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Who's Arming Asia?

Jonathan D. Caverley and Ethan B. Kapstein

In the international arms trade, as in any industry, market share is power. But unlike most other products, when it comes to the sale of weapons, power is not limited to economics. Arms exports not only benefit producers (and, sometimes, defence ministries) financially; they also cement relationships (often asymmetric, and occasionally coercive) between seller and client.

As the world's leading producer and consumer of high-end weaponry, the United States has long used arms sales to influence smaller states, manage regional arms races, encourage allies' inter-operability and contain rivals' capabilities, as well as to support its own defence-industrial base and broader economy. Arms sales are a crucial component of the United States' revitalised effort to 'train and equip' other military forces to more effectively pursue joint security interests around the world.¹ Any loss of market share therefore puts several aspects of the United States' political-economic order at risk, and nowhere is this risk more apparent and more consequential than in Asia.² Even those who care little about American influence in the region should recognise the potential for increased proliferation of sophisticated conventional weapons in an already tense region.

In Giuseppe Tomasi di Lampedusa's great Sicilian novel *The Leopard*, the young aristocrat Tancredi, intent on preserving his privileged position in

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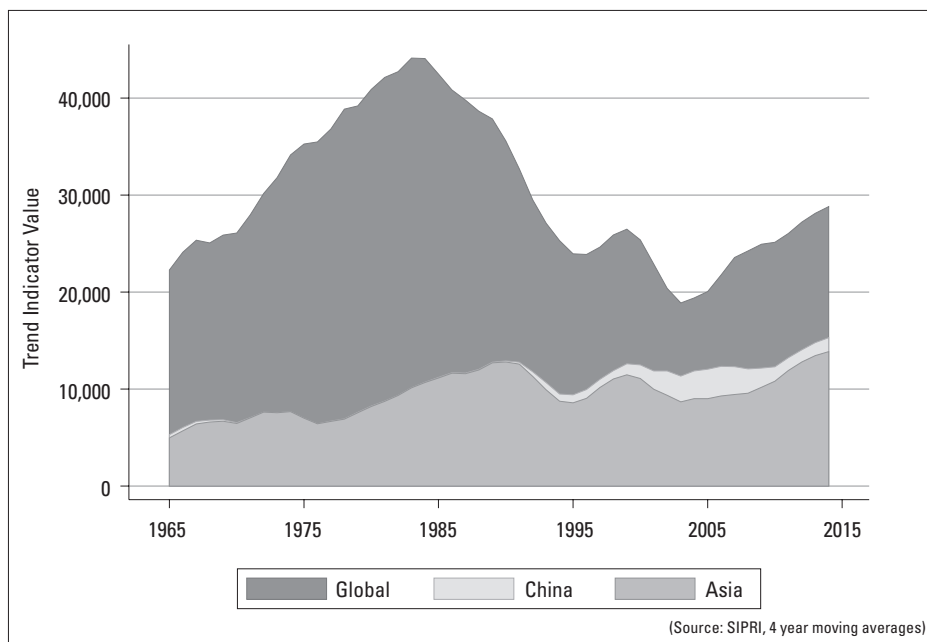


Figure 1: Arms imports for the world, Asia and China

fast-changing Risorgimento Italy, famously observes, 'If we want things to stay as they are, things will have to change.' If the United States is to continue to enjoy its own dominant status, it must do likewise.

Much of the growth in global arms sales over the past decade has occurred in Asia. Figure 1 uses data on arms deliveries from the Stockholm International Peace Research Institute (SIPRI) to show overall levels of arms imports for the world, for Asia and for China alone.³ In 2010–14, Asia accounted for 48% of all imports (compared to the Middle East's 22%).⁴ This represents a 37% increase in imports over 2005–09 (Middle East imports rose 25% over this period). Perhaps surprisingly, Beijing is not directly driving Asian arms imports. China actually makes up a smaller percentage of the import market than it did earlier this century, largely because it manufactures more weapons domestically now.

