large volume of armaments across an increasingly wide range of product categories, it is also willing to sell the most technologically advanced equipment that in some cases is equivalent in capabilities to Western analogues, and that in other cases surpasses them. For instance, Russia has either agreed to sell, or is considering selling, the Su-35, an advanced 4++ generation fighter, to China²¹ and Indonesia;²² the extremely capable S-400 air-defence missile system to India;²³ the Iskander short-range tactical ballistic missile system to Armenia;²⁴ and Project 636M (Varshavyanka-class) diesel-electric attack submarines to Indonesia.²⁵ It has also agreed to lease nuclear-powered attack submarines (SSNs) to India.²⁶

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Russia's strength in regional export markets

Russia's overall strength as an arms exporter is based on sales to a growing number of countries in different regions of the world (see Figure 4).²⁷ In the late 1990s, its arms sales were overwhelmingly concentrated in China and India. This caused some concern in Russia that exports would diminish sharply if either country were able to produce domestic analogues of Russian products, or if other countries were able to supplant Russian products. However, efforts to cultivate new relationships across the world, often involving the marketing of advanced weaponry, have proven successful.

²¹ RIA Novosti (2016), 'Postavki Su-35 v Kitay poka ne nachalis', rabota po kontraktu prodolzhayetsya' [Deliveries of Su-35 to China have not yet begun, work on the contract continues], 19 November 2016, https://ria.ru/defense_safety/20161119/1481705114.html.

²² RIA Novosti (2016), 'Rossiya "v samom aktivnom rezhime" vedet peregovory s Indoneziyey po Su-35' [Russia "actively" holding talks with Indonesia on Su-35], 2 November 2016, https://ria.ru/defense_safety/20161102/1480519618.html.

²³ Vedomosti (2016), 'Rossiya i Indiya posotrudnichayut na neskol'ko milliardov dollarov' [Russia and India in collaborations worth several billion dollars], 16 October 2016, <https://www.vedomosti.ru/politics/articles/2016/10/17/661178-rossiya-indiya-posotrudnichayut>.

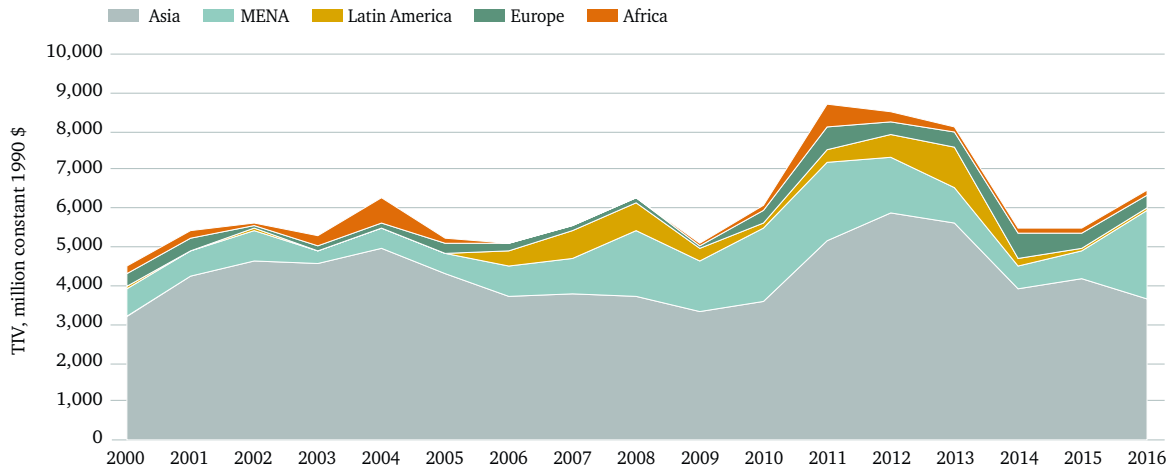
²⁴ Vzglyad (2016), 'SMI: Armeniya poluchila rossiyskiye komplekсы «Iskander-M»' [Media: Armenia has received Russian Iskander-M systems], 16 September 2016, <http://vz.ru/news/2016/9/16/832988.html>.

²⁵ RIA Novosti (2016), 'Rossiya izuchayet vozmozhnost' postavok v Indoneziyu podlodok "Varshavyanka"' [Russia considers the possibility of supplying Indonesia with "Varshavyanka" submarines], 20 October 2016, https://ria.ru/defense_safety/20161020/1479656873.html; and RIA Novosti (2016), "'Rosoboroneksport' obsudil s Indoneziyey tekhnicheskii oblik DEPL proyekta 636' [Rosoboroneksport and Indonesia to discuss the technical appearance of Project 636 diesel-electric submarines], 3 November 2016, https://ria.ru/defense_safety/20161103/1480596094.html.

²⁶ Vedomosti (2016), 'Rossiya i Indiya posotrudnichayut na neskol'ko milliardov dollarov' [Russia and India in collaborations worth several billion dollars], 16 October 2016, <https://www.vedomosti.ru/politics/articles/2016/10/17/661178-rossiya-indiya-posotrudnichayut>.

²⁷ The SIPRI data cited in this paper define each region as consisting of the following individual export markets: Africa (Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cabo Verde, Central African Republic, Chad, Côte d'Ivoire, Democratic Republic of the Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, The Gambia, Ghana, Guinea, Kenya, Lesotho, Liberia, Malawi, Mauritania, Mauritius, Mozambique, Niger, Nigeria, Republic of the Congo, Rwanda, Senegal, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Tanzania, Togo, Uganda, Zambia, Zimbabwe); Asia (Afghanistan, Bangladesh, Brunei, Cambodia, China, India, Indonesia, Japan, Kazakhstan, Kyrgyzstan, Laos, Malaysia, Mongolia, Myanmar, Nepal, North Korea, Northern Alliance [Afghanistan], Pakistan, Philippines, Singapore, South Korea, Sri Lanka, Taiwan, Tajikistan, Thailand, Turkmenistan, Uzbekistan, Vietnam); Europe (Armenia, Azerbaijan, Belarus, Croatia, Cyprus, Czech Republic, Georgia, Greece, Hungary, Latvia, Moldova, Poland, Romania, Serbia, Slovakia, Slovenia, Turkey, UK); Latin America (Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay, Venezuela); Middle East and North Africa (Algeria, Egypt, Iran, Iraq, Jordan, Kuwait, Libya, Morocco, Syria, Tunisia, UAE, Yemen).

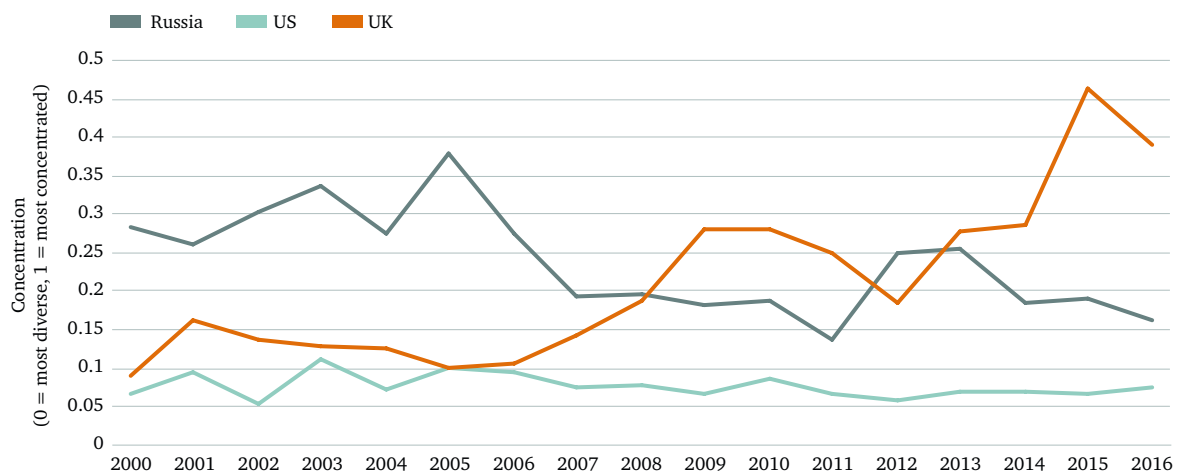
Figure 4: Russian arms sales by region, 2000–16 (TIV, million constant 1990 \$)



Sources: SIPRI Arms Transfers Database, 2017; authors' calculations.

Figure 5 further confirms that Russia's customer base has diversified since 2000. It has cultivated a number of significant clients, such as Algeria and Vietnam, easing fears that its arms export performance was excessively dependent on only one or two countries. While Russia does not export to as wide a range of countries as the US, its customer base is significantly more diverse than that of the UK and is comparable to those of other major arms exporters such as France and China.

