

# Chapter 1

## Phoenix from the Ashes?

As Russia gains economic strength, it will be capable of more assertive postures in many areas. Barring a radical reversal of current trends, post-Soviet Russia will in the next few years have many options it has not yet had in its brief existence as a nation—options in international relations vis-à-vis the developed West, the third world, and, most immediately, its neighbours from the former Soviet Union. An economically stronger Russia will also be able to spend more on its defence.

Clifford Gaddy<sup>1</sup>

Russia's defense industrial complex, or *Oboronnyi-promyshennyi kompleks* (OPK), has endured much over the past 15 years. Originally known as the military industrial complex (VPK), it became known as the OPK in the late 1990s. The political, social and economic transition from Soviet Union to Russian Federation was far from smooth, and the upheaval surrounding this political reversal manifested itself within the OPK. The rampant corruption and general disintegration of state systems witnessed during the death throes of the Soviet Union and the early years of the Russian Federation was no more evident anywhere than in the OPK.

At the end of the 1980s, the Soviet Union's VPK consisted of approximately 4000 research institutions, design organisations and production facilities. These state enterprises always received the lion's share of talent, technology and funding from the state, which unofficially devoted nearly 50 per cent of a central government budget of well over US\$80 billion to military expenditures.<sup>2</sup> Many cities such as Sverdlovsk (now Yekaterinburg) and Nizhny Tagil were massive defence plants, with almost all of the population involved in defence industry. They lived in company apartments, shopped in company stores and ate in company cafes. Up to 80 per cent of a defence plant's budget went to maintaining these social services;<sup>3</sup> all of which fell under the sweeping term 'Defence' within the Soviet budget. These examples highlight the importance of state funding to the survival of the VPK. It therefore came as no surprise

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1 Clifford Gaddy, 'No Turning Back: Market Reform and Defense Industry in Russia: Who's adjusting to whom?', Brookings Institution, Washington, DC, Summer 1996, available at <[http://www.brookings.edu/articles/1996/summer\\_russia\\_gaddy.aspx](http://www.brookings.edu/articles/1996/summer_russia_gaddy.aspx)>, accessed 28 April 2009.

2 Anthony H. Cordesman, *The Strategic Impact of Russian Arms Sales and Technology Transfers*, Center for Strategic and International Studies, Washington, DC, 5 April 1999, pp. 10–11, available at <<http://www.csis.org/media/csis/pubs/atstratimpofrussarmsale%5B1%5D.pdf>>, accessed 28 April 2009.

3 See 'Military Industry Overview', GlobalSecurity.org, available at <[www.globalsecurity.org/military/world/russia/industry-overview.htm](http://www.globalsecurity.org/military/world/russia/industry-overview.htm)>, accessed 28 April 2009.

that the VPK suffered greatly during the early and mid-1990s (especially during the 1998 economic crisis), when the newly formed Russian Federation could do little to stop the decay of an industry traditionally reliant upon state direction and funding. Defence budgets of the new Russia were low on the agenda of a Yeltsin Administration facing considerable social upheaval, and hence they equated to a fraction of the mammoth amounts of their Communist forebears.

The Communist-era VPK was organised within an authoritarian political system that devoted vast amounts of resources and funding to the defence sector. The experiences of the Great Patriotic War, nationalism, and Communist ideology provided the background for a national security strategy focused purely on combating capitalism, chiefly in the form of the United States. This undertaking demanded a large defence force and extensive military production to keep pace with military developments in the West. Russia's educated population and extensive mineral resource reserves facilitated this.<sup>4</sup> The economic growth rate slackened in the late 1970s, leading to an increase in the share of defence spending within the Soviet economy. Coupled with this development was the fact that Soviet military technology at the 'high end' did not match Western technology. To combat this, Soviet military planners countered Western technology with Soviet quantity in the form of 'middle technology' weapon systems.<sup>5</sup> The crippling costs associated with matching US military technological might with Soviet numerical might led to the eventual collapse of the Soviet Union, despite Mikhail Gorbachev's last-ditch attempts to reduce defence spending.<sup>6</sup>

Faced with political and social upheaval, and a dramatic reduction in the resource base during the 1990s, military exports—or arms transfers—became the saving grace of many enterprises within the VPK. With little or no domestic demand for arms, and vast amounts of half-finished weapon systems sitting in the factories, Russian defence companies looked elsewhere, and found eager buyers in China, India, and Iran. Valuable hard currency began to trickle in, after bribes had been paid to officials from the countries receiving the weaponry, and corrupt Russian officials had taken their cut. This precious currency prolonged the survival of some of Russia's more successful defence enterprises, but was by no means enough to sustain the industry as a whole. It was during this period that pessimistic opinions emerged as to the future of the VPK. Experts, such as Vitaly Shlykov, an ex-member of the Soviet Ministry of Defence, and Stephen Blank, a respected US-based analyst, predicted an eventual collapse of the VPK.

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4 Paul Rivlin, *The Russian Economy and Arms Exports to the Middle East*, Memorandum no. 79, The Jaffee Centre for Strategic Studies, Tel Aviv University, November 2005, p. 14, available at <[http://www.inss.org.il/upload/\(FILE\)1188301974.pdf](http://www.inss.org.il/upload/(FILE)1188301974.pdf)>, accessed 28 April 2009.

5 Rivlin, *The Russian Economy and Arms Exports to the Middle East*, p. 14.

6 Edward A. Corcoran, *Perestroika and the Soviet Military: Implications for US Policy*, Cato Policy Analysis no. 133, 29 May 1990, available at <<http://www.cato.org/pubs/pas/pa133.html>>, accessed 28 April 2009.

Moreover, the respected Moscow-based defence analyst Pavel Felgenhauer made a statement in 2002 canvassing Russia's ability to produce conventional submarines:

The 'Krasnoye Sormovo' shipyard in Nizhny Novgorod no longer makes Kilo submarines after building the last two for China. Admiralteyskaya Verf in St. Petersburg is also now only renovating Kilos made for India in the 1980s. Specialists say Russia cannot make a single Kilo anymore.<sup>7</sup>

The predicted collapse of the VPK would result from a combination of endemic corruption, insufficient government funding, a 'brain-drain' to the lucrative defence industries in the West, and the devastating effects of neglecting long-term research and development (R&D) programs.<sup>8</sup> These problems were particularly acute after 1993, when the vast bulk of the half-finished weapons had finally found customers and the various defence enterprises actually had to build equipment from scratch.

However, despite the turmoil of the last 15 years, and many pessimistic predictions, the VPK (also known as the OPK since late 1990s) still has the ability to produce air, land and naval equipment—an indication of the industry's resilience. In stark contradiction to Felgenhauer's comment, Russia signed a multi-billion dollar contract with China for the construction of eight Project 636 *Kilo*-class submarines on 3 May 2002. One of these submarines was successfully constructed in the shipyard at Nizhny Novgorod,<sup>9</sup> and five others at the Admiralty shipyards in St. Petersburg. All eight have subsequently been completed and delivered to China. This is one of a number of examples highlighting the resilience of the industry—a resilience that continues to confound the more pessimistic of the Russian defence industry analysts.

Gloomy predictions for the OPK's future were still being voiced in 2006; however the current environment is a vastly different one from that of the 1990s. The trajectory of the Russian defence industry was marked by a precipitous decline in the early and mid-1990s, bottoming out in 1997, but was then succeeded from 1998 by a rapid recovery—a 37 per cent rise in output in 1999, then a 25 per cent increase in 2000.<sup>10</sup> Output has increased annually since 2000, sitting

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7 Pavel Felgenhauer, 'Arms Exports and the Russian Military', *Perspective*, vol. XII, no. 4, March–April 2002, p. 3, also available at <<http://www.bu.edu/iscip/vol12/felgenhauer2.html>>, accessed 28 April 2009.

8 Vitaly V. Shlykov in Steven E. Miller, and Dmitri V. Trenin (eds), *The Russian Military: Power and Policy*, MIT Press, Cambridge, MA, 2004; and Stephen J. Blank, *Reform and the Revolution in Russian Defense Economics*, Strategic Studies Institute, US Army War College, Carlisle, PA, 19 May 1995, available at <<http://www.strategicstudiesinstitute.army.mil/pdffiles/PUB166.pdf>>, accessed 28 April 2009.