Figure 2 presents trends in market share within Asia (again excluding China). Clearly, US market share has plummeted from historic post-Cold War heights. Even as the Asian arms trade enjoys a decade-long boom, American market share is near its historically lowest point. Russian market share

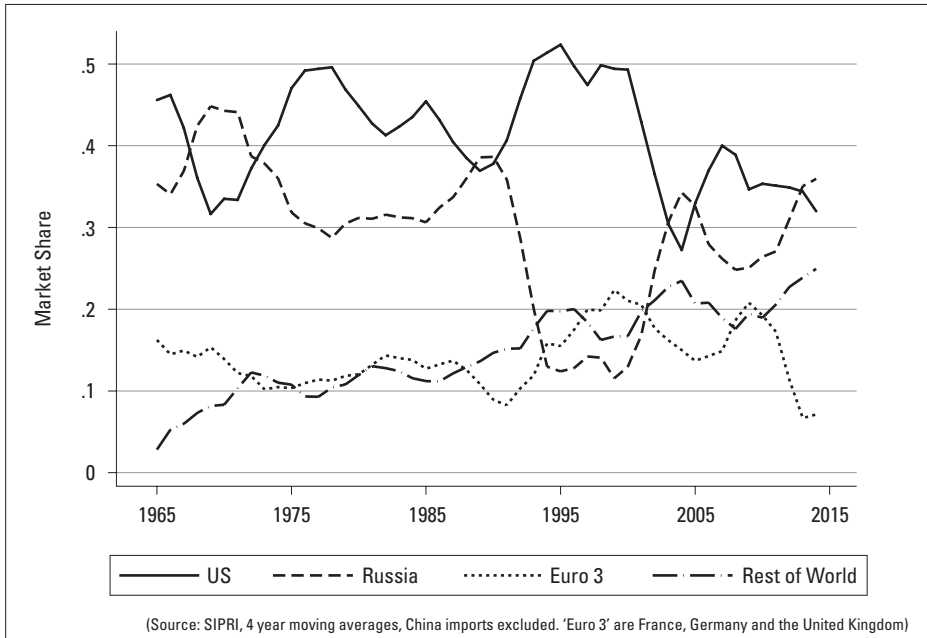


Figure 2: **Market shares of major arms exporters**

moves inversely to the United States' and indeed has recently outstripped its former Cold War rival (even when Chinese imports are excluded). This recovery is remarkable, given that Russia does not have nearly the same capacity as the Soviet Union had in the 1980s. The traditional friendly rivals to the United States – Germany, France and Britain – have seen their already weak position in Asia deteriorate further. The graph also shows the steady march of less traditional sellers of weapons, scrappier competitors like Israel, South Korea and China (which currently holds about a 10% share), to unprecedented highs.

Figure 2 might suggest that the current market is largely a duopolistic competition between the United States and Russia. But there are enough exporting countries with large enough sales that the market is now more competitive than ever. Figure 3 shows the trends in the Asian market's Herfindahl–Hirschman Index (HHI, a measure of market competitiveness), which takes into account both the number of exporting states in a market and the size of their shares. The HHI is used by US federal agencies to evaluate mergers for potential anti-trust implications, where any value above