Figure 5: Concentration of Russian, US and UK armaments exports by customer base, 2000–16 (0 = most diverse, 1 = most concentrated)

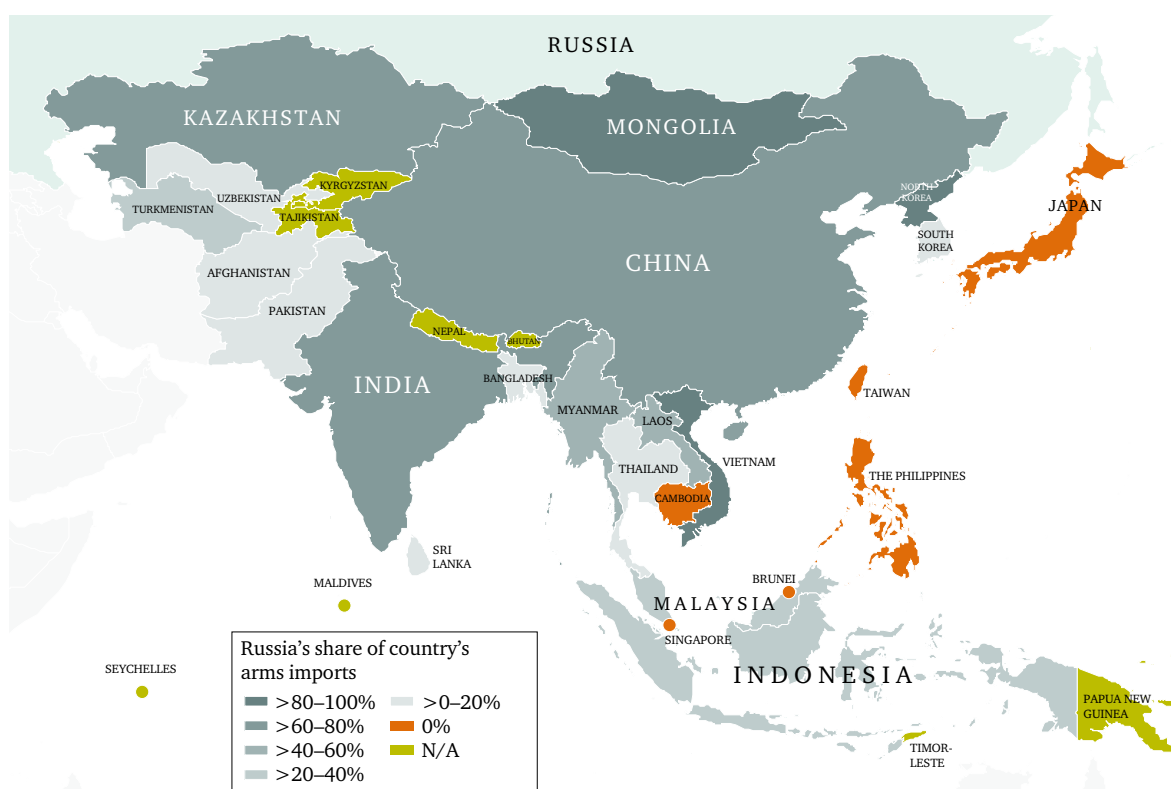


Note: This figure uses the Herfindahl Index statistical measure of concentration.
Sources: SIPRI Arms Transfers Database, 2017; authors' calculations.

Asia

Asia is by far the most important export market for Russian arms. Not only does the region contain Russia's two largest customers, China and India (together responsible for 56 per cent of all Russian arms exports in 2000–16), it also includes significant customers such as Vietnam (5.6 per cent), Myanmar (1.4 per cent), Malaysia (1.3 per cent), Kazakhstan (1.3 per cent) and Indonesia (1.1 per cent). In total, Asia accounted for 70 per cent of Russia's arms exports in 2000–16. This should not be surprising given that the region is the fastest-growing armaments market in the world, with brisk economic growth rates and simmering international tensions fuelling rising defence expenditure across the region.²⁸

Figure 6: Russian arms sales to Asia, 2000–16



Note: Countries are designated N/A (data not available or applicable) if no data exist, or if their total imports over the whole period were \$100 million TIV or less.

Sources: SIPRI Arms Transfers Database, 2017; authors' calculations.

As illustrated in Figure 6, Russia is the dominant supplier of weapons across large swathes of Asia.²⁹ Between 2000 and 2016, it was responsible for 43.1 per cent of the weapons exported to the region. By way of comparison, over the same period the US accounted for 24.6 per cent of arms sales to the region and China for 6.8 per cent.

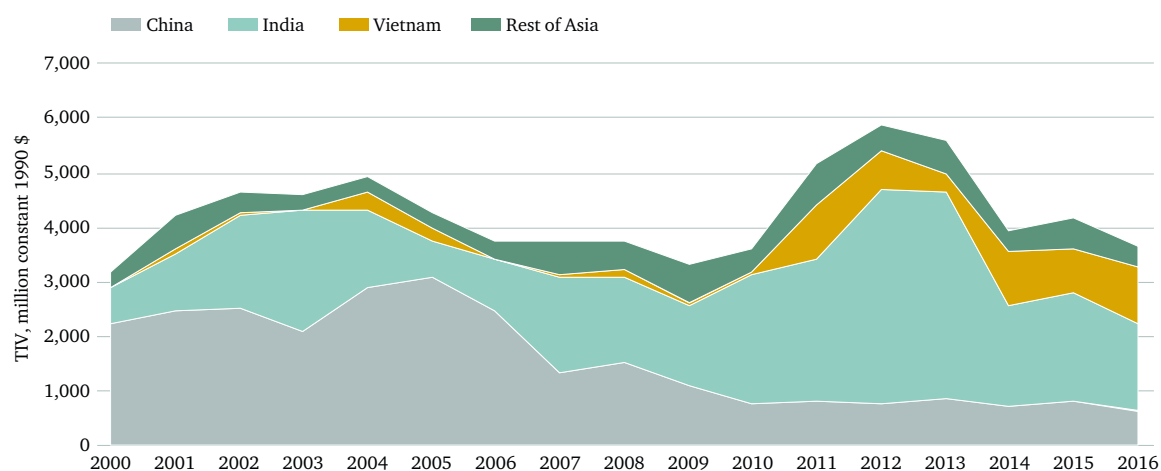
²⁸ IHS Aerospace, Defence and Security (2016), *IHS Balance of Trade 2016*, p. 12.

²⁹ In all the maps we assign colours based on Russia's weight in an importer's basket of imported armaments in 2000–16. Countries are designated N/A (data not available or applicable) if no data exist, or if their total imports over the whole period were \$100 million TIV or less (a figure corresponding to approximately two F-35, Su-30MK, Rafale or Typhoon Block-8 fighter planes, which all have the same designated value).

Even in those Asian countries that do not account for a large share of Russian exports, such as Myanmar, Turkmenistan and Mongolia, Russia is often the primary or a prominent source of arms supplies. In recent years, it has attempted to enter markets traditionally dominated by other powers. For example, efforts to increase sales to Pakistan, traditionally supplied by China and the US, are beginning to bear fruit.³⁰ Indonesia has tended to purchase weaponry from European countries, but Russia has also made inroads into that market and accounted for over 20 per cent of Indonesian arms imports in 2000–16. Indonesia is now being targeted by Russia as a potential purchaser of Su-35 aircraft and Varshavyanka-class submarines.³¹ Russia is also targeting countries that have traditionally sourced armaments from the US. Recently, it has shown a willingness to exploit the deterioration in relations between the US and the Philippines to carve out sales opportunities there.³²

The three principal Asian markets for Russia's weapons are India, China and Vietnam (see Figure 7). During the 1990s, and in the early part of this century, China was its largest customer. However, for the past decade, this position has been occupied by India, with Vietnam emerging as an increasingly significant customer since 2010.

Figure 7: Major Asian importers of Russian arms, 2000–16 (TIV, million constant 1990 \$)



Sources: SIPRI Arms Transfers Database, 2017; authors' calculations.

India

India has been the world's most lucrative market for arms exporters in recent years, and was responsible for 10.3 per cent of global arms imports between 2000 and 2016. Russia supplied 72 per cent of these imports. During the same period India accounted for 30 per cent of Russian arms exports, the largest share of any country. Therefore, maintaining a large share of the Indian market is of immense importance to Russian producers.

³⁰ RIA Novosti (2016), "Rosoboroneksport" v pervyye pokazhet boleye 250 obraztsov tekhniki v Pakistane' [Rosoboroneksport will display more than 250 design samples in Pakistan for the first time], 22 November 2016, https://ria.ru/defense_safety/20161122/1481872275.html; and Sidorkova, I. (2016), 'Rossiysko-pakistanskaya «Druzhba»' [Russia-Pakistan 'friendship'], Gazeta.ru, 24 September 2016, <https://www.gazeta.ru/army/2016/09/24/10212359.shtml>.

³¹ RIA Novosti (2016), 'Rossiya izuchayet vozmozhnost' postavok v Indoneziyu podlodok "Varshavyanka"' and Khodarenok, M. (2016), '«My gotovy rabotat' po vsem napravleniyam»' ["We are ready to work on all fronts"], Gazeta.ru, 29 September 2016, <https://www.gazeta.ru/army/2016/09/29/10221179.shtml>.

³² RIA Novosti (2016), 'Glavy MID Rossii i Filippin obsudyat sotrudnichestvo v voyennoy sfere' [Russian and Filipino Foreign Ministers to discuss military cooperation], 30 November 2016, https://ria.ru/defense_safety/20161130/1482501088.html.

