

THE INTERNATIONAL ARMS TRADE

* LI M. JAPHET

Introduction

Everyone is aware of the existence of the arms trade but few have any idea of the nature of its workings or of its implications, both actual and potential. Some information as to the methods employed in the sale of arms was made available via the Lockheed and Northrop scandals, but by and large this was information that could not be evaluated in terms of all the elements of the system. It is the aim of this article to provide some insight into the various facets that go together to make up the arms trade, in this way by no means giving an all-embracing account but merely providing some interesting facts and figures.

The early days

Strictly speaking the arms trade's history can be traced back a very long way, yet it would serve little purpose to go any further back than the mid-nineteenth century. It was at this time that the sophisticated armaments industry, as we know it today, was born in the wake of the first industrial revolution. Three important features of the industry were stamped upon it from this time. Firstly, the rate of change in the technological world governed directly that of the armaments industry and secondly, it was the most internationally orientated industry. Thirdly, and not peculiar to this industry necessarily, was the fact that enormous power was vested in the hands of the few men involved in the invention and development of firearms and explosives.

Key figures

Perhaps the most famous of the 'pioneers' of today's arms trade was Alfred Nobel, the inventor of dynamite and, paradoxically, the founder of the annual peace prize. This latter achievement was a reflection of his tortured conscience where his ardent pacifism clashed with his fascination with the science of explosives. Nobel commenced his work in 1862 with the achievement of making nitro-glycerine explode and later of producing dynamite in 1867. He went on to discover a form of cordite for guns, called ballistite, and at the age of sixty bought the well-known Swedish gun company, Bofors.

At around the same time in Germany, Alfred Krupp was engaged in attempting to outdo the English who dominated the steel industry. He

failed to gain the support of the Prussian government, so took to exporting not only steel but also guns, in an effort to impress the Prussians. It is interesting to see at so early a stage in the arms trade's history that exports were deemed necessary for the development of a domestic industry and thus, in this case incidentally, the foetal arms industry.

Krupp began selling arms around 1851 and by 1859 had succeeded in obtaining a large order from the Prussians for 300 rifled six-pounders. The interest of state and arms industry, however, were still very far apart and Krupp continued to rely upon exports to support the growth of his company. In April 1866, Krupp exported a consignment of guns to Austria which led to perhaps the first incidence of guns from the same origin being used on both sides in a war, namely the Austro-Prussian war.

It is clear that morality was not a driving force in Krupp's thinking, for he then attempted to sell France his guns and, but for the inaction of the French generals, the Prussians would once again have faced Krupp's guns in 1870 when they defeated the French. The role Krupp's guns played in this war confirmed his position as 'Canon King' and he went on to sell to whoever would buy. By the time of his death he was employing 20 000 workers where he had begun with six.



Alfred Krupp whose position as Canon King was confirmed by the role he played in the war of 1870 in defeating the French (Photo from 'The Arms of Krupp')

* Lt M. Japhet, BSc (Hons) (Bristol University) is at present a National Serviceman at Documentation Service. This is a reprint of Pointer No. 7.a. + b. which is also distributed by Documentation Service.

His selling methods did not differ materially from those employed today in that he was prepared to sell to anybody provided he was not formally prevented from doing so. He achieved this via worldwide network of agents, usually nationals of their own country, who came to provide him with a great deal of power. In 1911 an American pacifist correspondent wrote of it:

King Krupp of Essen has ambassadors of his own in every great capital of the world, from Tokyo to Constantinople, and from St Petersburg to Buenos Aires. He has even in Sofia a representative who knows more about local politics and has a larger acquaintance with politicians than all the legations put together!