9 Alexandra Gritskova, Konstantin Lantratov and Mikhail Barabanov, 'Russia Builds Chinese Navy', *Kommersant*, 22 December 2005, available at <[http://www.kommersant.com/p637658/r\\_1/Russia\\_Builds\\_Chinese\\_Navy/](http://www.kommersant.com/p637658/r_1/Russia_Builds_Chinese_Navy/)>, accessed 28 April 2009.

10 Alexei Izyumov, Leonid Kosals, Rosalina Ryvkina and Yuri Semagin, 'Market Reforms and Regional Differentiation of Russia Defence Industry Enterprises', *Europe-Asia Studies*, vol. 54, no. 6, September 2002,

at around 16 per cent, although recent increases in domestic funding and multi-billion dollar arms export deals with Algeria, India and Venezuela in 2006, and probably Libya in 2007, could see output jump even higher. Even without taking future improvement into account, there is considerable evidence that the Russian defence sector is thriving thanks to its ability to transform itself through spin-offs and selective market developments. David Dyker's study of Russian economics indicated that the military was ahead of other science and technology sectors in realising the utility of dual-use technologies as well as in acknowledging that R&D should be client-driven.<sup>11</sup> To date, this trend has been the norm, with advanced technologies such as the Sukhoi Su-30MKI *Flanker* being sold to India and the Project 877/636 *Kilo*-class submarine/*Klub* (SS-N-27) missile system combination being sold to both India and China. In fact, by far the biggest influence on the success of the OPK since 2000 has been the boom in its exports. Russian arms exports have grown tremendously—from US\$1.1 billion in 1992 to a post Soviet peak in 2008 of US\$8 billion, and are now the OPKs main source of revenue. As one Ministry of Industry and Energy official put it: 'The OPK cannot survive with funds allocated by the government in the Defense Ministry's budget.'<sup>12</sup>

The defence industry is one of the few sectors in which Russia can successfully compete in international markets. The quality of Russian weapons is close to the standard of the best Western producers according to independent industry sources (a legacy of the importance placed on military R&D in the Soviet era) and at a price that is at least 30–35 per cent lower.<sup>13</sup> Russia's export potential in the short-term is strong: the total order book approximately equates to US\$20 billion as at January 2009.<sup>14</sup>

Arms transfers have reached record levels since 1991, with 2008 figures estimated at US\$8 billion.<sup>15</sup> Granted, this pales in significance to the levels reached by the Soviet Union; however, Soviet-era sales were rarely recompensed with hard currency. Moreover, the aim of this thesis is not to compare the two entities. It will be a long time, if ever, before Russian arms production and export levels match the levels achieved by the Soviet Union.

To make such a comparison, particularly as an omen for Russian defence industry failure, would be to misunderstand the nature of the new industrial

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pp. 959–74 (960), available at <<http://www.jstor.org/stable/826290>>, accessed 28 April 2009.

11 Richard Cooper, 'Russia's Economy—The Best Case', in *Putin's Russia—Scenarios for 2005*, Jane's Information Group, Coulsdon, Surrey, 2004, p. 8.

12 Yuri Koptev, in 'Experts Concerned over Russia's Military-Industrial Complex', *RIA Novosti*, 11 November 2005, available at <<http://en.rian.ru>>, accessed 5 February 2006.

13 Benjamin Mahmud, 'Russian Defence Industry', *Asian Defence Journal*, October 2005, p. 39.

14 'Defence Production and R&D', *Jane's Sentinel Security Assessment: Russia*, Jane's Information Group, Coulsdon, Surrey, April 2009.

15 'Russian Federation—Defence Industry', *Jane's World Defence Industry*, Jane's Information Group, Coulsdon, Surrey, 2006, 19 January 2009.

and export environment. Russia now competes for military exports not only with Europe and the United States, but also Belarus, the Ukraine, and other states that made up the former Soviet Union. Therefore, a more reasoned approach to assessing Russian military output is to compare the Russian OPK with its current competitors in Europe, the United States and Asia. This comparison will draw more reliable conclusions and provides more credible analysis of the OPKs current position.

Today, Russian sales have risen annually within a flat global market, with advanced aircraft, air-defence systems and utility helicopters the most popular exports. Even the naval industry, for so long the recipient of the most pessimistic survivability predictions, has begun to produce new-build submarines and ships rather than refurbished Soviet stock for delivery to China, India and Vietnam. Analysis of Russian arms transfers for 2005 indicates that naval equipment provided over 40 per cent of the earnings and that it was the primary revenue earner for the first time in several years. This being said, air defence systems returned to the top earnings place in 2006.<sup>16</sup> The competition between sectors for the top place each year is a good sign for the defence industry overall, which has experienced 14 per cent annual growth since 2000.

So significant has been the impact of exports on the new OPK that its major clients are the armed forces of other countries, as opposed to the Russian Federation armed forces. Russia's OPK is the only national defence industry in the world where exports account for more revenue than domestic orders. This has been a trend since 1991 and has led to some defence industrial R&D and production program (such as India's Sukhoi Su-30 MKI fighter variant, and the United Arab Emirates (UAE)'s *Pantsyr* air-defence system) being tailored for export customers rather than the Russian armed forces.

Export customer oriented research and production is a positive development for the OPK. It has promoted the longevity of some production lines (such as the Sukhoi Su-30) to afford Russia use of them when its defence budget is substantial enough. In the case of the *Pantsyr* air-defence system, the research was funded largely by the UAE and the finished product will be available for Russian procurement if required.<sup>17</sup> When considering the fact that the Russian State Defence Order (SDO) was expected to surpass the OPK's export earnings for 2006,<sup>18</sup> these foreign funded R&D and production lines will be invaluable for the future re-equipping of the Russian armed forces.

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16 Anderson, 'CAST indicates Russia's leading 2006 military materiel exporters'.

17 'Pantsyr', in *Jane's Ground Based Air Defence*, Jane's Information Group, Coulsdon, Surrey, 2006.

18 James Murphy, 'Russia to Increase Defence Spending Following Challenging Period for Defence Industry', in *Jane's Defence Industry*, vol. 22, no. 10, 1 October 2005.

Annual arms transfer earnings will probably not increase much past the US\$8 billion in 2008; however future export earnings will be augmented by the domestic order book. With respect to future domestic production, the SDO is the mechanism within the Russian defence budget that provides for the equipping and modernisation of military units, as well as the R&D funding for the military each financial year. 2006 was probably the first year that money from the SDO, including major equipment replacement and refurbishment, outstripped exports. According to Vladimir Putin, the 2005 fiscal year was in fact the year that heralded this important milestone for the OPK: 'In 2005 we passed a kind of psychological barrier and now Russia is spending more money on weapons than it is earning from military exports.'<sup>19</sup>

Putin's statement is a slight mistruth, because the 2005 SDO that he was referring to—valued at around US\$7 billion—covered Russian R&D funding as well as procurement for the armed forces. Regardless, it was a psychological barrier nonetheless, and will likely be interpreted as a sign of commitment to the OPK as a whole.

Sergei Ivanov announced in May 2006 that the 2006 SDO would equal US\$9 billion, with most of the funding going towards military unit modernisation rather than R&D. Furthermore, the 2007 SDO increased to US\$11.5 billion, with this trend of 20 per cent annual increases projected to continue out to 2015.<sup>20</sup> These figures indicate that procurement and R&D funding has surged from less than 20 per cent of the total defence budget in 2002 to 44 per cent in 2007.<sup>21</sup> This has not gone unnoticed by other industry analysts who are forecasting a considerably more optimistic future for Russia's OPK.

Thus the Russian defence industry could go from strength to strength given the right economic conditions, industry consolidation, anti-corruption drives and domestic demand. The OPK is currently stable. It may not yet be thriving, but it is showing encouraging signs. The pace and extent of developments within the OPK will be affected by the success of current reforms, and the attention focused on the OPK by Dmitry Medvedev. However, the foundations laid by the Putin Administration suggest that the current positive direction is soundly based.

These domestic orders will be paid for by the growing revenues that Russia is reaping from not only its arms exports, but also its primary resource exports.

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19 Vladimir Putin cited in Henry Ivanov, 'Country Briefing: Russia—Austere deterrence', *Jane's Defence Weekly*, 28 April 2006, available at <[http://www.janes.com/defence/news/jdw/jdw060428\\_1\\_n.shtml](http://www.janes.com/defence/news/jdw/jdw060428_1_n.shtml)>, accessed 28 April 2009.