The relationship is close and long-standing, stretching back over decades. During the Cold War, India produced a range of Soviet weapons systems under licence, including hundreds of MiG-21 and MiG-27 fighter aircraft. Since 1991, it has continued to purchase large quantities of weaponry from Russia, including T-90 tanks, Konkurs-M anti-tank missiles, R-73 air-to-air missiles, Talwar-class frigates (based on the Krivak-class), Mi-8 transport helicopters, and even an aircraft carrier (the INS *Vikramaditya*, formerly the Kiev-class carrier *Admiral Gorshkov*). This close relationship does not look like ending soon. In October 2016, the two countries announced a deal for Russia to supply up to \$6 billion worth of weapons, including the S-400 surface-to-air missile system, four Project 11356 (Admiral Grigorovich-class) frigates, and a joint venture for the production of Ka-226T helicopters.³³

During the Cold War, India produced a range of Soviet weapons systems under licence, including hundreds of MiG-21 and MiG-27 fighter aircraft. Since 1991, it has continued to purchase large quantities of weaponry from Russia.

In addition to the purchase of off-the-shelf final weapon systems and components, India enjoys the closest defence-industrial relationship with Russia of any country outside the former Soviet Union.³⁴ As well as the recently announced joint venture to produce Ka-226T helicopters, defence-industrial enterprises from the two countries are working together to develop and produce a wide range of weapon systems, including the Brahmos cruise missile³⁵ and the PAK-FA ('Perspektivny Aviatsionny Kompleks Frontovoy Aviatsii') fifth-generation fighter aircraft.³⁶

Close relations have also resulted in Russia leasing to India one nuclear-powered Shchuka-B-class attack submarine (SSN) – the INS *Chakra* (formerly the K-152 *Nerpa*) – since 2012. As part of the recently announced arms deal between the two countries, India is to lease an additional submarine of the same type. This deal is significant because the Shchuka-B class is a very capable system: it is quiet (i.e. it has a very low acoustic signature) and is equipped with cruise missiles. The fact that Russia is prepared to transfer such sensitive and capable equipment to India vividly illustrates the importance that its leadership attaches to sustaining its position as India's primary weapons supplier.

Nevertheless, while Russia is dominant for now in the Indian arms market, its position is challenged both by increasingly intense competition from other arms exporters and by India's attempts to develop its own defence-industrial capabilities. The US, for example, has capitalized on closer political relations with India to conclude deals for medium and heavy transport planes, airborne anti-submarine systems, and Chinook transport and Apache attack helicopters.³⁷ Whether India is prepared to purchase US weapons outside areas in which Russia is not as competitive is unclear, however.³⁸ At the same time the Indian government is pursuing an initiative known as 'Make in India',

³³ *Vedomosti* (2016), 'Rossiya i Indiya posotrudnichayut na neskol'ko milliardov dollarov' [Russia and India in collaborations worth several billion dollars], 16 October 2016, <https://www.vedomosti.ru/politics/articles/2016/10/17/661178-rossiya-indiya-posotrudnichayut>; and RIA Novosti (2016), 'Rossiya i Indiya podpisali soglasheniye o postavkakh S-400' [Russia and India sign an agreement on the supply of S-400s], 15 October 2016, https://ria.ru/defense_safety/20161015/1479294819.html.

³⁴ Makienko, K. (2016), *Indian-Russian Relationship in a World of two Superpowers*, Moscow Defense Brief, Moscow: CAST, 2016, No. 2.

³⁵ *Vzglyad* (2016), 'SMI: Rossiya i Indiya khotyat «nauchit» raketu «BraMos» unichtozhat avianostsy' [Media: Russia and India want to 'teach' the 'BraMos' missile to destroy aircraft carriers], 20 October 2016, <http://vz.ru/news/2016/10/20/839272.html>.

³⁶ *Vzglyad* (2016), 'Rossiya i Indiya podpishut kontrakt po novomu etapu razrabotki istrebitelya pyatogo pokoleniya' [Russia and India to sign a contract for a new phase of development of a fifth-generation fighter], 29 March 2016, <http://vz.ru/news/2016/3/29/802324.html>; and *Vzglyad* (2016), 'SMI: Rossiya i Indiya soglasovali detali proizvodstva istrebitelya pyatogo pokoleniya' [Media: Russia and India have agreed on the details of production of a fifth-generation fighter], 12 September 2016, <http://vz.ru/news/2016/9/12/832024.html>.

³⁷ Pearson, N. and Bipindra, N. C. (2015), 'India surges to second-biggest US weapons buyer', Bloomberg, 27 September 2015, <https://www.bloomberg.com/news/articles/2015-09-27/india-surges-to-second-biggest-u-s-weapons-buyer-as-china-rises>.

³⁸ Makienko (2016), *Indian-Russian Relationship in a World of two Superpowers*.

which aims to support domestic production of armaments, among other things. This has influenced defence procurement policy. It requires Indian components to account for at least 40 per cent of the total used to produce indigenously developed equipment, and 60 per cent if the equipment is designed outside India.³⁹

The use of joint ventures offers – at least partially – a risk mitigation strategy to protect the market shares of Russian arms exporters. Moreover, a willingness to transfer advanced technology and know-how looks set to confer competitive advantages on Russian exporters operating in India; these advantages are likely to last for some time.

China

China has a much larger defence-industrial base than India and is able to produce much of the equipment used by its armed forces.⁴⁰ However, despite having made advances in several areas over recent years, China's defence industry continues to import those weapons systems and components that it is unable to produce itself. Between 2000 and 2016, China accounted for 8.1 per cent of global arms purchases recorded by SIPRI, second only to India, with Russia supplying nearly 80 per cent of this. The close relationship in the realm of armaments is part of an increasingly close political relationship between Russia and China.⁴¹

In the 1990s, China took advantage of the thaw in relations after the disintegration of the Soviet Union to resume the large-scale acquisition of Russian weaponry, something that had ceased in the 1950s because of the Sino-Soviet split. The fact that domestic Russian procurement plummeted in the 1990s meant that Russian firms were eager to export even the most advanced weaponry to stay commercially viable.⁴² This resulted in China acquiring more defence products from Russia than from all other countries combined.⁴³ These products included Tor-M1 and S-300PMU air-defence systems, Sovremenny-class destroyers, and Varshavyanka-class (Project 636M) and Paltus-class (Project 877E) submarines. In addition, Russia agreed to allow the licensed production in China of Su-27 combat aircraft, Mi-17 helicopters, and anti-tank and anti-ship missiles.⁴⁴

The large Sino-Russian arms deals of the 1990s were not without controversy. There was considerable debate in Russia as to whether China ought to be sold weapons that could, in the future, be used against the country. China's violations of Russian intellectual property – illustrated by the brazen reverse engineering of the Su-27 fighter aircraft to support the production of the 'indigenous' J11B fighter – also led many to believe that Chinese demand would decline once Russia's technological lead was eroded.⁴⁵ Indeed, Chinese purchases began to tail off in the mid-2000s, leading some observers to suggest that this was the 'beginning of the end for Chinese orders for complete systems from Russia'.⁴⁶

³⁹ Sen, S. R. (2016), "Designed in India" the focus as defence procurement rules change', NDTV, 12 January 2016, <http://www.ndtv.com/india-news/new-rules-for-defence-equipment-purchase-indian-manufacturers-to-get-priority-1264595?site=full>.

⁴⁰ Cheung, T. M. (ed.) (2013), *China's Emergence as a Defence Technological Power*, London and New York: Routledge.

⁴¹ On Sino-Russian relations, see Lo, B. (2008), *Axis of Convenience: Moscow, Beijing, and the New Geopolitics*, London: Royal Institute of International Affairs; and Lo, B. (2015), *Russia and the New World Disorder*, Washington, DC: Brookings.

⁴² A useful overview of this period is contained in Safronov, I. (2016), 'Eksportnyy pritsel' [Export scope], *Kommersant*, 6 June 2016, <http://www.kommersant.ru/doc/2996059>.

⁴³ Weitz, R. (2008), *China-Russia Security Relations: Strategic Parallelism without Partnership or Passion*, Carlisle, PA: Strategic Studies Institute, http://www.globalsecurity.org/military/library/report/2008/ssi_weitz.pdf.

⁴⁴ Discussed in Mitchell, C. (2009), *Phoenix from the Ashes? Russia's Defence Industrial Complex and its Arms Exports*, Canberra: Australian National University.

⁴⁵ Watts, J., Ledberg, S. and Engelbrekt, K. (2016), 'Brothers in arms, yet again? Twenty-first century Sino-Russian strategic collaboration in the realm of defence and security', *Defence Studies*, 1:4, p. 431, DOI: 10.1080/14702436.2016.1238747.

⁴⁶ Jakobson, L., Holtom, P., Knox, D. and Peng, J. (2011), *China's Energy and Security Relations with Russia: Hopes, Frustrations and Uncertainties*, Stockholm: SIPRI.

By the early 2010s China accounted for around 10 per cent of total Russian arms exports, compared with a peak of 60 per cent in 2005.

However, while there is no doubt that China would prefer not to have to rely on imported components and weapons systems, it appears that there are significant gaps in its production capabilities, especially in air-defence systems, missiles and aircraft engines. As a result, a series of deals agreed in 2014–15 resulted in China returning towards the top of the list of Russia's most important arms customers. Deals to purchase advanced weaponry – including Su-35 aircraft, S-400 air-defence systems, and Saturn AL-31 aircraft engines – have resulted in China accounting in 2016 for around \$8 billion worth (i.e. about 15 per cent) of Russia's portfolio of \$50 billion in signed arms export deals.⁴⁷

While there is no doubt that China would prefer not to have to rely on imported components and weapons systems, it appears that there are significant gaps in its production capabilities, especially in air-defence systems, missiles and aircraft engines.

