6
Force Acquisition II, Supply: Merchants of Death?

Arms can be developed and produced domestically; developed and produced collaboratively with other countries; produced domestically under license from the foreign firm or government that developed them; or by importing a finished weapon that was developed and produced elsewhere. Importing tends to be the cheapest, domestic development and production the most expensive. Because they are concerned with security of supply, governments foster a defence industrial base (DIB), a domestic arms industry. Governments fear that foreign producers may not be willing to re-supply in time of conflict or may charge high prices for spares and munitions once the importer is committed to the system. Protected by a preference for domestic supply, the national arms industry can become a political actor in its own right, a military industrial complex (MIC). Despite the preference for self-sufficiency, the vast cost of domestic development and production of major weapons systems means that countries often have no choice but to import, so there has developed a large trade in arms. International law and the UN charter give states rights to self defence and thus the right to import arms for their defence. This right means that there is nothing inherently unethical or immoral in the arms trade itself. Nonetheless, the arms trade does have an unsavoury reputation, hence the widespread use of the term 'merchants of death'. Because arms sales are a politically sensitive component of international trade, with implications for security, economics and technology transfer, they are subject to regulation by national governments and intergovernmental organisations. Arms sales, whether domestic or international, are always both economic and political.

The arms industry: DIB or MIC?

Maintenance of a DIB that can supply current, future and emergency military requirements is a central objective of any defence ministry. In the US, the Deputy Under Secretary of Defense (Industrial Policy) makes judgements on the number of suppliers needed in particular areas. The policy instruments available include acquisition strategy; structuring procurement competitions to determine the number of players; funding research and development (R&D) to encourage innovation and entrants; regulating mergers; allocating industrial resources; controlling arms exports; and regulating investment by foreign firms. The UK Defence Industrial Strategy of December 2005 carefully considered 'which industrial capabilities we need to retain in the UK to ensure that we can continue to operate our equipment in the way we choose to maintain appropriate sovereignty and thereby protect our national security'. In other countries, such as France, state ownership of arms firms extends the instruments available. These powerful levers give the defence ministry effective power over the number of firms in the domestic industry. In 1993 a US merger wave was stimulated by the 'last supper' when the Pentagon Deputy Secretary Perry told a dinner of defence industry executives that they were expected to start merging. It ended when the Pentagon decided that it had gone far enough and blocked the merger of Lockheed Martin with Northrop Grumman in early 1997. The merger wave was not confined to the US. Surveys of the arms industry can be found in Brauer (2007), who emphasises developing countries, and Hartley (2007), who emphasises industrial countries.

The image of a national arms industry can be misleading, since it is increasingly internationalized. As yet, the arms industry is not as concentrated or dominated by multinationals as comparable high-technology industries. For instance, the large civil aircraft market is dominated by two companies, Boeing and Airbus, while the smaller civil aircraft market is dominated by two different companies, Bombardier and Embraer. The lack of concentration in the hands of multinational companies largely reflects the desire of governments to protect their national champions for strategic reasons, particularly security of supply. However, the arms industry is not completely immune to more general trends in both concentration and internationalisation. BAE Systems, once called British Aerospace, may sound British but over half its 2008 revenues came from abroad; it sells more to the US DoD than it does to the UK MoD. Rolls Royce's defence division got 45 per cent of its

2008 revenue from the US and 20 per cent from the UK; the remaining third came from the rest of the world. European Aeronautic Defence and Space Company (EADS) is explicitly multinational, a merger of French, German, Spanish and, initially, British interests with headquarters in the Netherlands. Airbus, produced by EADS, competes with Boeing in large civil airliners and EADS is the second largest European arms company after BAE. The US firms are equally internationalized; Boeing maintains a large range of partners and overseas operations. Equipment tends to be identified with a country, but an F16 aircraft, apparently of US origin, will contain components from all over the world and may have been assembled in Taiwan, Turkey or Korea.