20 'State defense order to grow 20% in 2007', 6 May 2006, available at <<http://en.rian.ru>>, accessed 20 July 2006.

21 Irina Isakova, 'The Russian Defense Reform', *China and Eurasia Forum Quarterly*, vol. 5, no. 1, March 2007, pp. 75–82 (76), available at <[http://www.silkroadstudies.org/new/docs/CEF/Quarterly/February\\_2007/Isakova.pdf](http://www.silkroadstudies.org/new/docs/CEF/Quarterly/February_2007/Isakova.pdf)>, accessed 28 April 2009.

The bulk of Russia's Gross Domestic Product (GDP) comes from primary resources, in particular oil and natural gas exports. At the end of the 1990s, Russia was pumping 9 million barrels a day. It rivalled Saudi Arabia as the world's largest oil producer and, while it kept more at home for its own use than Saudi Arabia, it established itself as the world's second largest oil exporter.<sup>22</sup> It seems oil has replaced military might as the mechanism that places Russia back on the map as a major international player.

However, oil and the military are not mutually exclusive, and indeed appear to be becoming increasingly complementary in Russian foreign policy. The 2006 arms deal with Algeria, valued at US\$7.5 billion, will be paid for in part by the setting up of oil and natural gas platforms in the Sahara by Russian companies including Gazprom and Lukoil. The money the Algerians make from this venture will then go towards the payment for the arms, as well as the US\$4.7 billion worth of Soviet-era foreign debt owed by Algeria to Moscow.<sup>23</sup> Moreover, according to industry expert Dimitri Vasiliev: 'As petrodollars are being pumped into the Russian budget, the country's leadership believes it can afford to increase defence spending at a high pace.'<sup>24</sup>

Current high oil prices have provided the Russian economy with a strong platform for growth, contributing to an annual GDP growth of 6–7 per cent over the last three years.<sup>25</sup> These positive financial results have enabled the government to steadily increase the country's national defence budget and will continue to do so for as long as the price of oil and gas remains high. This situation appears likely, with an International Energy Agency report predicting that fossil fuels will remain the dominant energy source up to 2030. The report predicted that oil would still be the largest individual fuel source by the end of the projected period, although natural gas will witness the highest growth in demand. Furthermore, it indicates that if current government policies around the world do not change, global primary energy demand will grow by 1.6 per cent per year from 2003 to 2030—an overall increase of more than half.<sup>26</sup> These kinds of statistics imply that the resource-rich Russian economy will remain robust until at least 2030 and, pending government policy, this should equate to robust defence budgets over the same period. These strong economic predictions suggest further defence spending increases—a positive development for the OPK.

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22 Peter Baker and Susan Glasser, *Kremlin Rising: Vladimir Putin's Russia and the End of Revolution*, Scribner, New York, 2005, p. 278.

23 'Algeria signs \$5 billion arms-for-energy deal with Russia', *Military Procurement International*, vol. 16, no. 6, 15 April 2006, p. 1.

24 Dimitri Vasiliev, 'More money for the 1m strong military?' 21 December 2005, available at <<http://www.mosnews.com>>, accessed 5 February 2006.

25 'Country Briefings: Russia—Economic Data', *Economist*, 17 October 2006, available at <<http://www.economist.com>>, accessed 7 May 2008.

26 'Energy Projections', The International Energy Agency, available at <[www.iea.org](http://www.iea.org)>, accessed 28 April 2009.

The outlook for the Russian economy was not always this rosy. Overall economic developments within Russia and the former Soviet Union have traditionally been highly unstable. Nikita Khrushchev tried unsuccessfully to make Joseph Stalin's highly centralised and cult-oriented economic system work effectively without Stalin. Mikhail Gorbachev sought to reform the Soviet socialist economy, to make it more humane and more responsive to the popular will, by introducing certain elements of democracy and of a market economy.<sup>27</sup> His efforts failed. Boris Yeltsin led a revolution that destroyed the keystones of the Soviet planned economy and attempted to quickly replace it with the most liberal of market institutions. The revolution was a double-edged sword: the planned economy was totally destroyed, but this had disastrous consequences for the population at large.<sup>28</sup>

This chequered past makes the turnaround within the Russian economy since 1998 all the more impressive. The performance of the Russian economy on Putin's watch has been the best since 1992, when radical reforms were introduced by Yeltsin and Yegor Gaidar. Helping Putin has been the fact that oil prices rose sharply between 1999 and 2007, giving him the funds that Yeltsin never had at his disposal to pay for defence and higher living standards. Putin also began to take control of the economy by striking at the oligarchs—tycoons who benefited from the status quo and therefore opposed economic reform. Putin targeted individuals who controlled the media, banking and oil industries, and renationalised many of their assets.

Meanwhile, Russian GDP grew by more than 10 per cent in 2000. Inflation at 21 per cent was tolerable, and official reserves of gold and hard currency increased from about US\$13 billion to US\$28 billion. The recovery from the financial crisis of 1998 was due largely to the increase in the price of oil exports and the favourable effect of the 1998 devaluation of the ruble on domestic industry. The recovery continued in 2001 and 2002 (but at the lesser rates of 5.1 per cent and 4.7 per cent respectively), while 2003 and 2004 saw growth of 7.3 per cent and 7.1 per cent.<sup>29</sup> Former Prime Minister Mikhail Fradkov's very conservative predictions out to 2009 suggest growth of around 5.7 per cent and project inflation to drop below 10 per cent.<sup>30</sup>

Although GDP growth remains below inflation, this is counteracted by the 2005 budget surplus of 7.5 per cent of GDP: budget surplus plus GDP growth is equal to approximately 13 per cent of GDP, outstripping inflation. Add to this the impressive US\$120 billion trade surplus, US\$245 billion worth of international reserves, and a US\$70 billion Stabilisation Fund<sup>31</sup> to safeguard against a drop in

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27 Dale R. Herspring, *Putin's Russia: Past Imperfect, Future Uncertain*, Rowman and Littlefield, Lanham, MD, 2005, p. 137.

28 Herspring, *Putin's Russia: Past Imperfect, Future Uncertain*, p. 137.

29 'Country Briefings: Russia—Economic Data', *Economist*, available at <<http://www.economist.com>>, accessed 7 May 2008; and 'Russia—Defence Economics', in *The Military Balance 2006*, Oxford University Press, Oxford, for the International Institute for Strategic Studies, London, 2006, p. 150.

30 Mikhail Fradkov in, 'Russia's GDP to Grow by Annual 5.7% in 2007–2009', 29 May 2006, available at <<http://www.mosnews.com>>, accessed 12 October 2006.

31 Andrew Rozanov, 'Russia and the G7: Time to Spend', *The World Today*, vol. 62, no. 7, July 2006, available at <<http://www.chathamhouse.org.uk/publications/twt/archive/view/-/id/1403/>>, accessed 28 April 2009.

oil prices, and the Russian economy looks to be in good shape. A statement in the *Economist* indicated: ‘When Mr. Putin became President, its GDP was the world’s 10th biggest and foreign reserves stood at US\$8.5 billion. Today, Russia’s economy is the world’s 8th largest, and the reserves are US\$407.5 billion.’<sup>32</sup>

In light of these figures, Putin can view economic developments with some satisfaction, but it must be tempered by the fact that the price of oil is not controlled by Russia and cannot therefore be credited to his Administration.<sup>33</sup> Even so, Putin has led an economic restoration of Russia, quite different to the impact of *perestroika* and *glasnost* in the 1980s.<sup>34</sup> Russia is on a path to protectionism under Putin and now Medvedev, who have re-nationalised the resource and defence sectors over the past four years. The outlook for economic reform and continued economic growth over the next several years is positive and this will directly assist the resurgence of the OPK over the same period.