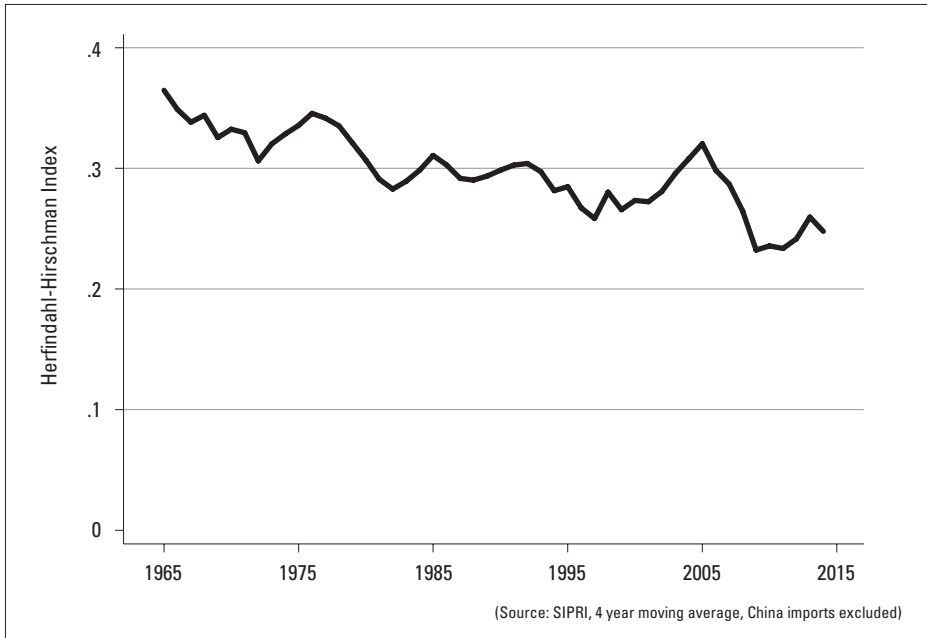


Figure 3: **Asia market concentration by exporting state**

0.25 is considered highly concentrated. The HHI shows a steady decline in concentration over the past several decades. The past ten years have seen a significantly lower level of concentration compared to the Cold War or the American-dominated 1990s.

Given the expense of producing major conventional weapons, a massive defence budget and America's tremendous international influence, how did the United States lose so much so quickly? The drop seems regionally specific; the US market share in the Middle East remains much higher. Over the past ten years, and despite its 'pivot' in strategic focus, America's share of the Asian defence market has hovered at around 35%, much smaller than its current 44% in the Middle East. When Asian states feel the need to arm themselves, they are not nearly as likely to turn to the United States as are their Middle Eastern counterparts.

With great market power comes greater responsibility

Basic economic logic and the historical data would suggest that American defence spending and the country's share of the global arms market should

be positively correlated.⁵ The unmatched size of its economy and defence budget provides massive economies of scale and learning effects in the production of armaments compared to any other country, where relatively small production runs drive up unit costs.⁶ As a consequence, US weapons should be relatively cheap given the marginal costs of production, making it easy to win foreign sales. Moreover, these weapons are combat-proven and pitched by an aggressive sales force: the US State Department.

Compared to most other suppliers, the United States attaches many conditions to its sales.⁷ It has strict technology-transfer controls and relatively comprehensive anti-corruption standards, and makes onerous demands on importing states to ensure that weapons do not get transferred to third parties. Moreover, the US has in the past cut off countries over policy differences, such as the sanctions that crippled India's *Tejas* light-combat-aircraft programme following that country's testing of nuclear weapons. The United States has historically forgone exporting its highest-capability weapons to a region until a viable competing product emerges. For example, the US refused to deliver AMRAAM missiles to Asian states until China purchased the Russian AA-12 *Adder*.⁸

Firms in the US defence base may blame such restrictions for undermining US competitiveness, but they are more a sign of market power than a cause of its decline.⁹ Lower levels of conventional-weapons proliferation, technology diffusion and corruption in contracting arrangements result from US power not because it is a particularly responsible or moral country, but because it can afford to use its competitive advantage to restrict these nuisances (and still take care of its industrial base). Less powerful, second-tier exporting states are too constrained by the economics of production to pursue any goals besides increased arms sales.¹⁰ A more competitive market will place pressure on this robust regulatory environment. The recent removal of many technologies from the United States Munitions List was driven in part by American industry convincing the government that it is losing competitive advantage abroad. Consequently, many weapons transfers may no longer be subject to rigorous human-rights vetting and end-use monitoring by the State Department.¹¹ In short, eroding American market dominance of higher-end weapons makes it less

likely that it will exercise its traditional policy of 'unilateral restraint' in their sale.¹²

Despite the many strings attached, the United States has traditionally been adept at convincing countries to buy American, for which it provides compensation by delivering a better product at a lower, often subsidised, price relative to comparable products. At \$5 billion, the US Foreign Military Financing programme is larger than the entire military budgets of Venezuela, Kuwait and Denmark. The sum of US foreign military assistance for 2015, \$19.3bn, would amount to the 18th largest military budget in the world (slightly less than Canada's), much of which can fund arms purchases through disparate programmes such as the Global Security Contingency, Peacekeeping Operations, Section 1206 Train and Equip, and Counter-Narcotic funds.¹³