In 1913 Krupp's was involved in a major scandal with the German government that must have given some people a *déjà vu* feeling when the Lockheed scandals emerged. The Social Democrat opposition uncovered an extensive system of bribery of naval officers by Krupps, in return for secret information on government projects and correspondence. In the proceedings that followed the dilemma that faces all governments to this day was brought to light. This was the recognition that the German government was dependent upon private enterprise to provide armaments that she herself could only do with massive subsidies in the absence of the foreign sales that private enterprise enjoyed. The debate continues over the relative merits and demerits of nationalisation of the armaments industry. In the United States and Britain what is essentially a compromise has been reached. Private firms exist alongside public ones, the former having sufficient government projects channeled their way for them to continue to survive whilst providing the initiative and drive to the industry in general that is characteristic of private enterprise. In the United States the mix is far more private enterprise-orientated, with government agencies largely being involved in research and development, whereas in Britain this is largely the other way around. As is well known, the epi-centre of the French armaments industry is the Dassault aircraft company. Though in this field as in others there are many government firms private enterprise has more than justified its position via the substantial exports that Dassault has achieved with their aircraft.

As the Germans recognised in 1913, private companies could export with relative political

impunity in that governments could disassociate themselves from their activities to avoid any potential embarrassment. This of course is not as valid today with the United Nations concept forcing governments to answer for the actions of their private enterprise. Nevertheless the role of the private firm as of the private arms dealer continues to be an extremely important one.

In Britain the arms industry had hardly progressed after the ending of the Napoleonic wars in 1815 up until the Crimean War in 1854. This fact stirred an enterprising Newcastle lawyer, William Armstrong, to invent the 'Armstrong' gun in 1858 which represented a significant departure from the existing guns. It was breech-loaded and fired an elongated projectile down a rifled barrel. However after claims by the government that Armstrong was overcharging, the contract with Armstrong's company was terminated. Once again foreign sales had to come to the rescue of an arms company: as Armstrong said of his Elswick Company afterwards:

It had no alternative but to commence a new career based on foreign support, and it was by that support and not by government patronage — that the Elswick Ordnance Works was established.²

Armstrong did not do this easily, since he had been knighted for his work and had been well paid by the government. However his partner's brother, Stuart, (later Lord), Rendel argued that 'his first patriotic duty was to maintain prestige of the system he had induced the Government to adopt and in which he still believed: that the manufacture of arms for foreign powers was far from an unpatriotic act, for the country was benefited to the extent to which its experience and power of production was increased, whereas foreign countries were disadvantaged to the extent to which they were dependent on us for their munitions of war.'³

This argument has been used over and over again in subsequent years and largely explains the current policy adopted by the Western world's armaments manufacturers, whether privately — or government — owned. The rate of change of technology and the sharply escalating research and development costs associated with new projects has served to give further impetus to this argument. Furthermore, there appears to be a convenient approach adopted by arms salesmen that their product is no different to any

other commercial product and therefore should be sold under the same conditions as other products. Fortunately some control over arms sales does exist, though not all that effectively but this will be dealt with in a separate section.

Armstrong was to go on to become the world's largest supplier of warships despite lack of support from the British government. Two further events illustrate features or characteristics of the arms trade that have continued to occur. When the British government had dropped their contracts with Armstrong, and Rendel had given the justification for foreign sales, Armstrong had offered Rendel five percent commission on all orders that he obtained from abroad. In this manner Rendel made so much money that he had to be made a partner of the firm and established himself as the first great British arms salesman — the commission basis for arms salesmen and the vast sums of money they earn still exists today. The second event was the observation made by the Newcastle Daily Chronicle on the death of Lord Armstrong in 1900, that was to be used for many years hence as a justification for the proliferation of arms sales throughout the world. This was that: 'the sight of means to do ill-deeds all round keeps the ill-deeds undone. In the nature of things the militarism of the time must bring its own abatement.'⁴

This same period, that of the 19th century, spawned perhaps the most infamous arms dealer of all time, largely because he was the first to realise the awful potential arms sales had, both politically and economically. His name was Basil, (later Sir Basil), Zaharoff. His career commenced in 1877 as a salesman for the Swedish company, Nordenfelt, which was then selling both machine-guns and submarines. He was soon to clash with the brainchild of an American called Hiram, (also later Sir Hiram), Maxim with his Maxim gun and in the process duped reporters at a testing of the Maxim gun in Austria, that the gun was a Nordenfelt and not a Maxim. However this appeared to be forgotten as Maxim and Nordenfelt merged in 1888 with Zaharoff as their chief salesman. By 1895 he was working on a commission of one per cent on all continental sales. At around the same time that the Maxim/Nordenfelt merger took place, a British steel company, Vickers, began to make guns to compensate for the end of the railroad boom and consequent fall in demand for their steel bars. This soon developed into the acquisition of a shipyard to build warships and in the same year, 1897, of the Maxim/Nordenfelt machine-gun business.