## Russia’s Growing Share of the Global Arms Trade and Developments within its Export Market

Russian arms have performed very well on the global market. While in the West some states maintain reservations regarding equipment reliability, successes in Asia, the Middle East and now Latin America are irrefutable. In fact, the quality of much Russian equipment sold abroad is seen as comparable to the products of the United States and European manufacturers.<sup>35</sup>

From 2001–2004, the United States and Russia dominated the arms market in the developing world.<sup>36</sup> As is to be expected, the United States ranked first, but, interestingly, Russia ranked second (over France and the United Kingdom) in each of the aforementioned four years in the value of arms transfer agreements.<sup>37</sup> Moreover, Russia actually managed to increase its sales by approximately 57 per cent from 2000–2004, whilst global arms agreements values fell by 12 per cent over the same period. This is impressive, as it means that Moscow actually increased its arms exports during a period of global downturn. Russia made US\$21.7 billion in arms transfer agreements, or 29.1 per cent of the total.<sup>38</sup> Again, these figures point to a dramatic increase in both Russian sales and sales agreements within a relatively flat arms market.

32 ‘Putin’s People’, *Economist*, 25–31 August 2007, p. 11.

33 Herspring, *Putin’s Russia: Past Imperfect, Future Uncertain*, p. 122.

34 Herspring, *Putin’s Russia: Past Imperfect, Future Uncertain*, p. 137.

35 ‘Defence Production and R&D’, *Jane’s Sentinel Security Assessment: Russia*, Janes Information Group, Coulsdon, Surrey, September 2005.

36 For use in Richard Grimmett’s report to Congress, the term ‘developing world’ includes all countries except the United States, Russia, European nations, Canada, Japan, Australia and New Zealand.

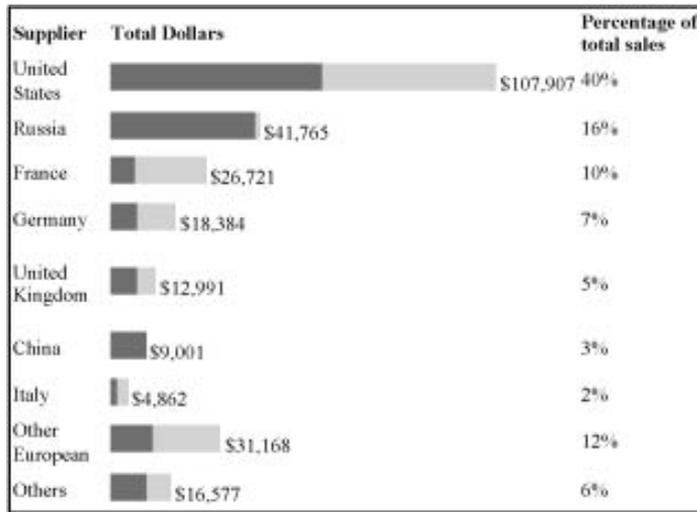
37 Richard F. Grimmett, *Conventional Arms Transfers to Developing Nations, 1997–2004*, Report for Congress, U.S. Congressional Research Service, Library of Congress, 29 August 2005, available at <<http://fpc.state.gov/documents/organization/52179.pdf>>, accessed 28 April 2009, summary section.

38 Grimmett, *Conventional Arms Transfers to Developing Nations, 1997–2004*, summary section.

Importantly, these increases have been accompanied by an important change in the profile of the customers. The traditional arms clients of the former Soviet Union were more often than not poorer developing countries valued for their ideological tendencies and desire for Soviet weaponry, rather than their financial credentials. Many of these traditional Soviet client states received substantial military aid grants and significant discounts on their arms purchases.

After the breakup of the Soviet Union in December 1991 these practices were greatly curtailed, as newly privatised defence industries began the hunt for finance. Faced with stiff competition from Western suppliers, during the global downturn in the arms market in the 1990s, Russia gradually adapted its selling practices in an effort to regain and sustain an important share of the developing world arms market.<sup>39</sup> Rosoboronexport, the sole state intermediary agency for the Russian arms export market, was largely responsible for this resurgence. The strong post-2000 figures are indicative of the success resulting from this shift in policy. Figure 1.1 outlines total arms agreement values, by country, from 1997 to 2004:

**Figure 1.1: Arms sales (agreements) ranked by Supplier, 1997–2004 (in constant 2004 million US Dollars and percentage of world sales)**



Each country shown as follows:  
 developing countries     industrialised countries

(Source: The Grimmett Report, *Conventional Arms Transfers to Developing Nations, 1997-2004*, Report for Congress, U.S. Congressional Research Service, Library of Congress, 29 August 2005, available at <<http://fpc.state.gov/documents/organization/52179.pdf>>, accessed 28 April 2009)

39 Grimmett, *Conventional Arms Transfers to Developing Nations, 1997-2004*, p. 7.

The important lesson from the data in Figure 1.1 is the fact that Russia has near parity with the United States in terms of sales to developing nations. Moreover, over the next five years, the likelihood is that Russia will have overtaken the United States in sales to developing nations, as Russian equipment gains a foothold in a greater number of geographic regions. These developments also come at a time when the United States is losing popularity around the globe, both politically and as an arms supplier.

More recently, the Russian OPK has become aware of the influence of global geo-strategic shifts resulting from the 11 September 2001 terrorist attacks on the United States. These shifts involve the erosion of the previously existing alliance between conservative Islamic regimes and the West, primarily the United States. From an arms sales perspective, one of the first signs of the deterioration of Islamic-American relations began with the 2003 contract for the delivery of 18 Sukhoi Su-30MKM *Flanker* fighters to Malaysia. This contract was estimated as only marginally probable prior to the US invasion of Afghanistan, and was even less probable when considering the problems of serviceability Malaysia had encountered with their other Russian purchase, the MiG-29 *Fulcrum*, and the fact that US F/A-18 *Hornet* fighters were already in the Malaysian inventory.<sup>40</sup> Furthermore, Russia made its first arms sale to Morocco in 2005 (an agreement for *Tunguska* air-defence systems) and has exported to Kuwait, the UAE and Egypt in the last five years, all of which were traditionally recipients of US weaponry.

Russian encroachment into traditionally Western arms markets is not exclusively a result of rising anti-Americanism. It also stems from apprehension within many of these countries (such as Indonesia and India) that the United States is no longer a reliable source of weaponry because of its policy of embargo. Both India and Indonesia have recently had US arms embargoes lifted—India's embargo was imposed after its nuclear tests in 1998, whilst the embargo imposed on Indonesia stemmed from human rights abuses. Interestingly, neither of these nations have purchased sizeable amounts of US weaponry since the embargoes have been lifted, preferring Russian equipment. Indonesia recently indicated its preference for new Russian Sukhoi Su-30 *Flanker* aircraft, rather than spare parts and upgrades for existing US F-16 *Falcon* aircraft. Whilst in some cases less advanced (and indeed less expensive) than US equipment, it is perceived that at least the Russian equipment and its associated spare parts will continue to arrive regardless of any political or human-rights indiscretions.

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40 Konstantin Makienko, 'Financial Results of Russian Arms Trade With Foreign State in 2004', *Moscow Defense Brief*, 2005, available at <[http://mdb.cast.ru/mdb/1-2005/at/financial\\_results/](http://mdb.cast.ru/mdb/1-2005/at/financial_results/)>, accessed 28 April 2009.

Traditionally seen as the Achilles heel of Russian arms exports, after-sales support has improved markedly in the last few years, and is one area, if tackled successfully, that will help maintain large export figures in the long-term. Concerted efforts have been made by Rosoboronexport and the weapons manufacturers to improve the level of after-sales service for their equipment. Rosoboronexport has opened affiliated servicing agencies in India and China (its primary customers) in an effort to sustain exports and after-sales support—a move mirrored to date in 32 other countries.<sup>41</sup> This turnaround can be attributed to Putin, whose September 2002 decree initiated the process whereby a number of OPK enterprises gained independent access to the spare parts market.