The controversial F-35 Joint Strike Fighter, so expensive that one critic has dubbed it the 'jet that ate the Pentagon', illustrates both American advantages and weaknesses in the arms market.¹⁴ Ostensibly developed within a multinational collaboration, the United States has been very protective of the plane's major components, to the point that other countries will be unable to modify or even maintain the plane without American permission and input. Yet despite its costliness and lack of technology transfer, the US has successfully sold the plane abroad through a combination of industrial incentives, the promise of increased security cooperation and diplomatic arm-twisting.¹⁵ International procurement decisions for the F-35 have been unusually fractious and controversial, yet the plane has not lost an international contract to a rival.¹⁶ On the other hand, the visible losses of American aircraft in major competitions, such as in India and Brazil, have been in markets where cheaper planes (F-16s and F/A-18s) than the F-35 were on offer. What accounts for the differences in American competitiveness among these different weapons?

Disruption and hegemony

We argue that, while the US defence industry excels at producing the type of arms that its principal client (the Pentagon) wants, it does not produce cheaper variants of items well suited for the missions that much of the world,

particularly in Asia, currently demands. The United States' privileged position in the world and the ambition of its foreign policy have ensured that it produces the materiel necessary for what the American political scientist Barry Posen calls 'command of the commons': the ability to operate at will in sea, air and space around the globe, as well as to prevent others from doing likewise. The requirements for this capability are extremely demanding and are unlikely to be matched, Posen suggests, by any other state in the near to medium term.¹⁷ Posen describes at length the massive physical- and organisational-infrastructure requirements for such a mission and the consequently enormous barriers to entry for other states. Building cutting-edge weapons is hard: former Lockheed Martin CEO Norm Augustine famously observed that 'the last 10 percent of performance generates one-third of the cost and two-thirds of the problems'.¹⁸

On the other hand, what Posen describes as the 'weaponry of the close fight' is cheaper to purchase, simpler to operate and easier to develop.¹⁹ The more ready supply of potential exporters for these types of weapons helps contribute to a 'contested zone' that demarcates the limits of American (or any other state's) hegemony.²⁰ In American parlance, these products are designed for anti-access/area denial (A2/AD). They include diesel submarines, anti-submarine-warfare aircraft, anti-ship cruise missiles and mines, as well as air and missile defences.²¹ The US defence industry does not bother to produce many of the weapons required for such counter-intervention operations, and indeed in many cases has not done so for decades. Since the 1950s, the US Navy has deliberately refused to procure diesel submarines in favour of nuclear-powered, ocean-spanning undersea capital ships.²² Nor does the American defence industry build ground-based anti-ship missiles, leaving this rapidly growing export market to smaller producers such as France, Russia, Sweden, Norway and Italy.²³

Even when the United States develops weapons ostensibly for both export and domestic consumption, they rarely strike potential buyers as a particularly good deal. Seeking a flexible, multipurpose plane that could fulfil a variety of missions satisfactorily, Brazil recently chose the lighter, less sophisticated, but much less expensive *Gripen* (made by Sweden's Saab) over prominent competitors that included Boeing's F/A-18, a cheap plane

by American standards. In terms of performance, the *Gripen* is the inferior plane in nearly every way, but, as one analyst pointed out, it is perfectly serviceable 'if you are not a country that wants to bomb areas with really strong air defences on day one of a war'.²⁴ Israel considered buying Littoral Combat Ships, developed by the United States to serve as affordable, coast-hugging vessels. Small by American standards but larger than anything the Israelis have owned to date, their spiralling costs proved too much. As one Israeli admiral noted, 'As much as we sought commonality with the U.S. Navy ... we had no choice but to face the fact that, for us, it was unaffordable.'²⁵

Sovereignty protection, rather than power projection, appears to be the primary purpose of contemporary arms purchases in Asia. Territorial defence not only for a state's major landmass, but also for smaller islands and more tenuous sovereignty claims, underpins much Asian strategic planning.²⁶ As an example, Indonesia aspires to build a 'green water navy', quintupling its diesel-submarine inventory to ten by 2024. In the past five years it has acquired four Dutch missile frigates as well as four Landing Platform Dock ships (licensed from South Korea), each carrying up to 400 troops and five helicopters.²⁷