Military-technical cooperation between the two countries has also grown in recent years, and has the potential to move beyond the simple licensed production of Russian equipment in China towards a more collaborative relationship. Cooperation is institutionalized through periodic meetings of the Russian-Chinese intergovernmental commission on military-technical cooperation. The two countries are currently working on the joint development of several systems, including an advanced heavy lift-helicopter,⁴⁸ helicopter engines,⁴⁹ and the integration of Chinese cockpit equipment into the Su-35 aircraft.⁵⁰ Enhanced cooperation in the production of naval vessels has also been discussed.⁵¹

Given China's desire to reduce its dependency on imports of some systems, it is likely that Russian producers will be required, as in India, to engage in greater collaborative projects in order to maintain a strong presence in the Chinese market. Moreover, the arms relationship between the two countries has evolved significantly since the 1990s, with China now supplying an increasingly large volume of components, especially electronic, for use in final weapon-systems production in Russia. This trend has grown stronger since the imposition of sanctions on Russia in 2014, which has caused Russia to seek dual-use technologies from non-Western countries, notably China.⁵² It is also possible that China may prove to be a useful source of know-how for Russia when it comes to ship engines and drone technology in the future.

⁴⁷ Nikoľ'siy, A. (2016), 'Kitay vernulsya v pyaterku krupneyshikh importerov rossiyskogo oruzhiya' [China returns to five largest importers of Russian weapons], *Vedomosti*, 2 November 2016, <http://www.vedomosti.ru/politics/articles/2016/11/02/663309-kitai-krupneishih-importerov>.

⁴⁸ RIA Novosti (2016), 'Rossiya i Kitay podpisali dogovor o sozdanii grazhdanskogo tyazhelogo vertoleta' [Russia and China sign agreement on creation of civilian heavy lift helicopter], 25 June 2016, <https://ria.ru/east/20160625/1451681283.html>; and RIA Novosti (2016), 'Kitay nameren priobresti shirokuyu lineyku rossiyskikh vertoletov' [China intends to acquire a wide range of Russian helicopters], 2 November 2016, https://ria.ru/defense_safety/20161102/1480513970.html.

⁴⁹ RIA Novosti (2016), 'ODK gotova sozdat' dvigatel' dlya rossiysko-kitayskogo vertoleta' [UEC ready to create engine for Russian-Chinese helicopter], 1 November 2016, https://ria.ru/defense_safety/20161101/1480435782.html.

⁵⁰ TASS (2016), 'Russia will supply first four Su-35 fighters to China by end of 2016 – source', 19 February 2016, <http://tass.com/defense/857813>.

⁵¹ RIA Novosti (2016), 'V Kitaye vidyat neobkhodimost' razvivat' sotrudnichestvo s VMF Rossii' [China sees the need to develop cooperation with the Russian navy], 4 November 2016, https://ria.ru/defense_safety/20161104/1480684197.html.

⁵² Kashin, V. (2016), 'Kitay kak eksporter voyennykh tekhnologiy naznacheniya' [China as an exporter of military technology], *Ekspert vooruzheniy*, 4, p. 34.

In broader terms, the export of weaponry to China is proving, from Russia's perspective at least, to be an important factor in cementing closer ties between the two countries and ensuring global strategic stability, as stated by President Putin in 2014.⁵³ In this respect, the character of the broader geopolitical relationship that is still unfolding will probably be a crucial factor in determining how the arms relationship evolves. If, on the one hand, Russia and China develop closer political ties, then one can expect even greater military-technical cooperation, leading to the development and construction of joint weapons systems reflecting the two countries' comparative advantages. But if, on the other hand, the commitment to a geopolitical partnership does not move beyond the rhetorical, China may well prove to be more of a competitor in global arms markets rather than a partner.⁵⁴

Vietnam

Over the past decade, Vietnam has risen in importance as a market for Russian weapons: between 2010 and 2016 it imported 10 per cent of all Russia's arms exports. Indeed Vietnam imports almost all its defence equipment from Russia, including aircraft and naval vessels such as the Su-30MK fighter, Tarantul-class corvettes, Gepard-class corvettes and the Varshavyanka-class diesel-electric submarine.⁵⁵ Like India, Vietnam has a well-established relationship with Russia. The Vietnamese military was not only given equipment by the Soviet Union, it was also dependent upon Soviet funding.⁵⁶ When the Soviet Union collapsed, a large proportion of the funding and maintenance of the Vietnamese defence structure disappeared.

Since then, the Vietnamese economy has grown briskly.⁵⁷ Moreover, total government expenditure as a share of GDP has grown steadily since 1998, reaching almost 30 per cent in 2015.⁵⁸ The expansion of budgetary resources has enabled the government to address problems including obsolete military hardware – something that is especially important for it given rising tensions with China in the South China Sea. Because of the nature of the military threats perceived by Vietnam, defence procurement has been tilted towards the navy and the air force.

The biggest threat to Russia's position in the Vietnamese market is connected to Vietnam's increasingly warm relations with the US. Due to a shared interest in checking any Chinese expansionism in Southeast Asia, relations between Vietnam and the US have improved significantly in recent years, resulting in the softening of US sanctions that proscribe the sale of armaments to Vietnam. Were relations to warm further, it is possible that Vietnam might be able to purchase US weapon systems, which would expose Russian firms to greater competition.⁵⁹

⁵³ RIA Novosti (2014), 'Putin: kontakty s KNR po linii minoborony - vazhnyy faktor bezopasnosti' [Putin: Defence Ministry contact with the Chinese is an important security factor], 20 May 2014, https://ria.ru/defense_safety/20140520/1008512315.html.

⁵⁴ Kashin (2016), 'Kitay kak eksporter voyennykh tekhnologiy naznacheniya', p. 38.

⁵⁵ Sidorkova, I. (2016), 'Rossiyu ne puskayut v Kamran' [Russia not allowed in Cam Ranh], *Gazeta.ru*, 13 October 2016, <https://www.gazeta.ru/army/2016/10/13/10249199.shtml#page3>.

⁵⁶ Porter, B. (1986), *The USSR in Third World conflicts: Soviet arms and diplomacy in local wars 1945–1980*, Cambridge: Cambridge University Press.

⁵⁷ International Monetary Fund (2016), World Economic Outlook Database, October 2016, http://www.imf.org/external/pubs/ft/weo/2016/02/weodata/weorept.aspx?sy=1991&ey=2016&scsm=1&ssd=1&sort=country&ds=.&br=1&pr1.x=57&pr1.y=8&c=582&s=NGDP_RPCH&grp=0&a= (accessed 6 Feb. 2017).

⁵⁸ *Ibid.*, http://www.imf.org/external/pubs/ft/weo/2016/02/weodata/weorept.aspx?sy=1998&ey=2016&scsm=1&ssd=1&sort=country&ds=.&br=1&pr1.x=59&pr1.y=8&c=582&s=GGX_NGDP&grp=0&a= (accessed 6 Feb. 2017).

⁵⁹ BBC News (2016), 'Obama lifts US embargo on lethal arms sales to Vietnam', 23 May 2016, <http://www.bbc.co.uk/news/world-asia-36356695>.

The Middle East and North Africa

The Middle East and North Africa (MENA) is the second-most important region for Russia's arms exports, and accounted for 17.8 per cent of the total between 2000 and 2016. This market comprises traditional customers such as Iraq (1.4 per cent of exports), Syria (1.4 per cent), Egypt (1.4 per cent) and Yemen (1.2 per cent), as well as newer markets such as Algeria (9.1 per cent), Iran (2 per cent) and the United Arab Emirates (UAE) (0.7 per cent).

However, competition in the region is much more intense than in Asia, with Russia responsible for a relatively modest 18.3 per cent of all arms sales in 2000–16. As illustrated in Figure 8, Russia is dominant in Algeria, Iran, Syria and Yemen, and the rapidly shifting geopolitical environment in the region means that new opportunities may emerge.

Figure 8: Russian arms sales to the Middle East and North Africa, 2000–16



Note: Countries are designated N/A (data not available or applicable) if no data exist, or if their total imports over the whole period were \$100 million TIV or less.

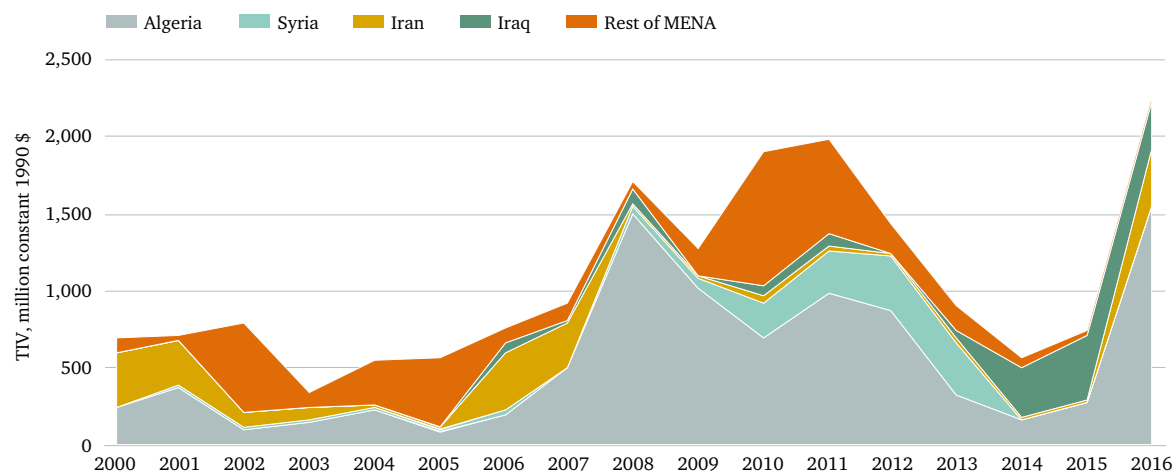
Sources: SIPRI Arms Transfers Database, 2017; authors' calculations.