Prior to this, only the arms supplier, Rosoboronexport, provided after-sales support. Contracts for after-sales service are of little interest to state intermediaries such as Rosoboronexport. Unlike arms sales, they require quick and operative work and are not as profitable.<sup>42</sup> However, Rosoboronexport does realise that focusing on after-sales service is a necessary inconvenience, and has made its own efforts to rectify the situation. Therefore, with the relevant enterprises providing after-sales service in an effort to ease the strain on Rosoboronexport in this sector, an altogether more efficient export system is in operation. Alexander Denisov, first deputy director of the Federal Service for Military and Technical Cooperation stated in December 2005: 'Deliveries of spare parts and components for Russian military hardware have grown tenfold in the past two years. In 2003, US\$20 million worth of spare parts were delivered, in 2005 we expect US\$300 million.'<sup>43</sup>

This expectation of revenue was duly received, and in 2006, US\$1.5 billion was made from after-sales servicing and the provision of spare parts, a 500 per cent increase over the previous year.<sup>44</sup> According to Denisov, many pieces of Soviet-era military hardware delivered to various countries are in need of spare parts: a market he believed to be worth approximately US\$10 billion.<sup>45</sup> When it is considered that the total volume of the military spare parts market constitutes up to 25 per cent of the cost of the equipment serviced, and up to 40 per cent for aviation equipment, it is easy to see how a figure of US\$10 billion is calculated.<sup>46</sup> With after-sales service now firmly in the radar of the Kremlin policy-makers,

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41 Luca Bonsignore, 'The Future of Rosoboronexport', *NATO's Nations and Partners for Peace*, vol. 49, no. 1, 2004, p. 178.

42 Konstantin Lantratov; Aleksandra Gritskova and Luiza Ignatyeva, 'Military Spare Parts: Abroad Oriented', *Kommersant*, 16 November 2005, available at <[http://www.kommersant.com/p625463/r\\_1/Military\\_Spare\\_Parts\\_Abroad-Oriented/](http://www.kommersant.com/p625463/r_1/Military_Spare_Parts_Abroad-Oriented/)>, accessed 28 April 2009.

43 Alexander Denisov, in James Murphy, 'Russian Defence Exports Decline', *Jane's Defence Weekly*, 7 December 2005.

44 Viktor Litovkin, 'Russian arms exports break records', *RIA Novosti*, 8 March 2007, available at <[http://www.spacewar.com/reports/Russian\\_Arms\\_Exports\\_Break\\_Records\\_999.html](http://www.spacewar.com/reports/Russian_Arms_Exports_Break_Records_999.html)>, accessed 28 April 2009.

45 Murphy, 'Russian Defence Exports Decline', *Jane's Defence Weekly*, 7 December 2005.

46 Lantratov, Gritskova and Ignatyeva, 'Military Spare Parts: Abroad Oriented'.

its weak reputation in this field is slowly but steadily being rectified, and will begin to make itself noticed on the arms export balance-sheet. This factor, in conjunction with successful efforts in market expansion, will all help to retain the larger arms export figures seen since 2000.

Other than after-sales service, another new trend is appearing within Russian arms exports: the growing presence of naval platforms. 2005 was a good year for Russian shipbuilders, with approximately 40 per cent of total arms exports comprising naval equipment. This has enabled several shipyards in Russia to remain open. Shipyards, such as Zelenogorsk, Yantar and Krasnoye Sormovo whose future was far from certain a few years ago, have since completed or are laying down *Gepard* frigates for Vietnam, *Talwar* frigates for India and *Kilo*-class submarines for China respectively. The renaissance in naval exports looks set to continue for the foreseeable future. Boosting revenues from naval equipment, China received the remainder of eight *Kilo*-class submarines and two improved *Sovremennyy* destroyers from a 2003 contract valued at over US\$3 billion in late 2006. Short-term sales are also being complemented with much interest in the export versions of the new generation Project 20380 *Steregushchyy* frigates<sup>47</sup> and Project 677 *Lada*-class submarines,<sup>48</sup> both fresh from the Russian design bureaux. Indonesia, Algeria and Venezuela may have already ordered the *Steregushchyy* as part of opaque deals with Moscow—along with Project 636 *Kilo*-class submarines, while India has shown strong interest in the *Amur*-class submarine.

Geographically too, there has been a significant shift in the location of Russia's defence exports. The Far East represents one of the most important geographical areas for Russia as far as arms exports are concerned. Historically second behind the Middle East in terms of arms purchases, Far East Asia moved into first place during the period 2001–2004. Delving further into the figures, Russia actually ranked first in Asian arms deliveries in the 2001–2004 period, with US\$4.5 billion more in sales than the United States.<sup>49</sup> Indeed, Richard Grimmett, author of the Congressional Research Service report to Congress entitled *Conventional Arms Transfers to Developing Nations, 1997–2004*, sees this trend continuing for the foreseeable future:

Until such time as the Indians and the Chinese stop buying as much as they have, and until such time as the Middle Eastern oil barons start making major buys, I don't see this trend changing in the next year or so, it's going to take a while.<sup>50</sup>

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47 The export variant is known as the Project 20382 Tigr.

48 The export variant is known as the *Amur* class.

49 'Asia overtakes M. East as developing world's arms market', 3 September 2005, *Agence France-Presse*, available at <<http://www.inq7.net>>, accessed 6 February 2006.

50 Richard Grimmett cited in 'Asia overtakes M. East as developing world's arms market'.

Asia has a significant role to play in helping Moscow revive its defence industries. Such a revitalisation, in turn, would provide an important pillar supporting Russia's rebirth as a major power. China and India have most consistently dominated the list of Russia's defence-related markets in recent years. Trade links have increased and both countries are continuing to produce Russia's most advanced products such as the Sukhoi Su-27 and Su-30 *Flanker* fighters under licence. These links will remain a core market for Russian military products, despite the projected contractions within these markets.<sup>51</sup> The crucial part these two nations play with regard to the success of Russian arms exports will be examined below, and in further detail in chapters 4 and 5.

Arms sales and military technology transfers to China expanded rapidly in the mid-1990s, although many Russian defence officials had strong reservations about sharing advanced technology with such an unpredictable neighbour. From China's perspective, Russia is a source of sophisticated, reasonably priced armaments that are unavailable to them from the West. For Russia, China is another source of hard currency and another market to stimulate OPK resurgence.<sup>52</sup> China has made it clear to Russia that it is interested in developing its armed forces through local weapons development programs based on foreign technologies. Increasing Russian arms sales to China are but one very important sign of a growing alliance between Moscow and Beijing aimed at undermining the US position as the world's sole superpower. After several years of stagnation, Russian arms sales to China were restored in 1991 with 26 Su-27 *Flanker* fighter aircraft worth an estimated US\$1 billion.<sup>53</sup> In fact, China was the OPKs primary customer throughout the 1990s.

In particular, China's focus has been on boosting its air and naval force capabilities. Between 1991 and 1996, Russian weapons sales to China were worth an estimated US\$1 billion per year. Between 1996 and 2001, the rate of sales doubled to US\$2 billion per year.<sup>54</sup> These figures constituted the bulk of total Russian arms exports until 2000–2001, when Indian contracts became more substantial, and Putin, Sergei Ivanov and Rosoboronexport made inroads into other markets as part of an export diversification drive.

China is building a modern air force to operate over the East China and South China Seas. Between 1993 and 1997 it acquired 74 more Su-27 *Flankers*, and the rights to produce 200 more under Russian licence. Su-30MKK multi-role fighters as well as in-flight refuellers and helicopters have also been made. Moreover,

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51 Robert A. Karniol, 'Russian industry hunts out a future for itself', *Jane's Defence Weekly*, 1 March 2000.

52 Dmitri V. Trenin, 'Russia between America and China', 23 June 2005, available at <<http://www.carnegie.ru/en/pubs/media/72788.htm>>, accessed 28 April 2009.

53 Trenin 'Russia between America and China'.

54 Ariel Cohen, *The Russia-China Friendship and Cooperation Treaty: A Strategic Shift in Eurasia?*, Backgrounder no. 1459, Heritage Foundation, 18 July 2001, available at <<http://www.heritage.org/Research/RussiaandEurasia/BG1459.cfm>>, accessed 28 April 2009.