To put it in the famous terms of business guru Clayton Christensen, American defence firms are unlikely to produce such weapons because the demand for them is unlikely to come from their principal customer. Christensen observed that truly 'disruptive' innovations often result in reduced performance, but at a greatly diminished price. Established firms do not invest in these simpler, cheaper products due to their lower margins and smaller profits. Disruptive innovations thus tend to be first commercialised in emerging or seemingly insignificant markets, where 'good enough' performance is sufficient. Over time, new entrants can use the resulting revenue and experience to work their way up the quality ladder. Honda initially gained a foothold in the US motorcycle market not by building powerful, luxury products like those of Harley-Davidson and BMW, but by selling cheap, fun *Super Cub* bikes to an entirely different set of customers. Honda now competes effectively at every level of this and many other markets.²⁸ Korea Aerospace Industries (KAI) has built on its experience producing licensed versions of Lockheed Martin's F-16 to produce a trainer

aircraft (the T-50) sufficiently capable and affordable for the Philippines to have purchased it for combat missions. KAI now seeks to develop a higher-end aircraft comparable to current versions of the F-16 to supply Korea, Indonesia and other potential export clients by 2023.²⁹

What is Asia buying? And from whom?

To illustrate this disruptive process, we turn to deliveries in Asia of the types of weapons broadly necessary for an A2/AD strategy: aircraft, ships and missiles. Missiles, in particular, represent a major global proliferation problem, as well as a threat to the air superiority of the United States and its allies.

To do this requires making an important technical distinction between two types of data published by SIPRI. The first is the raw number of units delivered. For missiles, this covers a broad range of not-very-comparable weapons. The more complicated, but often more useful, SIPRI measurement of exports is the 'Trend Indicator Value' (TIV), designed to measure 'transfers of military capability rather than the financial value of arms transfers', which allows for the distinction between weapons of various levels of sophistication. An American SM-3 anti-ballistic-missile weapon has a TIV of 7, while a Chinese *Red Arrow 73* anti-tank missile is valued at 0.02. Comparing the two measurements helps give a sense of US market share in terms of quality and quantity. If the TIV share is much higher than the unit share, it suggests that the United States is selling higher-quality weapons than its competitors.

Figures 4a–c (for aircraft, missiles and ships, respectively) present both the overall imports by Asian states as well as US market share in terms of both units and TIV. Even in a sector where the United States remains the dominant provider, supplying 42% of the region's value in aircraft, it only supplies 30% of the region's aircraft in unit terms. Looking at Figure 4b, after 15 years of essentially steady demand, the number of missiles being imported into Asia has increased by about 40%. Yet US share has remained relatively stagnant and has even dropped in terms of units. Turning to ships (Figure 4c), there does not seem to be much difference between the United States' TIV and unit shares, indicating that the United States is not export-