Algeria accounted for over half of Russian arms exports to the region between 2000 and 2016 (see Figure 9). It was also the third-largest overall market for Russia's weaponry (behind only India and China), accounting for 9.1 per cent of exports. Since 2000, Algeria has acquired armoured vehicles (T-90S), fighter aircraft (Su-30MKA), missiles (SA-10 and Kh-31M) and submarines (Varshavyanka-class).⁶⁰ One of the largest arms deals between Russia and Algeria, signed in 2006, was part of a larger commercial deal that included Russia writing off \$4.5 billion of debt, access for Russian firms to Algeria's oil and gas reserves, and the construction later of a T-90 assembly plant in Algeria (a deal signed in 2015).⁶¹

⁶⁰ See TASS (2015), 'Russia, Algeria sign contract for 14 Su-30MKA aircraft', 11 September 2015, <http://tass.com/defense/820485>; and Lenta.ru (2012), 'Alzhir dokupit u Rossii dve "Varshavyanki"' [Algeria to buy two "Varshavyanka"], 19 September 2012, <https://lenta.ru/news/2012/09/19/subs/>.

⁶¹ Interfax.ru (2016), 'SMI soobshchili ob otguzke Alzhiru treti iz 200 rossiyskikh tankov T-90SA' [The media has reported that a third of the 200 Russian T-90SA tanks have been shipped to Algeria], 18 July 2016, <http://www.interfax.ru/world/51917>.

Figure 9: Major Middle East and North Africa importers of Russian arms, 2000–16 (TTV, million constant 1990 \$)



Sources: SIPRI Arms Transfers Database, 2017; authors' calculations.

Russia has sought to increase its share of the MENA arms market, where it was strong during the Soviet period. There have been setbacks, though. The removal from power of clients such as Saddam Hussein in Iraq (2003) and Muammar Gaddafi in Libya (2011) caused considerable losses for Russian arms firms.⁶² Moreover, the arms embargo placed on Iran in 2007 froze what was a burgeoning arms relationship. However, in the past year or so there has been a resurgence in interest in Russian weaponry across the region, whether because of its perceived effectiveness in combat in Syria or because Russia is more willing than Western countries to sell it to countries such as Iran and Syria. The sale of the S-300 air-defence system to Iran, which had been delayed by the imposition of sanctions on Iran, has finally taken place, and there is speculation that Iran will purchase Su-30SM fighter aircraft.⁶³

Efforts to penetrate markets recently dominated by US and European suppliers have also begun to bear fruit. In 2014, Russia agreed a multi-billion-dollar deal to supply attack helicopters and MiG-29 fighter aircraft to Egypt.⁶⁴ This was important because Egypt has relied on the US for arms since the late 1970s. Russia has also supplied attack helicopters and air-defence systems to Iraq, and there is speculation that the latter will purchase fighter aircraft in the future.⁶⁵ There have even been rumours that Russia might be able to carve out a position in Saudi Arabia, the region's largest buyer of weaponry, although this is a market traditionally dominated by US and European suppliers, reflecting Riyadh's close political relationships with the US and European governments.⁶⁶ However, Russia's

⁶² Kozhanov, N. (2016), 'Arms Exports Add to Russia's Tools of Influence in Middle East', Chatham House Expert Comment, 20 July 2016, <https://www.chathamhouse.org/expert/comment/arms-exports-add-russia-s-tools-influence-middle-east>.

⁶³ Mochshkin, M. (2016), 'Rossiyskimi S-300 Iran prikroyet zavody po proizvodstvu raket' [Russian S-300 to cover Iran's missile production factories], *Vzglyad*, 10 May 2016, <http://vz.ru/world/2016/5/10/809779.html>; RIA Novosti (2016), 'Ekspert rasskazal, pochemu Iran vryad li kupit rossiyskiye Su-30' [Expert explains why Iran is unlikely to buy Russian Su-30], 26 November 2016, https://ria.ru/defense_safety/20161126/1482244735.html; and RIA Novosti (2016), 'Rossiya i Iran khotyat vozobnovit' ryad kontraktov po postavkam vooruzheniya' [Russia and Iran want to renew a range of contracts for the delivery of weapons], 7 November 2016, https://ria.ru/defense_safety/20161107/1480826344.html.

⁶⁴ *Vzglyad* (2014), 'Istochnik: Rossiya i Yegipet obsuzhdayut krupnyuyu sdelku na postavku vooruzheniy' [Source: Russia and Egypt to discuss major deal for delivery of weapons], 14 February, 2014, <http://vz.ru/news/2014/2/14/672611.html>; Nikol'skiy, A. (2015), 'Soglasovan kontrakt na postavku 46 istrebiteley MiG-29 v Yegipet' [Contract agreed to supply 46 Mig-29 fighters to Egypt], *Vedomosti*, 25 May 2015, <https://www.vedomosti.ru/politics/articles/2015/05/25/593348-soglasovan-kontrakt-na-postavku-46-istrebiteley-mig-29-v-egipet>.

⁶⁵ Lenta.ru (2012), 'Imet' tri zheny' [Having three wives], 10 November 2012, <https://lenta.ru/articles/2012/11/12/failed/>.

⁶⁶ RIA Novosti (2016), 'Saudovskaya Araviya interesuyetsya rossiyskimi sistemami PVO' [Saudi Arabia interested in Russian air defence systems], 1 November 2016, https://ria.ru/defense_safety/20161101/1480431907.html.

support for President Bashar al-Assad in Syria may complicate its efforts to forge closer arms ties with countries like Saudi Arabia that are actively supporting his opponents.

Latin America

Latin America accounted for 4.6 per cent of total Russian arms exports between 2000 and 2016. More than 80 per cent of these shipments consisted of supplies to Venezuela, supplemented by modest volumes of exports to Peru and Brazil. The regional arms market tends to be dominated by European and US suppliers, or by domestic suppliers, as is the case in Brazil, the largest military spender in the region (see Figure 10). The relatively small volume of military spending across the region, as well as a tendency among the majority of its countries to enjoy close political ties with the US and Europe, means that the prospects for expanding Russia's markets outside Venezuela appear bleak. However, that has not stopped Rosoboronekспорт from trying, with efforts under way to market small warships, helicopters, submarines, missiles and fighter aircraft across the region.⁶⁷

Figure 10: Russian arms sales to Latin America, 2000–16



Note: Countries are designated N/A (data not available or applicable) if no data exist, or if their total imports over the whole period were \$100 million TIV or less.

Sources: SIPRI Arms Transfers Database, 2017; authors' calculations.

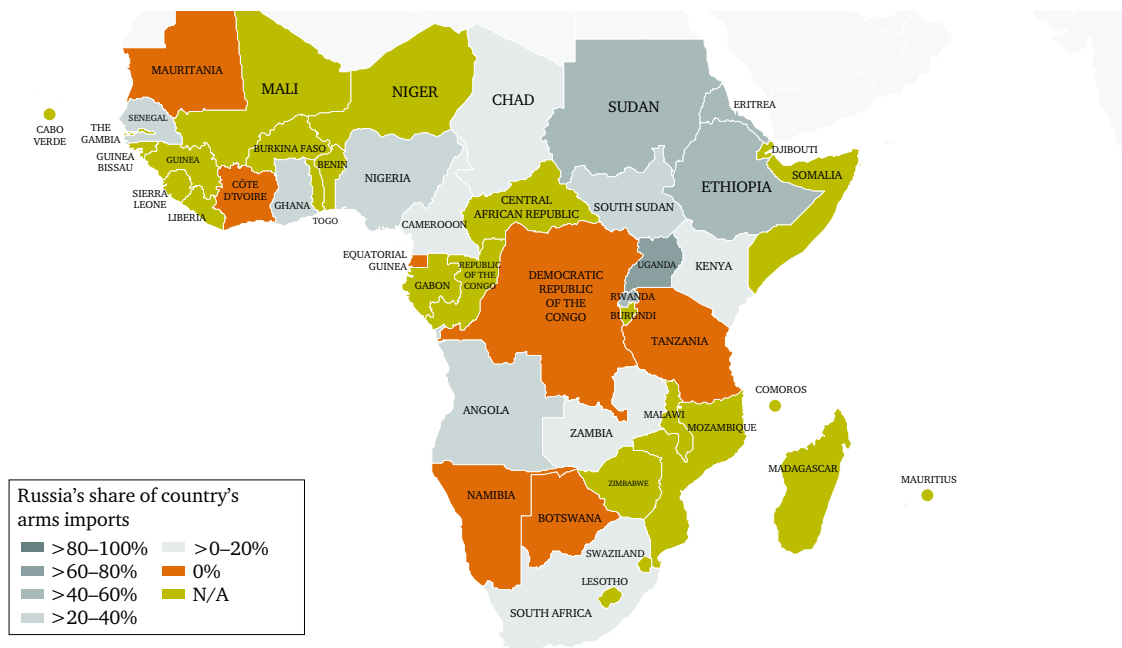
⁶⁷ RIA Novosti (2016), 'Rossiya gotova pomoch' stranam Latinskoy Ameriki s modernizatsiyey VMS' [Russia is prepared to help countries of Latin America with the modernization of their navies], 29 November 2016, https://ria.ru/defense_safety/20161129/1482424064.html; and Khrolenko, A. (2016), 'Zachem Dmitriy Rogozin poyekhhal v Latinskuyu Ameriku' [Why Dmitri Rogozin went to Latin America], RIA Novosti, 9 December 2016, https://ria.ru/defense_safety/20161209/1483248766.html.