China has clearly achieved breakthroughs in missile technology by importing systems and prototypes from Russia. It is deploying long-range S-300 (SA-10 *Grumble* and SA-20 *Gargoyle*) air defence systems to protect its short-range ballistic missile bases that are deployed to target Taiwan. It is also developing indigenous surface-to-air missiles (SAMs) such as the HQ-9, which is based on the aforementioned long-ranged and capable S-300 Russian design.<sup>55</sup> As for naval hardware, since 1994 China purchased eight Russian diesel-powered *Kilo*-class submarines and four *Sovremennyy*-class guided missile destroyers. Ariel Cohen, a reputable Sino-Russian defence analyst observes:

The relationship between China and Russia is symbiotic. China is acquiring capabilities to counter U.S. naval and air power in the Far East and intimidate neighbors like Taiwan. Russia is seeking to become a regional rival to the United States, maintaining its defense industrial base and using money from arms sales to China and others to modernize its own armed forces.<sup>56</sup>

Ever since arms transfers from Russia to China began in 1992, the Chinese market has been the recipient of between one-fifth and one-half of Russian arms exports. No doubt, against the background of the collapse of Russian domestic military procurement in the 1990s, this has helped a number of arms manufacturers to survive. Over the past decade and a half, mutual dependencies have been formed between Russia and China. Essentially, the Russian Government and the defence establishment are satisfied that the Chinese war machine, now and in the foreseeable future, is not focusing on the north, but rather on the east and southeast.<sup>57</sup>

However, the Chinese market will inevitably contract in the coming years as their own indigenous industries improve, so Rosoboronexport and the independent exporters within the OPK have been actively fostering other markets. These include customers in Latin America and Southeast Asia, but these markets have a more limited capacity than that of China. However, in combination with more Middle East contracts, they should ensure that the annual takings for Russian arms remain above US\$6 billion.

India and Russia have a tradition of cooperation in armaments that dates back to the 1960s. During the late 1990s, in view of ongoing arms imports by its traditional enemy Pakistan and persistent suspicion of neighbouring China, India needed new equipment from Russia to modernise its armed forces. Among key purchases were Russian technology for armoured vehicles, artillery, and naval systems in addition to aircraft. In early 1996, experts estimated that as much as

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55 'HQ-9', in *Jane's Ground Based Air Defence*, Jane's Information Group, Coulsdon, Surrey, 2006.

56 Cohen, *The Russia-China Friendship and Cooperation Treaty: A Strategic Shift in Eurasia?*.

57 Trenin, 'Russia between America and China'.

70 per cent of India's armaments had been purchased from Russia. As a result, India still relies heavily on Russia for its arms and Moscow enjoys the rewards of being New Delhi's largest supplier. New Delhi has bought US\$33 billion worth of weapons from Moscow since the 1960s and Russian weapons account for nearly three quarters of India's arsenal. For instance, the former Soviet Union and Russia together have built a total of 67 naval vessels for India.<sup>58</sup>

In January 2004, Russia and India signed nearly 20 contracts involving the provision of Russian weapons and technology. One of these contracts, estimated to be worth US\$1.5 billion, involved the Russian upgrade of the *Admiral Gorshkov* aircraft carrier and its delivery to India by 2010. India will only pay Russia for the refurbishment of the *Admiral Gorshkov*, which will cost around US\$650 million. Additionally, US\$730 million will be paid for sixteen MiG-29K *Fulcrum* carrier-borne multi-role fighters, and eight *Kamov* helicopters.<sup>59</sup> Furthermore, Indian reliance upon Russian expertise was highlighted by a development in the licence production of 140 Su-30MKI *Flanker* aircraft by Indian air company Hindustan Aeronautics Limited. The original agreement included full licence production of a number of the aircraft, while the others would be sold by the Irkut company in kit form or fully assembled. However, it became clear in 2006 that completing the order with Indian construction of Russian-made kits, rather than full licence production, would not only save on costs, but also shave three to five years off the final delivery date. This option was duly exercised by the Indians, and has thus given the OPK more work and Irkut an additional US\$350 million.<sup>60</sup> Russia has also provided India with 130 T-90S tanks, with 180 more sent in kit form for Indian assembly, and a further 690 to be produced under licence in India up to 2020.<sup>61</sup>

Cooperation between Moscow and Delhi has also seen more than 10 000 Indian military officers educated and trained in the Soviet Union and Russia.<sup>62</sup> In order to maintain the momentum in arms cooperation, Moscow and New Delhi have been steadily advancing their military cooperation into fields such as joint research, development, and co-production. For example, they jointly developed and successfully launched the *BrahMos* cruise missile. India is also collaborating with Russia on joint production of a medium transport aircraft, creatively named MTA. The hope is that this collaboration will prove successful

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58 Rouben Azizian, 'Russia-India Relations: Stability amidst Strategic Uncertainty', *Special Assessment: Asia's Bilateral Relations*, Asia-Pacific Center for Security Studies, Honolulu, 2004, p. 1-1 to p. 1-8 (1-6), available at <<http://www.apcss.org/Publications/SAS/AsiaBilateralRelations/Russia-IndiaRelationsAzizian.pdf>>, accessed 28 April 2009.

59 Azizian, 'Russia-India Relations: Stability amidst Strategic Uncertainty', p. 1-6.

60 'Production of Sukhoi Su-30MKI to be hastened, new deadline 2012', 1 September 2006, *India Defence*, available at <<http://www.india-defence.com>>, accessed 14 January 2007.

61 'Army to acquire nearly 1000 additional T90 tanks by 2020', 4 October 2006, *India Defence*, available at <<http://www.india-defence.com/reports-2577>>, accessed 28 April 2009.

62 Azizian, 'Russia-India Relations: Stability amidst Strategic Uncertainty', p. 1-6.

enough to warrant a medium fifth-generation fighter joint venture that would complement Russia's own heavy-weight PAK-FA fifth-generation program. More broadly, India is the only country collaborating with Russia on joint production of sophisticated and futuristic weapon systems.<sup>63</sup>

Partly because of the predicted reductions in export contracts with China and to a lesser extent India, concerns that the Russian OPK would struggle to export arms at a level equating to the previous post Soviet record of US\$5.78 billion in 2004 have been significantly allayed. As stated previously, the 2008 figure reached US\$8 billion. A figure between US\$6 billion and US\$7 billion seems to be the commonly cited prediction for exports over the next few years. This is in large part thanks to the market diversification drive that has seen renewed successes in Latin America, Southeast Asia, the Middle East and North Africa. It must also be remembered that revenues from arms exports will be augmented with an ever-increasing SDO that reached US\$11.5 billion in 2007.<sup>64</sup>

There is currently a Russian arms market diversification triangle that covers three geographic regions: Southeast Asia, Latin America, and the Middle East. In 2006 Russia signed multi-billion dollar arms contracts with Venezuela and Algeria, and Indonesia's acceptance of a US\$1 billion export credit offer confirmed that Russian diversification efforts into all three geographic regions have been successful. Rosoboronexport, the state-owned arms exporter, has championed this diversification effort and hopes that the sales to Venezuela, Algeria and Indonesia will stimulate further sales within these countries' respective geographic regions. Recent Russian arms contracts with Mexico, Brazil and Morocco indicate that this ploy has been successful and that the Indonesian arms agreement may generate a similar response within Southeast Asia.

In the Middle East, Iran could potentially return to its pre-2000 status as a strong customer, although the current political situation regarding resumption of their nuclear program will play a major role in future arms deliveries. Agreements during the 1990s between Russia and Iran saw deliveries of Mig-29 *Fulcrum* and Su-24 *Fencer* aircraft, T-72 Main Battle Tanks (MBTs), and Project 877 *Kilo*-class submarines.<sup>65</sup> A subsequent Russian agreement with the United States, the 1995 Gore-Chernomyrdin Protocol, saw the suspension of arms deliveries until 2000. In fact, despite small-scale, post-2000 deliveries, a major contract did not occur until December 2005, when a significant US\$1 billion contract for air-defence systems renewed the relationship after a long hiatus.

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63 Azizian, 'Russia-India Relations: Stability amidst Strategic Uncertainty', p. 1-7.

64 Andrey Frolov, 'Russian Defence Procurement in 2007', *Moscow Defense Brief*, 2007, available at <<http://mdb.cast.ru/mdb/2-2007/item1/item2>>, accessed 28 April 2009.