From a commercial point of view the arms industry is not a particularly attractive market for large, legitimate commercial firms and their share prices and profits tend to reflect this, being very volatile. The eventful history of BAE since privatization, where bankruptcy loomed on more than one occasion, is an example. The large firms that produce major weapons systems sold legitimately are located in relatively few countries. There is a large, less legitimate, market for small arms and light weapons (SALW). Production for this market is dispersed over many more countries and there is a rather different industrial structure. The large producers depend on purchases by their own government and changes in government policies and personnel can have an adverse impact on sales. The export market is made highly competitive by the excess capacity that results from government's attempts to maintain national DIBs. Wars and armaments booms boost demand and profits, but survival in the slumps can be difficult. The Brazilian arms industry profited from the Iran–Iraq war, but then collapsed, though one of its companies, Embraer, subsequently managed to establish a dominant position in regional passenger aircraft. Even when there are potential export markets, government regulation may stop companies meeting the demand through arms embargoes and controls. Selling arms requires a range of specialist skills, particularly the ability to influence the buying government, which may require bribes and other corrupt tactics. While the use of such tactics is normal in this market, it can have adverse effects on the reputation of the companies with an impact on other activities. BAE suffered such reputation effects over the alleged bribery associated with the Al Yamamah sales to Saudi Arabia. Since the contract was between the UK and Saudi governments and both governments seem to have been aware of the payments, it is not clear that the company, as distinct from the governments concerned, was responsible for the corruption. The corruption associated with the large

South African arms deal has played a major role in the politics of that country.

Bidding for arms export contracts can be an expensive business: setting up subsidiaries in the buying country, demonstrating the technology, providing specialist advice and entering competitions. This investment is wasted if the contract is not obtained. Contracts are complicated, involving not merely the supply of the weapons, but training, spares and munitions, which can be more profitable than the main sale. In 2008, the value of the initial order of 72 UK Typhoons by Saudi Arabia was put at £4.3 billion; armaments and weapons systems added £5 billion, and maintenance training and support added another £10 billion. This sale required US approval because the aircraft contained US technology. The sales are often financed through export credits, provided by the country of the supplying firm. The contracts may also involve offsets, promises by the supplier to locate production in the buying country, and counter-trade, payment in kind or barter. There are large technological risks and it can be difficult to forecast product performance, in particular how well the weapon will work in combat. Technological spin-offs from military development to commercial products does not seem to be an important source of competitive advantage, though there are exceptions. Conversion from military production to civilian production is often hazardous since different skills are required in the two markets. For instance, technological advance is given much greater weight than cost-minimization in military markets, in contrast to civilian markets.

SIPRI (2007) lists the top 100 arms companies (outside China, for which there is little data). Of these 40 were American accounting for 63 per cent of total sales, 32 were Western European accounting for 29 per cent of total sales. The top five, each with arms sales of between $20–30 billion accounted for 47 per cent of the market. All the top five, except BAE Systems at number 4, were from the US. There has been a rapid increase in the concentration of the arms industry since the end of the Cold War. In the 1990 SIPRI list, the five largest firms accounted for 22 per cent of the global market; by 2006 the five largest firms accounted for 47 per cent of the market. However, this is still quite a low degree of concentration relative to other high-technology markets. It seems likely that major weapons systems would be a very concentrated market, like civil airliners or pharmaceuticals, had not national governments inhibited the growth of multinational firms to protect their DIB. Until the 1970s government procurement rules in many countries restricted the purchase of telecommunications equipment from foreign suppliers and

determined the number of firms. Easing of procurement rules led to very rapid concentration in the world telecommunications industry, which is what we might expect to happen if governments ceased to care about market structure in the arms industry.

Determining the appropriate DIB is difficult. The ministry must decide the number of different types of systems required and the quality and quantity of each; the extent to which it can trust allies to collaborate in production or to provide imports, in particular whether they would supply in conflict; the potential export market for the systems; the degree to which exports are taxed or subsidized; and the security consequences of those exports. All these judgements have to be made subject to a budget constraint, the amount they can afford. In fact for most countries, their budget constraint is such that they cannot afford the massive R&D required to develop and produce major weapons systems. There are a few large producer countries and the remainder import all their major weapons systems. Even the largest producer, the US, has to import some systems. For instance, the US has used UK short/vertical take-off and landing technology in the AV8B, a Harrier derivative used by the Marines, and in JSF. The UK had a classified list of four types of system for which it had to maintain domestic capability. In a reported version of the list, the first three, nuclear weapons, cryptography and chemical and biological systems, are natural candidates; these are systems where it was highly unlikely that it could rely on its allies; the fourth, warships, seemed more a matter of heritage. From 2005 the UK had a more explicit, though equally heritage sensitive, defence industrial strategy.