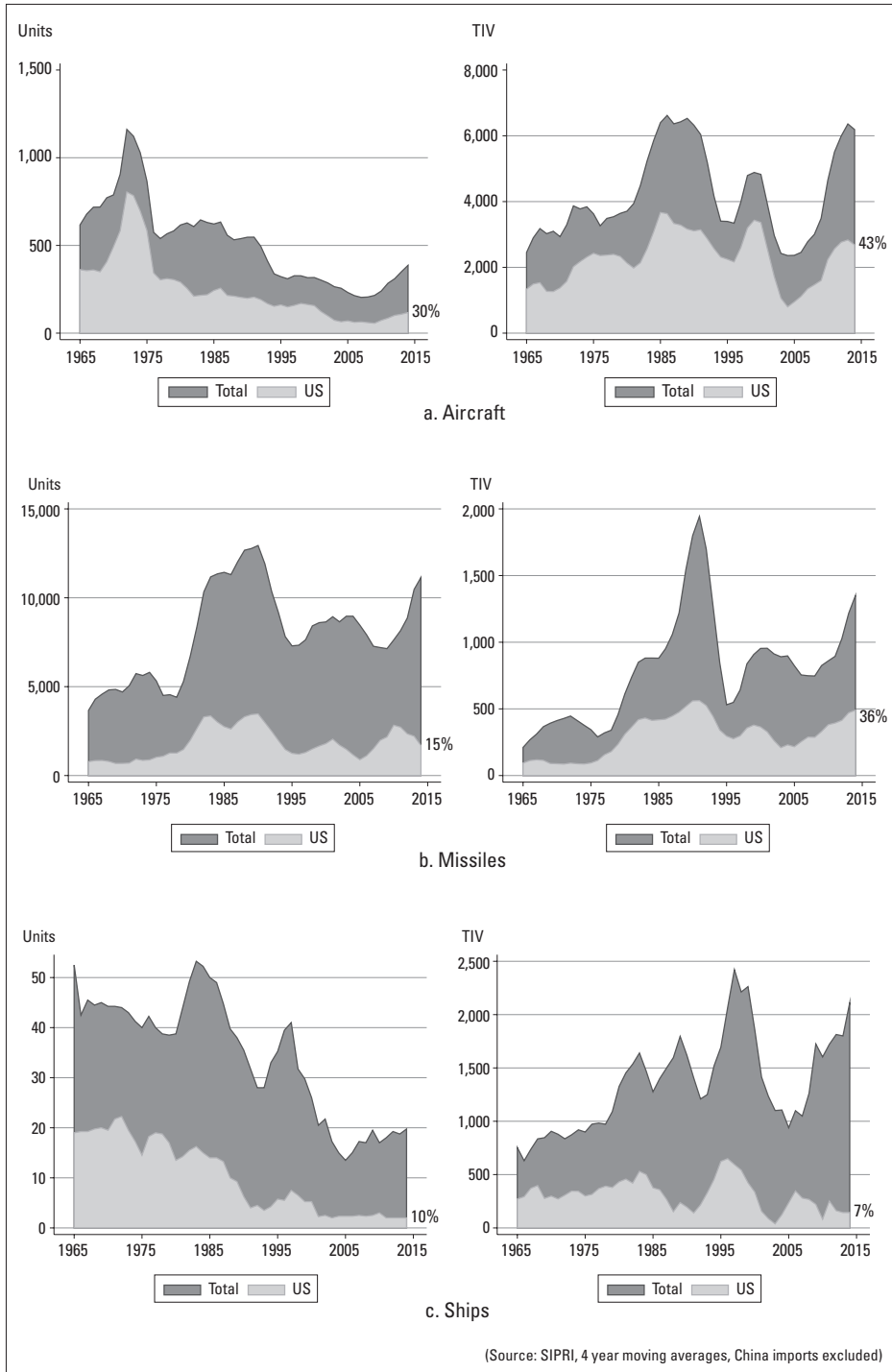


Figure 4: Numbers and value of Asian arms imports, total and US, by category

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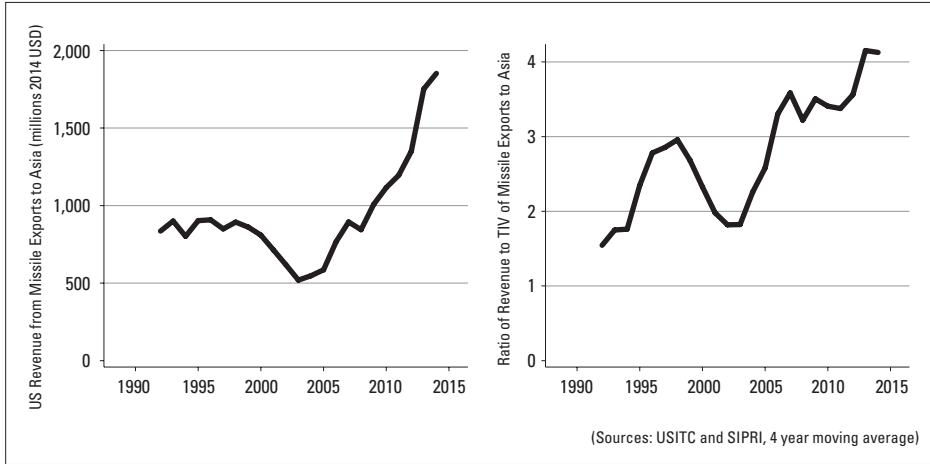


Figure 5: United States revenue from Asian missile exports and ratio of revenue to TIV

ing more sophisticated systems than the market demands. But that might be because the United States, with a 7% market share in terms of value, simply does not export these products.³⁰