65 Grimmett, *Conventional Arms Transfers to Developing Nations, 1997-2004*, p. 8.

Russia has strengthened its commercial position in other Middle Eastern countries such as Algeria, Egypt, Libya and Syria, where it sees a significant market not only in sales, but also replacement and refit of the huge Soviet-era stocks still operated by these countries. The recent US\$7.5 billion agreement with Algeria included ships, tanks and aircraft, including a 'buy-back' scheme where Algeria returned two Soviet-era aircraft in exchange for one modernised Russian aircraft—a scheme sure to spike the interest of Libya and Syria, whose arsenals are flush with Soviet equipment. Expansion of the Middle East market has been very successful and has enabled sales to Morocco, Kuwait and significant sales to the UAE—all traditional purchasers of Western equipment. Furthermore, Yemen, a traditional Soviet arms recipient, bought no arms from Russia in the 1990s. Since then, however, it has placed and received significant orders from Russia for state-of-the-art MBTs (T-90), Armoured Personnel Carriers (APCs) (BMP-2 upgrade) and aeroplanes (MIG-29SMT).<sup>66</sup>

Arms exports to Latin America immediately after the Cold War were modest, but the market opened up in the second half of the 1990s. The first exports were in the field of cargo aviation, and especially helicopters. Brazil, Colombia, Mexico, Peru and now Venezuela are the countries from this region that have completed the most important business deals with Russia, including a recent Mexican order for Su-27 *Flanker* fighter aircraft.<sup>67</sup> The military relationship between Russia and Venezuela was established quite recently, but it shows good dynamics and looks to have a very good future.<sup>68</sup> An agreement signed by Hugo Chavez and Vladimir Putin in Moscow in 2001 laid the framework for military cooperation and it bore fruit in 2005 with contracts for small arms, transport and attack helicopters being signed. Future deliveries may include submarines and fighter aircraft, as Caracas moves steadily away from the US camp. This would change the balance of power in South America, necessitating future procurement by Venezuela's neighbours—an action sure to stimulate future Russian sales to the region.

Russian flexible finance policies for arms sales, including possible arms for energy deals, and a visibly increasing presence within Southeast Asia's arms shows, have begun to make an impact in this region. Strong export growth in Southeast Asia has occurred through repeat customers such as Vietnam, Malaysia and Myanmar. These customers have been augmented in recent years with newer customers such as Indonesia and Singapore. The most notable arms agreements for Russia include an unconfirmed 'arms for oil' deal with Myanmar in early 2006 and an export credit offer of US\$1 billion to Indonesia.

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66 Grimmett, *Conventional Arms Transfers to Developing Nations, 1997–2004*, p. 8.

67 Antonio Sánchez-Andrés, 'Arms Exports and Restructuring in the Russian Defence Industry', *Europe-Asia Studies*, vol. 56, no. 5, July 2004, pp. 687–706 (691).

68 'Naval Equipment in Total Russian Arms Exports Equals Over 50 Percent', Agentstvo Voyennykh Novostey, Moscow, 23 August 2005, available at <<http://www.interfax.com>>, accessed 8 February 2006.

The breakdown of the hardware pertaining to the Indonesian deal included two *Kilo*-class submarines and an assortment of helicopters and armoured vehicles. This was formalised in September 2007 during Putin's Jakarta visit.

While most recent Russian arms sales have been to developing countries within Asia, the Middle East and Latin America, some success is evident in Europe. Russia has managed to sell arms to Greece, France and the United Kingdom, and sales have mainly been of air defence systems (the UK purchase was for Man Portable Air Defence Systems (MANPADS) to be utilised in an anti-terrorist training role)<sup>69</sup>. Sales to France are so far confined to the guided *Krasnopol* artillery shell. On the other hand, a number of examples of collaboration between Russia and France/Italy/European Union has been observed with the MiG Advanced Trainer (MiG-AT), Unmanned Aerial Vehicles, and Russian Regional Jet collaboration respectively.

The other intriguing development within the European arms market has been Russian interest in the defence giant EADS (European Aeronautic Defence and Space Company). Although Putin ruled out a hostile takeover of the company, Vneshtorgbank, Russia's state-run foreign trade bank, acquired a 5.02 per cent stake in EADS in September 2006. There is a possibility that the Vneshtorgbank shares of EADS could be transferred to the new Russian Unified Aircraft Corporation (OAK), if Russian industrial participation within EADS is agreed upon.<sup>70</sup> Needless to say, Russian state involvement in EADS will be beneficial for its own defence industry in the longer-term.

## Niche Russian Military Products and the Big Sellers

An important element in the resurgence of arms exports has been the particular niche that many Russian systems occupy. Russian weapon systems offer excellent value for money, as they are both competitively priced and technologically advanced. Russian-made fighter aircraft and helicopters are durable, inexpensive to maintain and come with armour-plating, which enables them to sustain damage from small arms and rocket fire.<sup>71</sup> All of these qualities set them apart from the bulk of their Western equivalents.

A contributing factor to the resurgence of Russian arms exports is the unique capabilities some of these arms possess. Although much of the weaponry is

69 Sánchez-Andrés, 'Arms Exports and Restructuring in the Russian Defence Industry', p. 692.

70 James Murphy, 'Putin moves to allay fears over EADS share buy', *Jane's Defence Weekly*, 4 October 2006.

71 'Defence Production and R&D', in *Jane's Sentinel Security Assessment: Russia*, Janes Information Group, Coulsdon, Surrey, September 2005.

criticised for being less advanced than its US or European counterparts, there are some systems that the West can not better or indeed match. Russian missile technologies, specifically surface-to-air and anti-ship varieties, are widely regarded as being in a class of their own. Furthermore, thermobaric munitions and thrust-vector technologies (TVT) for aircraft engines are fields in which many experts regard Russia as master. Thermobaric munitions are essentially a fuel-air explosive that disperses an aerosol cloud of fuel which is ignited by a detonator to produce an explosion.<sup>72</sup> The shockwave produced from such an explosion flattens all objects within close proximity of the explosion, and further out, soft targets such as personnel face such horrors as the rupturing of internal body organs. These munitions were used to devastating effect during the two Chechen conflicts and, because of their relatively low cost and ease of use (some warheads may be fitted as a standard Rocket-Propelled Grenade), they are an appealing export item.

As ingenious as thermobaric munitions, but far more expensive, is the concept of all-aspect TVT. This is a field in which Russia also excels—US experimentation with TVT still only enables vertical movement (as on the F-35 Joint Strike Fighter short takeoff/vertical landing (STOVL) variant). This technology has been fitted on late-model Sukhoi *Flanker* variants, and the MiG-35 *Fulcrum*. TVT enables ‘super-manoeuvrability’ which aids dog-fighting, anti-missile manoeuvres and safety at low air speeds.<sup>73</sup> Russia hopes that such technologies will increase the longevity of some of their best-selling defence systems.

Below are the most prolific export items that Russia has sold since the end of the Cold War. Certainly, the T-72, T-80 and T-90 MBTs have sold relatively well, as have the new generation of wheeled BTR family APCs, and tracked BMP family APCs. However, these items are exported at levels far lower than their Soviet forebears, whereas those mentioned below have sustained or surpassed their level of export during the Communist era.

## Project 877/636 *Kilo*-class submarines

These Soviet-era submarines are still very capable platforms, due to the high potential for upgrade and the fact that, prior to upgrade, they were already one of the quietest submarines in the world. The original design was the 877, while the 636 variant has improved range, firepower, acoustic characteristics and reliability.<sup>74</sup> Both variants have been widely exported, including to Algeria,

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72 ‘Fuel/Air Explosive (FAE)’, GlobalSecurity.org, available at <<http://www.globalsecurity.org/military/systems/munitions/fae.htm>>, accessed 28 April 2009.

73 ‘Russia Aims to Make its MiG-35 Fighter the Pinnacle of ‘Fulcrum’ Development’, *Jane’s International Defence Review*, 1 January 2006.

74 ‘Project 877 Kilo class’, GlobalSecurity, available at <<http://www.globalsecurity.org/military/world/russia/877.htm>>, accessed 28 April 2009.

Iran, Poland and Romania who received the 877 variant. The biggest customers were India, who received ten 877 variants (all of which are now upgraded), and China, who received two 877 and ten 636 variants. These submarines can be or are already armed with the 'Klub-S' missile system, which fires the vaunted Novator 3M-54 *Alfa* (SS-N-27) missile. The major selling-point for the *Kilo* family of submarines is their acoustic characteristics and the impressive weapons fit that can include a mix of anti-ship or anti-submarine missiles and long-range wake-homing torpedoes. Export orders are expected to continue, with interest from repeat customers such as Algeria and China and new customers such as Indonesia, Venezuela and Vietnam.