Venezuela has the fifth-largest defence budget in the region.⁶⁸ It has bought a wide range of weapons systems from Russia in recent years, including BMP-3, BTR-80A and T-72 armoured vehicles, air-defence systems, and Mi-8MT/Mi-17s helicopters. However, Russia's entrenched position in the Venezuelan market faces two threats. First, the future of Venezuela's defence budget is uncertain due to the extreme economic difficulties afflicting the country. Most of Venezuela's arms purchases from Russia were funded from the boom in hydrocarbon prices in the early 2000s. However, after two years of relatively low oil prices, Venezuela has experienced a severe recession, which is likely to restrict the government's ability to continue spending on military procurement. Second, Russia has faced increasing competition from China in recent years: indeed Chinese suppliers accounted for 90 per cent of Venezuelan arms imports in 2015.⁶⁹

Sub-Saharan Africa

Like Latin America, Africa is a market of modest importance to Russian arms manufacturers. It accounted for 3 per cent of Russia's total arms exports between 2000 and 2016, with sales by volume concentrated in Sudan (0.9 per cent), Uganda (0.6 per cent) and Ethiopia (0.5 per cent). While the volume of sales is not large from Russia's perspective, Figure 11 shows that the country has been the dominant supplier of weaponry in a number of countries: accounting for 44 per cent of imported weapons in Eritrea (or 54 per cent if one includes the two Su-27 aircraft that were imported from Ukraine in 2002–03), 50 per cent in Ethiopia, 50 per cent in Sudan and 74 per cent in Uganda. Russian manufacturers are also competitive in Angola (accounting for 28 per cent of arms exports to the country), Ghana (22 per cent) and Nigeria (22 per cent).

Figure 11: Russian arms sales to Africa, 2000–16



Note: Countries are designated N/A (data not available or applicable) if no data exist, or if their total imports over the whole period were \$100 million TIV or less.

Sources: SIPRI Arms Transfers Database, 2017; authors' calculations.

⁶⁸ SIPRI (2015), 'Military Expenditure Database 2015', <http://milexdata.sipri.org> (accessed 12 Nov. 2016).

⁶⁹ *Voyenny paritet* (2016), 'Eksport vooruzheniy. Kitay stal ser'yeznyim igrokom v LA' [Arms exports. China has become a serious player in Latin America], 27 June 2016, http://vpk.name/news/158221_eksport_vooruzhenii_kitai_stal_sereznyim_igrokom_v_la.html.

While Russian arms are competitive across sub-Saharan Africa, most of the region's countries are comparatively poor. Defence spending in absolute terms is therefore too modest for Africa to become a destination of real commercial significance. This will not change unless economic growth accelerates at a sustained rate across the region. Nevertheless, Russian exporters appear keen to strengthen their position, with officials from Rosoboronekспорт describing Africa as a 'growth market'.⁷⁰ Russian suppliers appear to be prepared to tailor their approach to the African market by focusing on the provision of either older equipment or of service and repair facilities.⁷¹ Regardless of whether the region grows in commercial importance, Russia's importance as a supplier of armaments there means that it could exploit any political capital that might be gained from this position by seeking to acquire basing rights for its armed forces, or by supporting its energy and mining firms in gaining rights to exploit African natural resources.⁷² However, Russia is not the only country to be making such efforts on the continent. It faces stiff competition from China, which has been a growing source of arms and has provided increasing support to African countries in the development of their natural resources.

⁷⁰ TASS (2016), 'Rosoboronekспорт: Russian weapons export to Africa keeps growing', Russia Beyond the Headlines, 14 September 2016, http://rbth.com/news/2016/09/14/rosoboronekспорт-russian-weapons-export-to-africa-keeps-growing_629967.

⁷¹ A repair centre for aircraft components is scheduled to be opened at an as yet unknown location somewhere in Africa in 2018. Ato.ru (2016), 'Kholding "Tekhnodinamika" otkroyet tsentr TOiR v Afrike' [Technodynamics opening repair centre in Africa], 20 September 2016, <http://www.ato.ru/content/holding-tehnodinamika-otkroet-centr-toir-v-afrike>. Meanwhile, older, surplus models of T-72 tanks have been supplied in large numbers to Sudan. *Izvestiya* (2016), 'Rossiya prodast Sudanu 170 tankov T-72' [Russia to sell 170 T-72 tanks to Sudan], 20 September 2016, <http://izvestia.ru/news/633326>.

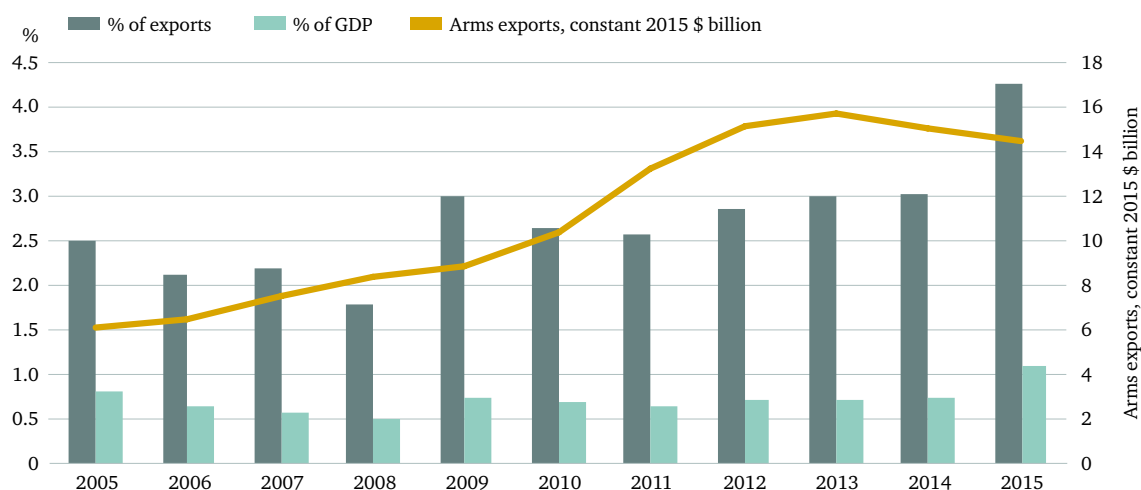
⁷² Blank, S. (2016), 'Could Africa Become a New Leading Market For Russian Arms Sales?', Eurasian Daily Monitor, 21 September 2016, <https://jamestown.org/program/could-africa-become-a-new-leading-market-for-russian-arms-sales/#sthash.DgaPClfo.dpuf>.

3. Arms Exports and the Russian Economy

Russia is clearly a global leader in the production and export of weaponry, and arms exports play an important role in the functioning and performance of its economy. This section examines the role of armaments exports in the Russian economy – including their size and development relative to other export categories, trends in domestic versus external arms demand, and the challenges to the industry's future competitiveness.

As illustrated in Figure 12, Russia's arms exports peaked in real terms (i.e. adjusted for inflation) in 2013. Nevertheless, their volume in proportion to the export basket (goods and services) and to GDP has risen since 2011, peaking in 2015.⁷³ The sharp upward surge in 2015 was a function of the recession which began at the end of 2014 and which was caused primarily by the steep decline in global oil prices. The slump in the value of Russian exports (which are dominated by hydrocarbons) reduced the dollar value of overall Russian exports and of GDP.⁷⁴ While a 3–4 per cent share of total exports might not look especially impressive, arms account for a large proportion of Russia's manufactured and technology-intensive exports.⁷⁵ For instance, in 2015 exports of machinery and manufactured goods excluding weaponry amounted to around \$25 billion, compared with arms exports of around \$14.5 billion.⁷⁶

Figure 12: The value of Russia's arms exports, 2005–15 (left-hand axis: per cent of total exports and GDP; right-hand axis: constant 2015 \$ billion)



Sources: CAST (2016); Bank of Russia (2016); Rosstat (2016).

⁷³ The export figure is also cited in TASS (2016), 'Dolya vooruzheniy v rossiyskom eksporte sostavlyayet 4.2%' [Armaments account for 4.2% of Russian exports], 2 November 2016, <http://tass.ru/armiya-i-opk/3755729>.