Producer governments regulate arms exports and choose domestic procurement prices. There has been a long, though rather unhappy, tradition of collaboration in arms production in Europe, but it is also becoming more common in the US. The F35 Joint Strike Fighter (JSF) involves collaboration with a number of other countries, including the UK which intends to put the short take-off version on its planned aircraft carriers. Developing the aircraft required collaboration, not only with other countries, but between the US air force, navy and marines which was also problematic. The estimated price of JSF has doubled and there have been disputes about the US reluctance to share crucial technical information that the UK regards as essential for the effective operation of the aircraft. The UK has contingency plans to acquire an alternative aircraft for the carriers should the collaboration not work.

Throughout this book two visions of the state exist in uneasy conjunction. One is of the state as a rational actor that can make decisions

about issues such as the maintenance of a DIB. The other is of the state as an arena for conflict among competing interests subject to standard operating procedures. In defence one of these interests can be an alliance of the military, the arms industries and members of the legislature, to promote defence spending. This alliance was labelled the military industrial complex (MIC) by Dwight D. Eisenhower, the Republican US President (1953–1961) and Supreme Commander of Allied Forces in Europe during World War II. In his farewell speech to the nation in 1961 he warned the US to guard against the acquisition of influence, whether sought or unsought, by the MIC. Although it has since gained left-wing associations, he had a very conservative concern: the danger that coalitions of vested interests could exploit the special nature of decision making about military matters to shape choices against peaceful goals and national security interests in order to extract funds for their own purposes (unproductive rent-seeking). These coalitions could include members of the armed services, of the civilian defence bureaucracy, of the legislature, of the arms manufacturers and their workers. These are the transmission mechanism by which perceptions of the threat and the economic opportunity costs are translated into particular budgets or systems. These operate not just nationally but internationally and their power varies.

The arms trade

It is common to classify military products into weapons of mass destruction (WMD) (nuclear, biological and chemical); major weapons systems (such as tanks, fighter aircraft and warships); SALW; services (those provided by private military companies in Iraq and elsewhere have become increasingly important); and dual-use systems, which have both a civilian and military function. Much military technology is dual use, including the nuclear, biological and chemical technologies and this poses problems of classification. Definitional difficulties and secrecy make measuring the trade difficult, particularly for small arms. Over the period 2000–2004, SIPRI estimates that exports of major weapons systems were around $20 billion a year, in 1990 prices, with the US and Russia accounting for around half the exports. Using a somewhat different definition and measurement procedure, the US Congressional Research Service estimated 2004 agreements to export arms at $37 billion, in 2004 prices, and deliveries at $34 billion, with about 60 per cent going to developing countries: China, India and Egypt being large importers. China is also a significant exporter.

In economic terms, an arms trade of about $40 billion is not large, but it has significant political implications. Trade is a small proportion of total military expenditure of about $1200 billion, a much smaller share of demand than for most products. The world trade in arms has also grown more slowly than world trade in other goods. The factors determining the demand for arms imports are very similar to those determining military expenditure, ability to pay and perceived threat, though shaped by domestic arms production capability. As with military expenditure, richer countries can afford more. Arms importers are often oil exporters: Venezuela is estimated to have spent $4 billion on arms imports, mainly from Russia, over the period 2005–2007. Since ability to pay matters, price also matters, and even quite rich countries can be priced out of the market for major weapons systems. Factors that raise prices, such as monopoly, reduce demand; factors that reduce prices, such as subsidies, increase demand. As with military expenditure, the perceived threats, as interpreted by domestic interests, matter. The former Soviet republics in the Caucasus, including Georgia, which faced both internal and external threats, were big arms importers in the years up to 2008. As income and military expenditures grow there is a non-linear relationship with arms imports. Small poor countries cannot afford to import major weapons systems and the conflicts they are involved in tend not to require major weapons systems. As countries get larger in economic and military terms their arms imports at first increase; but then as they develop their own arms industries, imports decline replaced by domestic substitutes. Smith and Tasiran (2005) provide a quantitative analysis of the demand for arms imports and some evidence that price matters, though the limitations of the data mean that the conclusion must be tentative. Price is always relative to quality, but quality can have many dimensions from quantitative performance to how good it looks in annual parades. Where performance in combat matters, weapons that have shown their capability in battle tend to command a premium price.