## Sukhoi Su-27/30 *Flanker* Family Fighters

Perhaps the best performing Russian defence export product since 1991, the development of these remarkable aircraft was far from smooth. After the first 12 had been produced, a complete redesign took place and it is a credit to the aircraft and its design that it survived such upheaval in its early years. In fact, the aircraft went on to break 34 world records in terms of performance and quality of weaponry, and was the basis for a whole family of high-performance aircraft.<sup>75</sup> The beauty of the aircraft from an export perspective is the ability to modify the basic design to suit client preferences. Moreover, the aircraft has proved itself through evaluation against US F-15 *Eagles* and in Indian exercises against both Singaporean F-16 *Falcons* and French *Mirage-2000s*. This glittering record, in conjunction with a very competitive sale price, has led to sales in Africa, China, India, Indonesia, Malaysia, Mexico, Venezuela, Vietnam and the former Soviet republics, as well as interest from Thailand.

## MiG-29 *Fulcrum* Family Fighters

Like the *Flanker* family, the Mig-29 *Fulcrum* design benefits from ease of major modification and upgrade. This has preserved its longevity and given the aircraft a new lease of life. Widely exported between 1989 and 2000, the Mig-29 has been exported to approximately 20 countries. A lull in sales then ensued, whereby the only exports were of old Russian Air Force stock to poorer African nations. However, shrewd marketing by RSK MiG, and the introduction of a new, very capable derivative that includes the option for current operators to upgrade their existing fleet and/or procure new aircraft, has seen sales rise markedly since 2003. India, Algeria and Yemen have procured large numbers of the new variant, known as the MiG-29SMT, and Venezuela is another potential customer. The SMT variant rectifies low combat-radius and low airframe lifetime

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<sup>75</sup> Ian Anthony (ed.), *Russia and the Arms Trade*, Stockholm International Peace Research Institute, Oxford University Press, Oxford, 1998, p. 143.

issues that were associated with the original design and also provides an air-to-ground capability not available on earlier variants.<sup>76</sup> India is perhaps the biggest potential customer for this fighter, as it already operates a large number of the aircraft. India has also signed a contract for the navalised variant, the Mig-29K, to operate from the *Admiral Gorshkov* aircraft-carrier, also bought from Russia and currently undergoing refit. India's interest lies not in the SMT variant, but rather the MiG-35, designed with Indian export in mind. This variant is the pinnacle of *Fulcrum* development, and is powered by the uniquely Russian all-aspect TVT. It is a front-runner in the widely publicised Indian requirement for 126 medium multi-role combat aircraft. It is estimated that fulfilling the requirement will cost India around US\$9 billion and, if MiG is successful, it will preserve the company's viability for many years to come.

## Air-Defence Systems

Cold War military doctrine has played a major part in the success of Russian made air defence systems. The former Soviet Union believed in an umbrella ground-based air-defence network that ranged from shoulder-fired SAMs, to the huge long-range and high-altitude systems that began with the SA-1 *Guild* missile complex. US doctrine evolved to combat such defences and, as such, focused on deep-penetration aircraft such as the F-4 *Phantom II*, armed with anti-radiation missiles designed to knock out Soviet air-defence radars. Today, the legacy of such doctrine is clear to see, with US air-defence systems almost exclusively based on the *Patriot* or recently retired *I-Hawk* systems. Russia's ground-based air-defence systems are far more numerous, and continue to evolve. The most current systems are: the short-range SA-19 *Grisom* missile, on which the mobile *Tunguska* and *Pantsyr* systems are based; the medium-range *Tor* system (SA-15 *Gauntlet*); and the pinnacle of SAM development, the 400 km range, anti-missile capable S-400 *Triumf* system.<sup>77</sup> All of these complexes, or derivatives of them, have been or are expected to be widely proliferated and are well respected by Western analysts.

## Mil Mi-8/17 Utility Helicopters

Far less exotic than the air-defence systems, but nonetheless just as important from an export perspective, are the Mil Mi-8/17 family of helicopters. Over-engineered, rugged, and combat-proven, these helicopters have been exported to over 70 countries and remain popular due to their almost legendary reliability

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76 'MiG-29 SMT Fulcrum', GlobalSecurity, available at <<http://www.globalsecurity.org/military/world/russia/mig-29smt.htm>>, accessed 28 April 2009.

77 'Russia successfully tests new S-400 air defense system', *RIA Novosti*, 13 July 2007, available at <<http://en.rian.ru/russia/20070713/68912072.html>>, accessed 28 April 2009.

and low-maintenance.<sup>78</sup> The helicopter has seen over 40 years of service and the latest variant, the Mi-17, is still a popular export choice, with Venezuela the latest customer. Indeed, it was widely rumoured that the United States was a keen potential customer during Operation *Enduring Freedom*. The Mi-17 high-altitude variant was designed as a direct result of Soviet helicopter experiences in Afghanistan and the United States begrudgingly conceded that it was the best helicopter for the job within Afghanistan's rugged and mountainous regions.

## The Future of the OPK out to 2015 and Beyond

The aforementioned Chinese and, to a lesser extent, Indian markets will inevitably contract in the coming years as their own indigenous industries improve. This has led Rosoboronexport and the independent companies within the OPK to actively foster other markets. These include customers in Latin America and Southeast Asia—markets that have a more limited capacity than those of India and China. However, in combination with more Middle Eastern contracts, they should ensure that the annual takings for Russian arms remain above US\$6 billion. The US\$20 billion worth of export contracts will guarantee the workload of the country's defence industry over the next five years.

Moreover, domestic orders through the 2006 SDO equated to US\$9 billion, of which nearly 70 per cent (US\$6 billion) was spent on procurement and maintenance, and 30 per cent for military R&D.<sup>79</sup> This was followed in December 2006 by the signing of a US\$189 billion State Armaments Program 2007–2015, which stipulates that 80 per cent (US\$149 billion) of the funding will be spent on procurement and maintenance, and the rest on R&D.<sup>80</sup> Even if these optimistic figures are not adhered to, what does come from the government, in conjunction with the growing export order, will see OPK production lines running steady until the end of the program. The short-term viability of the OPK was never really in doubt. It is the longer-term, beyond 2015, that will require buttressing from domestic and external drivers to ensure OPK longevity.

Predicting the success of the OPK past 2015 is more difficult. There are a number of domestic and external drivers that are required to keep the industry buoyant within this timeframe. Domestically, there are six key drivers. The first is to ensure a more concrete linkage to army reforms within the OPK restructure. Attempts have been made to facilitate this, particularly with the introduction

78 See entry for 'Mil Mi-8' in Wikipedia, available at <[http://en.wikipedia.org/wiki/Mil\\_Mi-8](http://en.wikipedia.org/wiki/Mil_Mi-8)>, accessed 28 April 2009.

79 *The Military Balance* 2006, p. 151.

80 Isakova, 'The Russian Defense Reform'.

of the Military Industrial Commission in 2006, headed by First Deputy Prime Minister Sergei Ivanov. This role has given Ivanov more control and input into the structure and workings of the OPK. The second is the promotion of more active attempts to battle endemic corruption within the industry. The current policies must be sustained and more focused, as the problems are deep-rooted and enduring. The third driver has been the most successfully implemented to date: the restructuring of the OPK. This has led to greater efficiency and coordination across the industry as a whole. Fourth, Dmitry Medvedev and Ivanov must ensure that Russia itself becomes the number one customer for its defence industry, by modernising and upgrading significant sections of the defence forces. Rather than the piecemeal attempts that have been witnessed to date, wholesale replacement of Soviet-era equipment must occur so as to sustain large production lines within the defence industry.

The remaining two domestic drivers for long-term OPK success are closely linked to the external drivers. These are the continued success and utilisation of the state arms exporter Rosoboronexport and the requirement of the OPK to commission new joint ventures with India. These joint ventures will provide the OPK with valuable R&D funding, which will sustain it in the long-term as it develops new technologies.

The external drivers required for OPK longevity involve sustaining export earnings from arms transfers. This will occur through the continuation of Rosoboronexport's market diversification drive into Latin America, the Middle East and Southeast Asia. Diversification efforts will pay dividends for the OPK as it will counteract the predicted contraction within the more traditional overseas markets. To ensure that these traditional overseas markets do not contract too much, Russia will probably permit greater technology transfer, or even shift its exports to higher-end niche military equipment. These actions will enable Russia to maintain the high exports figures it has worked so hard to achieve over the last three years.