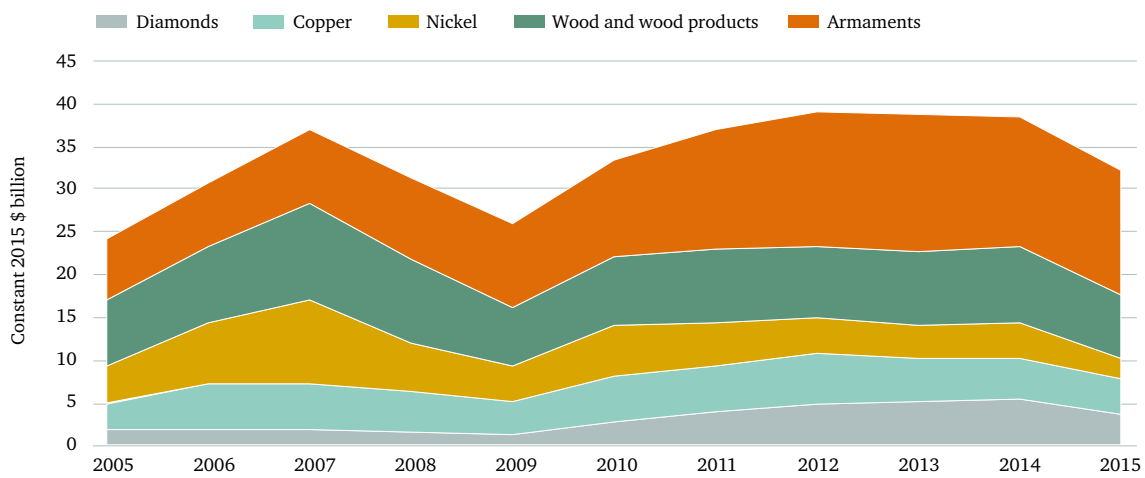
⁷⁴ Connolly, R. (2015), *Troubled Times: Stagnation, Sanctions and the Prospects for Economic Reform in Russia*, Research Paper, London: Royal Institute of International Affairs, <https://www.chathamhouse.org/publication/troubled-times-stagnation-sanctions-and-prospects-economic-reform-russia>. The comparison with GDP is made for illustrative purposes. GDP measures value-added, while the total volume of arms exports is a measure of output.

⁷⁵ Koshovets, O. and Ganichev, H. (2015), 'Eksport rossiiskikh vooruzheniy kak osobiy factor razvitiya vysokotekhnologichnoi promyshlennosti Rossii' [Russian arms exports as a special factor in the development of high-technology industry in Russia], *Problemy prognozirovaniya*, 2.

⁷⁶ Calculated using export data for 'machinery and transport equipment' (SITC Rev.3 category 7) and 'other manufactured goods' (SITC Rev.3 categories 6 and 8). Data from UN Comtrade database, 2016, <https://comtrade.un.org/data/> (accessed 21 Oct. 2016).

Perhaps an even better way to gauge the importance of armaments exports is to compare annual sales with revenues from different sub-sectors of the natural resources industry. As Figure 13 shows, in the period 2005–15 as a whole arms accounted for a larger share of Russia's exports than did each individual non-hydrocarbon natural resource sector. However, as Figure 14 illustrates, Russia's exports of hydrocarbons (oil, gas and coal) dwarf those in all other categories, including arms. Arms exports have also tended to hold up during the downturn in commodity prices, which explains why their share of total exports rose so sharply in 2015.

Figure 13: Russia's export revenues in armaments and selected natural resource sectors (excluding hydrocarbons), 2005–15, constant 2015 \$ billion



Sources: UN Comtrade (2016); CAST (2016); IMF (2016).

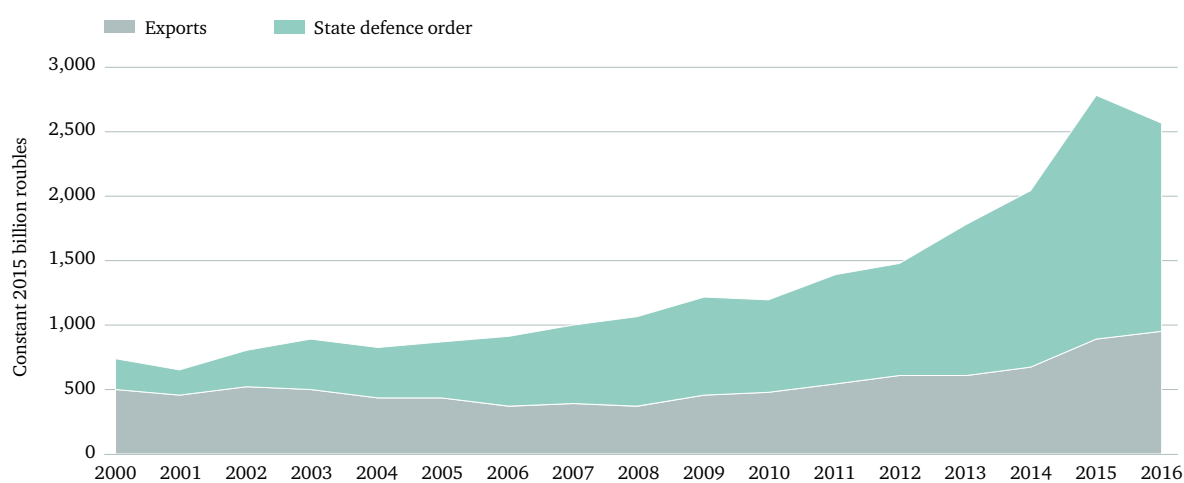
Figure 14: Russia's export revenues in armaments and selected natural resource sectors (including hydrocarbons), 2005–15, constant 2015 \$ billion



Sources: UN Comtrade (2016); CAST (2016); IMF (2016).

As well as accounting for a growing share of exports, production for sale abroad is important to the maintenance of Russia's fundamental capacity to produce armaments. During the Soviet period, exports accounted for 3–12 per cent of annual arms production, according to different estimates.⁷⁷ Figure 15 shows how the size of arms exports and production for the annual state defence order has evolved over the past decade and a half. At the turn of the century, exports were worth more than twice the state defence order, a tendency that characterized the 1990s when exports helped many producers to survive as the government slashed defence spending. This helped maintain employment and production lines across the industry. However, rapid economic growth from 1999 helped boost government finances, eventually leading to a sustained increase in the volume of the state defence order from 2005 onwards. Gradually, production to satisfy domestic demand has outpaced that to meet demand for exports. Domestic demand picked up strongly from 2011 with the adoption of the 10-year state armaments programme to re-equip and modernize the armed forces by 2020.⁷⁸ By 2015, the value of the state defence order exceeded the value of exports by a factor of two, although the decline in domestic defence orders that began in 2016 means that the relative importance of arms exports is growing again. This has caused a corresponding increase in the share of arms production in total manufacturing value-added. By 2015 arms production accounted for 9.2 per cent of manufacturing value-added.⁷⁹

Figure 15: Value of Russia's arms exports and the state defence order, 2000–16, constant 2015 billion roubles



Note: Annual average dollar/rouble exchange rates used for each year to convert dollar export prices reported by CAST into domestic currency. Rouble prices deflated using consumer price index. Sources: CAST (2017); authors' calculations.

Yet the bonanza looks unlikely to last. According to Russian officials, domestic procurement of armaments is scheduled to decline gradually over the next three years.⁸⁰ Other problems remain for the defence industry, moreover. Despite the increase in financial resources directed towards it over the past few years, several structural weaknesses threaten to impair the ability of Russian firms

⁷⁷ Kirshin (1998), 'Conventional arms transfers during the Soviet Period', in Anthony (1998), *Russia and the Arms Trade*, p. 50.

⁷⁸ See Cooper (2016), *Russia's State Armament Program to 2020*; and Connolly and Sendstad (2017, forthcoming), 'Russian Rearmament'.

⁷⁹ Kuboniwa, M. (2016), *Considerations on new Rosstat data on the contribution of Russia's military goods sector to GDP growth in recent years*, Helsinki: Bank of Finland Institute for Transition.

⁸⁰ Connolly, R. (2016), 'Hard Times: Defence Spending and the Russian Economy', *Russian Analytical Digest*, 196, <http://www.css.ethz.ch/content/dam/ethz/special-interest/gess/cis/center-for-securities-studies/pdfs/RAD196.pdf>.

to remain competitive in global markets. There are weaknesses within the industry, and within the wider national innovation system – such as ageing physical capital, an ageing R&D workforce, and inadequate linkages between higher education and defence-industrial firms – that suppress modernization.⁸¹ The defence industry has also experienced difficulties caused by Western and Ukrainian sanctions imposed in the aftermath of the illegal annexation of Crimea in 2014.⁸² For instance, the cessation of exports from Ukrainian firms to Russia caused shortages of air-to-air missiles, helicopter engines and gas turbines for naval ships.⁸³ The arms embargo imposed by Western countries reduced Russian access to some foreign-made components used within weapons systems, such as diesel engines for the Gremyashchy-class corvettes. Although the Russian authorities have developed an import-substitution plan to replace embargoed products with domestically produced ones, it is not clear how successful these efforts will be.⁸⁴ Taken together, these deficiencies could hinder the development of a future generation of new weapons systems, which would in turn leave Russia vulnerable to competition from newly emerging arms exporters.⁸⁵

⁸¹ See, for instance, Adamsky, D. (2014), *Defense Innovation in Russia: The Current State and Prospects for Revival*, La Jolla, CA: Institute on Global Conflict and Cooperation; Graham, L. (2013), *Lonely Ideas*, Cambridge, MA: MIT Press; Matyushkin, S. (2016), 'Martyshkin GOZ – chast' I' [Martyshkin State Defence Order – Part 1], *Voyenno-Promyshlennyy Kur'yer*, 18 May 2016, <http://www.vpk-news.ru/articles/30670>; OECD (2011), *Review of Innovation Policy: Russian Federation*, Paris: OECD; and Roffey, R. (2013), 'Russian Science and Technology is Still Having Problems – Implications for Defense Research', *Journal of Slavic Military Studies*, 26:2, DOI 10.1080/13518046.2013.779849.