Christensen argues that disruption occurs when the market-leading firms concentrate on supplying the needs of their most profitable clients. Figure 5 depicts US International Trade Commission data on Asian export revenue for the category of guided missiles, and then graphs the ratio of revenue over SIPRI's TIV. Despite the decline in market share, revenues have never been higher. Between 2011 and 2014, the United States exported \$6.2bn-worth of missiles, a 63% increase over 2007–10.³¹ Moreover, the steeply climbing ratio shows that revenue is rising faster than the military capability exported, providing further evidence that the United States remains focused on (and successful in) selling to its most profitable customers. This may make sense for domestic firms, but in terms of international politics, as Stalin supposedly remarked, quantity has a quality all its own.

* * *

The massive American military-acquisition budget should provide economies of scale that enable the United States to shape the international arms trade, and consequently the international security environment, to suit its

interests. Yet countervailing forces seem to have undermined this advantage. The quest for primacy, which correlates to both the size of the defence budget and the type of weapons acquired with it, undermines the effectiveness of a classic tool of great-power management: the sale of arms to client states. Ironically, as the US government aims to both pivot to Asia and train and equip its allies, its defence-industrial efforts are focused on building weapons that many in Asia, both friend and foe, are trying to defeat. This does not bode well for either US influence or regional proliferation. More disturbingly, uncompetitive American weapons may undermine regional stability, given Asia's large number of maritime disputes.

Among the benefits provided by arms exports is the ability to manage clients' excess aggressiveness – the so-called 'drunk tank' approach to alliance politics, which involves restraining an intoxicated actor until tensions have calmed.³² While the regional spread of anti-access weapons may appear to favour the defence, there are consequences to small states being able to use them unilaterally. In 2010, then-secretary of state Hillary Clinton claimed an American 'national interest in freedom of navigation, open access to Asia's maritime commons, and respect for international law in the South China Sea'.³³ The interests of Indonesia, Malaysia and the Philippines are much more parochial. Vietnam, in particular, is a small, strategically located country that historically has not avoided conflicts with superpowers. Over the past two decades, it has also doubled its outposts in the disputed Spratly Islands to 48, compared to China's eight.³⁴ The acquisition of anti-access weapons such as *Kilo* diesel submarines and *Yakhont* anti-ship missiles will not only enable Vietnam and other countries to defend themselves against Chinese revisionism, it will also allow them to threaten the freedom of navigation of China – and other states – through vital sea lines of communication in the South China Sea, through which about 30% of the world's trade passes.³⁵ This could lead to more arms racing and regional crisis instability.³⁶

That said, like the aristocratic Tancredi, the United States can adapt to a changing environment and preserve its privileged position. The US will continue to aggressively sell advanced products to wealthy allies such as Japan, Australia and South Korea. Japan and South Korea's participation in the *Aegis*-based missile-defence system, for example, pulls two states