Sir Hiram Maxim and his Light Gun. (Photo from Pictorial history of the Machine gun).



The 'first' Maxim model was designed in 1883 and was quite different to the model later marketed. It had a variable rate of fire from 1 to 600 rounds a minute. Without water it weighed 60 pounds.

Zaharoff joined Vickers in this way and he surged to the forefront of arms-salesmen in the rush to arm at the turn of the century. Some of what he had to say about his methods remains equally true of arms salesmen today:

I sold armaments to anyone who would buy them. I was a Russian when in Russia, a

*Greek in Greece, a Frenchman in Paris': and 'I made wars so that I could sell arms to both sides. I must have sold more arms than anyone else in the world.'*⁵

Indeed with his commission of nine-tenths of one per cent of the profits of the combined company, he became a very rich man. Unscrupulous he undoubtedly was, as the Vickers, historian pointed out in his assessment of Zaharoff's activities.

*It would be naive to imagine that the standards of business ethics in the Balkans and in South America in the Seventies and Eighties were the standards of Whitehall or the Bank of England. Bribery was not accidental or occasional, but essential and systematic in every field of commerce. It would be equally naive however, to imagine that when Zaharoff paid bribes, the money paid appeared under a ledger entry of 'Bribes' in the books in London. The evidence what there is of it, is quite of another kind, of inferences from notes of expenses, of guarded phrases in private letters. About Zaharoff's activities before the amalgamation of 1897 there are not even hints. After that date there is evidence that on two or three occasions in Serbia in 1898, in Russia later, and probably in Turkey, Zaharoff paid secrecy commission, or bribes, of sums running from about one hundred pounds to possibly several thousand pounds. There is no evidence about whom they were paid to and what they were paid for, but the likeliest thing is that they went to forestall German and other rivals.*⁶

That bribery has all but become a feature of the arms industry is not really that surprising, where the vast majority of orders come from governments and in turn from perhaps one or two individuals. The pro's and con's of a particular gun or warship are often hard to define and this coupled with the fact that such decisions are usually made in secret, makes influence on the people involved crucial.

Zaharoff was the archetypal arms dealer in one further respect, in that he viewed himself as a realist in a world of idealists. His explanation of his wartime position — (he had sold arms to Germany when it was evident that war was about to break out) — illustrates this attitude: 'the sale of arms is part of national prosperity, and the nation which sells to other nations understands

best the real military and naval position inside those countries to which it sells.'⁷

The Americans had also grown into a significant force in the arms world with the predecessor of General Dynamics, Electric Boat, producing battery-driven submarines and Carnegie Steel producing armour plate. Both these companies had a web of international licensing agreements that was mirrored in Europe. Vickers obtained the licences from Krupps to make all their time fuses, which later led to both sides using them at the Battle of Jutland. Other examples and perhaps the most remarkable agreement occurred in the field of armour-plate. An American called Hayward August Harvey devised and patented a new kind of armour-plate in approximately 1893 whilst in the same year, Krupp invented a special hardened steel that all British firms were using by 1897. In 1894 Vickers, Krupp and Carnegie had joined together to form the Harvey syndicate, to control prices and to share out foreign orders. This monopoly continued until 1911 when the patents for the Harvey and Krupp steels expired.

Exposure and Control — First Beginnings

The outbreak of the First World War meant the exposure of the doctrine that had been employed in selling arms: that of selling to all who would buy as has been pointed out above. British guns that had been sold to Turkey were used on British soldiers in the Dardanelles. Similarly the Germans were fired upon by Krupp's guns in Russia whilst Krupp's patents and licensing agreements meant that all the major navies were equipped with their armour and their shells.