The UN introduced a register of conventional arms transfers in 1992, but not all countries report fully and it covers quantities not prices. Figures on the arms trade may refer to orders, quantity of arms delivered or payments. These differ in timing; and orders may be cancelled or deliveries not paid for; so the three measures can differ substantially. Figures may measure the quantity of arms transferred or the value, which can differ because some transfers are heavily subsidised while others generate high rates of profit. SIPRI measures the quantity of arms transferred using trend indicator values which may not correspond to

payments. In the early 1990s a large part of the East German navy was transferred almost free to Indonesia; this appears as a large quantity transferred but a small payment. The standard US figures measure the value of the payments associated with the transfer.

Because ownership of more advanced weapons gives an advantage to potential adversaries, restriction on their transfer has been common: in the 8th century Charlemagne declared the death penalty for Frankish merchants selling swords to Vikings. Organised arms production on a large scale, such as naval dockyards and royal arsenals, has a long history; but the modern arms industry dates from the mid-19th century and from the beginning it was global. Alfred Nobel's dynamite and cordite, both dual-use systems, were produced in subsidiaries around the world. Technological developments in metals production in the second half of the 19th century were rapidly applied to arms by Krupp in Germany and Armstrong and Vickers in Britain, all of whom relied heavily on foreign sales. Sir Hiram Maxim, an American operating in Europe, sold his guns all over the world. By the beginning of the 20th century there was a dense multinational network of interlinked arms firms and specialised arms merchants, who emulated Krupp, Armstrong and Maxim. George Bernard Shaw's play of 1905, *Major Barbara*, addresses the issues of international arms manufacture as perceived in the early 20th century. Anthony Sampson (1991) provides an account of the history of the arms trade.

Before World War I, the thriving international arms trade was largely unregulated, but subsequently many blamed these 'merchants of death' for the war itself. In the inter-war period there were a series of intergovernmental initiatives to restrain the arms trade and individual countries began to pass laws regulating arms exports. These were of limited effectiveness. During World War II there were vast arms transfers particularly from the US to the UK, initially under lend-lease, and from the US to the Soviet Union. After World War II, the arms trade was shaped by the Cold War, in three dimensions. Each side tried to prevent military technology flowing to the other. In the West this was organised by the coordinating committee for multilateral export controls (COCOM) which tried to restrict the transfer of arms and dual-use technologies to communist countries. Each side wanted to ensure that its allies were well armed, because this improved the quality of defence. Each side hoped that by providing arms to non-aligned countries they could be aligned a little more closely. The driving forces at this stage of the development of the market were largely political and transfers were often heavily subsidised.

In the later 20th century, commercial factors became more important. Selling nations hoped to use arms exports to maintain their DIB in the face of fluctuating domestic demand and spread the large fixed R&D costs of developing major weapons systems over more units. This was particularly a feature of French policy, where systems were designed with export markets in mind, rather than the needs of the domestic armed forces. Countries importing arms also hoped to acquire technology; agreements by the exporter to offset the arms sale by purchases from the importer were a common feature of contracts. Arms export contracts are complicated packages that include not just the weapons-systems themselves, but munitions, spares and training. They are often paid for by counter-trade, barter (the UK Al Yamamah arms export package to Saudi Arabia was paid for in oil); have associated offsets (such as the seller promising to set up production in the buyer country); and may be financed by soft loans from government-supported agencies like the UK Export Credit Guarantee Department. The US has a large Foreign Military Sales programme. The UK had the Defence Export Services Organisation to facilitate sales, and in 2008 its functions were transferred to the Defence and Security Organisation in the UK Trade and Investment department. Evidence on the financial details of arms contracts is scarce. The contract is usually part of a long-term relationship since the weapons will need munitions, spares and upgrades in the future. A crucial part of the relationship will be whether the exporter is willing to continue supply in time of conflict.