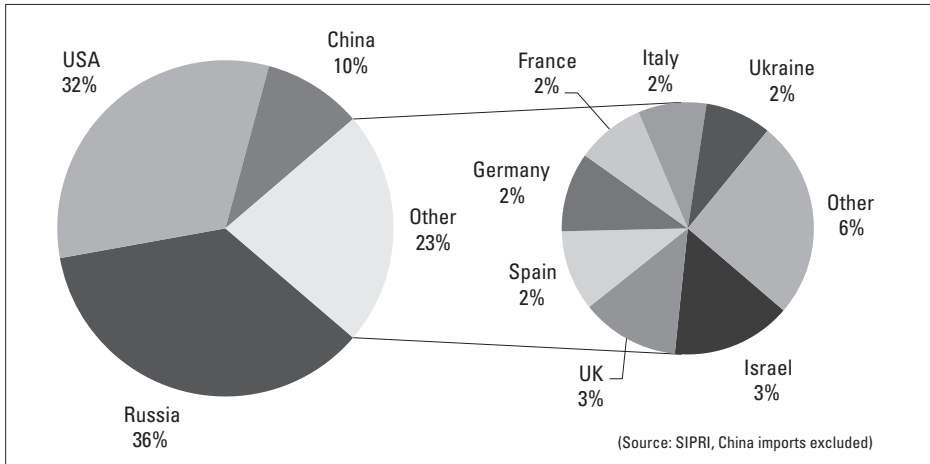


Figure 6: Asia export market share of ten largest exporters, 2011–14

unlikely to cooperate with each other bilaterally into something resembling a collective-security network. The United States remains the unrivalled producer of certain systems and services that make existing weapons more capable, and which even less-powerful states want. It still enjoys unmatched expertise in intelligence collection and information management. Even the anti-access weapons discussed above require significant upgrading in terms of both the human capital and the information-intensive C₄SIR capability of small states' militaries.³⁷ As with the larger US economy, providing military software and services may not bring with it the domestic employment advantages of bending metal, but it can still enhance American interests.

Figure 6, which shows the market shares of the top ten exporters to Asia for 2011–14, tells a more subtle (and important) story than Figure 2. The countries that make up the 'rise of the rest' in the Asian arms market are not the emerging markets that Fareed Zakaria had in mind when he coined the term.³⁸ Brazil and India are nowhere to be found, despite several decades of concerted effort at developing arms exports. Other than China, there are no Asian exporters, despite that region's growing demand for weapons. With the exception of Ukraine, until recently a subsidiary to Russia's defence industry, the other arms suppliers are moderately sized liberal states with sophisticated economies. Perhaps more importantly, almost all of them are either formal or de facto allies of the United States.

Thus, even if the United States will not produce many weapons smaller states need, it can still encourage sales within a larger arms network that it continues to dominate. Sweden's *Gripen* contains so much American technology that, from a regulatory standpoint, it might as well be exported from the United States.³⁹ South Korea's quite successful T-50 *Golden Eagle* multi-role trainer contains an American engine and avionics. These countries would be hard pressed to export these products (or service the ones already in operation) without American approval; indeed, the United States recently vetoed the export of a fighter variant of the *Golden Eagle* to Uzbekistan.⁴⁰ Sale of these weapons to other countries unwilling to buy American arms would still provide a large measure of indirect influence for the United States relative to the weapons coming from Russia or China. Moreover, keeping Russian and Chinese hardware out of such export markets will inhibit the development of the economies of scale that the two countries require for a healthy and technologically advanced defence industry.

In one sense, India's 2004 purchase of the *Phalcon* airborne-warning and control system from Israel represents a billion-dollar loss to the US defence industry, which is largely responsible for the technology transfer that helped build the thriving Israeli arms-export sector. But the deal still required American approval, which it had withheld in 2000 for a similar sale to China. Such an arms network can be designed to keep China down, Russia out and friendlier states in, and the American defence industry will still make more money through these 'non-American' sales compared to Russian or Chinese products. Choking off as large a percentage of the Russian export market as possible, starting with India, in favour of the products of more closely aligned countries appears to be in the United States' interest. In terms of both American influence and curbing proliferation, it is better for Asian states to buy German or South Korean submarines than Russian. This will have the added benefit of diminishing the quality and raising the price in the long run of the products Russia will export to states, such as Syria, that cannot buy arms from anywhere else.

The United States will need to take advantage of this network if it sticks to its current grand strategy. As it pivots towards Asia, the US appears to be contemplating intensification and hardening of its power-projecting mili-

tary, even as that region acquires weapons designed to deter such a force.⁴¹ An ironic consequence of the US focus on 'anti-access' weapons will be an increasingly competitive market in counter-intervention capabilities, largely beyond American control. Anti-access will grow cheaper, while power-projecting strategies such as Air–Sea Battle will grow more expensive.⁴² America's acquisition of powerful weapons is leading to a market that makes balancing against them increasingly cheap.

Notes

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- 15 Srdjan Vucetic and Rebecka S. Rydberg, 'Remnants of Empire: Tracing Norway's F-35 Decision', *Contemporary Security Policy*, vol. 36, no. 1, 2015.
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- ³⁵ 'The South China Sea: Sunnylands and Cloudy Waters', *The Economist*, 20 February 2016.
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- ³⁸ Fareed Zakaria, *The Post-American World and the Rise of the Rest* (New York: Penguin Books, 2009).
- ³⁹ Hans G. Andersson, *Saab Aircraft Since 1937* (London: Putnam, 1997), p. 181.
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