The realisation of the part the arms trade had played in the First World War led to widespread debate as to the position the arms industry ought to hold in national economies. A commission was set by the League of Nations to investigate the private arms manufacturers and they concluded that:

1. Armaments firms have been active in fomenting war scares and in persuading their own countries to adopt warlike policies and to increase their armaments.
2. Armament firms have attempted to bribe government officials both at home and abroad.
3. Armament firms have disseminated false reports concerning the military and naval programmes of various countries in order to

stimulate armament expenditure.

4. Armament firms have sought to influence public opinion through the control of newspapers in their own and foreign countries.

5. Armament firms have organised international armament rings, through which the armaments race has been accentuated by playing off one country against another.

6. Armament firms have organised international armament monopolies which have increased the price of armaments sold to governments.⁸

Much of the momentum established by this report was dissipated and it was not long before the furore died down. All attempts by the League to achieve disarmament failed and though temporary licensing of exports had occurred during World War I, up until 1930's arms were normally exported as freely as any civil item.

It was the prospect of control that led three American companies engaged in shipbuilding to obtain the services of a lobbyist in 1926, one William G. Shearer, to promote their cause. The Bethlehem Corporation, Newport News and the American Brown Boveri Company had no reason to suspect that, in fact, in so doing they were providing the disarmament lobby with a most potent weapon. In the early 1930's Shearer filed a suit against these companies, suing them for 258 000 dollars in unpaid lobbying fees and the whole affair went public. The Shearer revelations coincided with a wave of pacifism and distrust of big corporations in the wake of the Great Crash of 1929 and peace organisations along with religious bodies eagerly snatched at the opportunity so provided. The Secretary of the Women's International League for Peace, Dorothy Detger, was determined to initiate a full enquiry into the munitions industry and after lobbying several senators achieved the support of the junior senator from North Dakota, at the end of 1933, one Gerald P. Nye. A middle-aged Progressive Republican, he saw this as an opportunity to enhance his political career and launched into the campaign with fervour. By April 1934 he had managed to get Senate approval for an investigation, and a committee was established with Nye as chairman and six other members.

The committee was very thorough in its work, issuing subpoenas to fifty companies and conducting numerous interviews with top

executives and arms salesmen. They failed to uncover any conclusive evidence as to an international armaments ring, but did unearth the extensive bribery that occurred as well as the apparent connivance of American embassies abroad. This latter fact raised the issue of control of arms exports once again and anxious discussions between the White House and the State Department ensued. Bernard Baruch, President Roosevelt's adviser, summed up the dilemma facing the government in a memorandum from the State Department to the President in February 1935:

The only expedient yet used is for the governments of industrial countries at least not to discourage (and I fear almost universally to encourage) the manufacture of lethal weapons for exportation to belligerent countries actively preparing for war, but which have an insufficient munitions industry or none at all. Without specific evidence I still conjecture that the Nye investigation will disclose that our Government has not operated on a different policy. To put it bluntly, this is a method of providing a laboratory to test killing implements and a nucleus for a wartime munitions industry by maintaining an export market for instruments of death. Of course, it is absolutely indefensible and we could not be put in a position of excusing it.⁹

The Nye committee went on to investigate war profits and capitalised on the isolationist feeling that was pervading the country: so much so that by August 1935, Congress passed a Neutrality Bill which compelled the President, in the event of a war between foreign countries, to apply an arms embargo. This same Bill set up a national Munitions Control Board to supervise American exports of arms: it was the first American move to limit the arms trade.

In Britain the effect of the Nye hearings was seen in the appointment of a Royal Commission in February 1935 that was to investigate the private manufacture of arms. After hearings from representatives of all interests, little more than a mild censure of the activities of the arms manufacturers was passed when the committee reported five months later. By 1936 with the invasion of the Rhineland by Hitler and the commencement of the Spanish Civil War, the mood of pacifism was over and rearming began apace.