⁸² Connolly, R. (2016), 'The Empire Strikes Back: Economic Statecraft and the Securitisation of Political Economy in Russia', *Europe-Asia Studies*, Vol. 67, No. 4, pp. 750–73.

⁸³ Frolov, A. (2016), 'Svoy vmesto chuzhikh' [It's strangers instead], *Russia in Global Affairs*, 30 November 2016, available at <http://www.globalaffairs.ru/number/Svoi-vmesto-chuzhikh-18493>.

⁸⁴ Connolly, R. and Hanson, P. (2016), *Import Substitution and Economic Sovereignty in Russia*, Research Paper, London: Royal Institute of International Affairs, <https://www.chathamhouse.org/publication/import-substitution-and-economic-sovereignty-russia>.

⁸⁵ Dvorkin, V. (2014), 'Trebuyetsya Innovatsionnyy Proryv' [An Innovative Breakthrough is Required], *Voyenno-Promyshlennyy Kur'yer*, 19 February 2014, <http://www.vpk-news.ru/articles/19190>; and Frolov, A. (2015), 'Opasnosti na gorizonte' [Dangers on the Horizon], *Russia in Global Affairs*, 11 December 2015, available at <http://ni.globalaffairs.ru/opasnosti-na-gorizonte/>.

4. Conclusion: Prospects for Arms Exports and Foreign Policy

Russia continues to occupy a global position of strength in an industry of immense strategic importance. It can be considered a superpower in the global arms trade, exporting a wide range of sophisticated weapons systems to a growing number of countries around the world. Only the US is able to offer the same full spectrum of armaments to its customers. Russia is the dominant supplier of weapons systems to at least one country in each of the regions examined here. This has the potential to strengthen its political, economic and military influence in those countries. Russia is also seeking to strengthen its position in new markets, and its large portfolio of orders suggests that it will continue to occupy an important global position in the years to come.

Armaments exports play an important role in the Russian economy. They account for a small but significant share of total exports, and for a substantial share of manufactured exports. This makes the industry one of the leading sectors through which Russia is integrated with the global economy.

Armaments exports play an important role in the Russian economy. They account for a small but significant share of total exports, and for a substantial share of manufactured exports. This makes the industry one of the leading sectors through which Russia is integrated with the global economy. Arms exports continue to play an important role in providing demand for goods and services produced by the defence-industrial complex in Russia. Exports are not as important to the defence-industrial complex as they were in the 1990s, but they continue to help keep production lines in service, and thus help preserve the full spectrum of defence-industrial production capabilities.⁸⁶ This might become even more important in the future if, as planned, defence expenditure is further reduced from its current elevated level.⁸⁷ If the scheduled reduction in spending is indeed sustained, international arms sales would help offset reduced domestic demand.

There are several reasons to expect that Russia's leading position in the production and export of armaments will persist well into the future.

First, in addition to the healthy export revenues generated by arms-producing firms, Russia's industry has benefited from the rapid growth in defence procurement since 2011. Along with a programme to upgrade the capital stock in use across the industry, this injection of funds has helped boost productive capabilities and laid the foundations for the development of new weapons systems.⁸⁸

Second, Russia's willingness and ability to offer a full spectrum of defence-industrial goods facilitate the conclusion of large export deals, thus supporting the development of long-term relationships to equip the armed forces of key customers.

⁸⁶ Vladimir Putin reiterated the importance of preserving these capabilities in December 2016. RIA Novosti (2016), 'Rossiya dolzhna byt' nezavisima v oboronnoy promyshlennosti, zayavil Putin' [Putin states that Russia must be independent in defence-industrial production], 5 December 2016, https://ria.ru/defense_safety/20161205/1482894814.html.

⁸⁷ Connolly (2016), 'Hard Times: Defence Spending and the Russian Economy'.

⁸⁸ Cooper (2016), *Russia's State Armament Program to 2020*.

Third, the country's arms manufacturers may well benefit from the success enjoyed by Russia's armed forces in Syria. The fact that its weapon systems – such as the Su-34 and Su-35 aircraft and the Kalibr missile systems – have been proven to be operationally effective could boost the attractiveness of Russian weapons in other countries. This point should not be pushed too far, however; after all, airstrikes by Russian forces have taken place in a largely uncontested airspace. Whether these systems would perform as well against better-equipped forces is an open question.

Fourth, Russia is likely to continue to be seen as a reliable source of weapons for countries that do not enjoy warm relations with the US. This means that a wider range of countries are potential markets for Russian exporters, in contrast with the situation facing some of their Western competitors. Russian armaments producers have the opportunity to exploit the tensions that exist between the US and countries such as Iran, China or Syria, and also those that may emerge in countries that traditionally source their weapons from the US, such as Turkey, Egypt or the Philippines.

This is not to say that the outlook for Russia is entirely rosy. A number of internal and external challenges threaten to erode its competitive position as an arms exporter in the future.

First, in the past Russian firms have proven weak in the provision of after-sales support and guidance to their customers. This is a lucrative aspect of the arms trade, and one of immense practical importance to the customer. This is, though, an area in which Russia has taken steps to improve performance, with construction under way of a system to enhance after-sales services.⁸⁹

Second, developments outside Russia might also threaten its position in the global arms market. If efforts by China and India to develop indigenous production capabilities were to prove successful, their need to import Russian aircraft, missiles, submarines and engines may diminish. Both countries – especially India – remain behind Russia in key areas. However, if they are able to produce viable substitutes for Russian goods in the future, this will result in a decline in demand for Russian exports and the emergence of potential competitors in third-country markets. For example, China's progress in the development of advanced fighter aircraft – notwithstanding the persistence of its weaknesses in engine production – offers the prospect of greater competition for Russia in markets not traditionally served by Western producers.

Third, changes in international relations might also adversely affect Russia's prospects as a leading arms exporter. Although its producers might benefit from any shift in foreign policy allegiance from traditional US allies towards Russia, a shift in the opposite direction by traditional Russian clients such as India or Vietnam could knock a significant hole in arms revenues.

This last potential challenge illustrates that the arms trade is as much driven by developments in the geopolitical marketplace as it is by commercial concerns. In turn, the multidimensional nature of the arms trade suggests that Russia will make great efforts to ensure that it remains successful in this industry for decades to come. This is likely to involve a concerted effort to ensure that sufficient domestic investment in productive capabilities will take place to guarantee that new weapons systems emerge. It is also likely to involve policymakers attempting to wield arms exports as a component of wider foreign policy.

Indeed, it is this final point that deserves greater attention by researchers in the future. If, as Keith Krause has argued, arms exports serve as an important tool wielded by states in pursuit of other

⁸⁹ Safronov, I. (2016), 'Prezident poschitayet prodannoye oruzhiye' [The President considers weapons sold], *Kommersant*, 5 December 2016, <http://kommersant.ru/doc/3161940>.

foreign policy objectives, then it is plausible that Russia's strong position in the global arms market might be expected to boost the country's position in international affairs more widely.⁹⁰ In addition to the economic motives behind arms sales, Krause suggests that arms exports can help states both in the pursuit of victory in war and in the broader pursuit of power in the international arena.⁹¹ Both motives appear to lie behind Russian arms exports in a number of cases.

For Krause, arms exports can help the exporting country achieve several objectives in the pursuit of the beneficiary country's victory in war. They include: guaranteeing independence of arms supply to ensure military security; acting as a *quid pro quo* for military base/landing rights; assisting friends and allies in maintaining an effective (and/or common) defensive posture against external threats; substituting for direct military involvement; and providing testing for new weapons systems. It is not difficult to find at least *prima facie* evidence for these motives playing some role in motivating Russian arms exports to Armenia, Syria and Tajikistan.

When looking at the role arms exports play in supporting the exporter's pursuit of geopolitical power, Krause states that the sale of weaponry can help to: provide access to and influence over leaders and elites in recipient states in pursuit of foreign policy objectives; symbolize commitment to the recipient's security or stability against internal or external threats; create or maintain a regional balance of power; create or maintain a regional presence; and provide access to scarce, expensive or strategic resources. It is likely that at least some of these motives are present in Russia's sales to countries all over the world.

Moreover, the zeal shown by Russian firms in expanding arms exports to countries beyond their traditional client base – such as to Saudi Arabia, Turkey or the Philippines – is surely as much to do with the possibility of weakening ties between those countries and their traditional allies in the West. It is in this respect that Russia's future performance as an arms exporter might have truly strategic significance. If Russia is able to expand its influence beyond its traditional markets, we should expect to see Russia's broader political influence in those regions rise. In this sense, the motives underlying the strenuous Russian efforts to expand arms exports might well go beyond simple commercial concerns or a desire to place the defence-industrial complex at the centre of efforts to modernize the Russian economy.

⁹⁰ Krause, K. (1992), *Arms and the State: Patterns of Military Production and Trade*, Cambridge and New York: Cambridge University Press. Similar themes are explored in Pierre, A. (1982), *The Global Politics of Arms Sales*, Princeton, NJ: Princeton University Press.

⁹¹ Krause (1992), p. 98.

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