Because the market is so competitive, the profitability of arms sales is questionable. The companies make money, they would not make the sales otherwise, but this may reflect subsidies by the supplier government. In 2003 the French government instructed arms suppliers not to offer products at prices below production cost in order to win contracts. The $3.4 billion 1993 order for 436 Leclerc tanks from the UAE resulted in a loss of $1.2 billion for France. In the UK there has been dispute about the costs and benefits of arms exports to the economy. A team of two MoD economists and two academic economists collaborated to examine this topic. Their conclusion, reported in Chalmers et al. (2002), was that the economic costs and benefits of arms exports were small and that export decisions must be based on non-economic criteria.

Because the US has the largest military R&D budget, its weapons tend to be the most technologically advanced. The large number produced, such as over 4000 F16s, gives them a cost advantage. However, the US also tends to impose extra-territorial restrictions on technology transfer

and on the use or transfer of US-built equipment. Thus other suppliers may appear more attractive to importers who fear political and technological dependence on the US. Foreign companies also try to ensure that they do not include US components in their military systems to avoid the complex US export control regulations.

Arms exports are almost universally regulated by national governments on the basis of certain criteria. The economic issues are reviewed in Garcia-Alonso and Smith (2006). A typical set of criteria are given in the 1991 guidelines agreed by the five permanent members of the UN Security Council. These indicate that restrictions on exports are required where the transfer would be likely to prolong or aggravate an existing armed conflict; increase tension in a region or contribute to instability; introduce destabilising military capabilities; contravene embargoes or other relevant internationally agreed restraints; be used other than for the legitimate defence and security needs of the recipient state; support or encourage international terrorism; be used to interfere with the internal affairs of sovereign states; or seriously undermine the recipient states economy. Exports may also be restricted if the transfer has an adverse effect on national security of the exporter or other countries; facilitates internal repression or breaches of human rights; or encourages the proliferation of weapons of mass destruction. These criteria are quite vague and involve subjective judgements. For instance, the European Union (EU) imposed an arms embargo restricting deliveries to China after the 1989 Tiananmen Square massacre. During 2003–2004 there was a substantial dispute among EU members about whether the embargo should be lifted. Those in favour of lifting it argued that it would help to engage China in dialogue, those against argued that China had not shown sufficient improvements in human rights. In any event, when the embargo was imposed no list of items covered by the term 'arms' had been agreed. Deciding what was covered by the embargo was left to individual EU states, who differed in their interpretation. In addition to national regulation there are various informal multilateral transfer control regimes by supplier countries. These include the Nuclear Suppliers Group, the Australia Group (chemical weapons), the Missile Technology Control Regime, the Wassenaar Arrangement (conventional weapons) and the EU Code of Conduct on arms transfers. There are also more formal agreements like the Treaty on the Non-Proliferation of Nuclear Weapons.

Controls over arms transfers may have unintended consequences. States subject to embargo or control, or who fear that they may be subject to embargo in the future, may develop their own arms industry to

produce the weapons that they cannot import. Apartheid South Africa developed its own arms industry in response to embargo and the French embargo increased the Israeli desire for domestic self sufficiency. States subject to embargo may also develop weapons of mass destruction, again Israel and South Africa are examples. As in any industry, the high prices and restricted supply produced by an embargo encourages new entrants. States that are tightly coupled into the international community may be deterred by the reputational cost of illegitimate transfers. But where the international community has little leverage over a state, it may become a major source of illegitimate supply as did North Korea which became a major source of missiles. Embargoes invariably prompt the development of embargo-busting networks which add to the large illicit and poorly documented trade in SALW. There is also an international market for military scientists, particularly those with nuclear expertise. The transnational dimensions of arms sales, and of arms traffic are likely to remain a matter of continuing concern.