The Second World War was to have a profound effect both upon the nature and the extent of the arms trade and as the war drew to close, it could be said that a new order emerged: the great arms firms were now to be found in Russia and the Far West of America rather than in Britain or Germany. At the same time, the need for international control of the arms trade was widely recognised yet complicated by the ever increasing importance of the arms industries to the major industrial countries.

AFTER THE NYE COMMITTEE

Two incidents before 1935 demand mention prior to moving on. Firstly, in 1919, at the instigation of the United States, an agreement on a full embargo was reached by most of the major powers, including Japan, which was to be applied to the central authority in Peking as well as to the various warlord factions. So ineffectual was this multilateral embargo, that the widespread cynicism that it produced could well have affected subsequent attempts elsewhere.

The two major non-signatories, the Soviet Union and the supposedly restricted Germany, continued to supply arms to China, whilst France, the United States, Britain, Denmark, Norway and Japan were all guilty of breaches. The agreement was marred by endless disputes over definitions of armaments and war materials, with military aircraft being transferred in the guise of commercial aircraft and explosives as chemicals. These flagrant evasions of the embargo led to its being lifted in 1929. It was an era where the ability of private traders to evade the embargo via masked retransfers was unquestioned and led to the all too familiar line of reasoning that 'if we don't sell them arms, someone else will'.

The second case was that of the Chaco War between Bolivia and Paraguay which commenced in 1934. This was an important case in a number of respects and was widely commented upon in the international legal journals of the mid-1930's. At the time of the outbreak of the war the United States and at least 30 other nations announced an embargo upon both belligerents. This was bitterly denounced by Bolivia because of Paraguay's alleged prior advantage in arms stores. The debate that followed remains as pertinent today as then. In most cases the aggressor nation will be the one that has the military advantage, and therefore the practice of imposing an embargo equally on both sides, in many cases amounts to tacit support of the

aggressor nation: thus promoting rather than discouraging international acts of aggression. Moral and pragmatic arguments have been advanced on both sides leading to alternative methods of arms control.

Within a few years of the Nye Committee having sat, the Netherlands, Sweden and France had all passed legislation that allowed for the establishment of the necessary bureaucratic machinery to operate an export licensing system. After 1945, the network of arms export licensing in Western Europe was completed by the passing of the necessary legislation in Italy, in 1956, and in Germany in 1961. The basic stipulation under each country's arms control legislation is that arms can only be exported on presentation to the authorities of a licence issued by the appropriate government department. This of course brings into question the definition of what constitutes 'arms', which has been of some acute significance for potential exporters of arms to South Africa amongst other pariah nations. Sweden, for example, excludes all smallarms manufactured before 1860 from its War Materials List, on the assumption presumably that a century is sufficient time to transform an instrument of destruction into a collector's item. In the United States Munitions List, non-automatic smallarms manufactured before 1898 are likewise absolved from the need for an export licence. Only in the case of arms to be exported to communist bloc countries is there an internationally accepted list of what constitutes 'arms'.

The most recent legislation in the United States, which came in the aftermath of the Vietnam war, was the Arms Export Control Act of 1976. This was aimed at the sale of arms to developing countries, particularly those with repressive regimes. Passed after former President Ford had vetoed an even stronger version, the act directed the President to cut off military sales to developing country found to be 'diverting its own resources to unnecessary military expenditures to a degree which materially interferes with development'. While establishing greater congressional control of all major arms sales agreements, the act also bars arms sales to any nation where the government consistently violates the human rights of its constituents: however either of these provisions can be waived if it can be shown that supplying a particular country is essential to the United States defence effort.

The licensing system is of course fallible, and there have been many instances where circumvention of the spirit of licensing laws has led to their invalidation. Another problem is that a policy of allowing arms to go to a particular country or area can very quickly be rendered untenable by rapid changes in the world scene. One need only think of the case of Egypt for Soviet Union and Ethiopia for the United States. As long as governments sanction the export of arms, this type of situation is unavoidable. However, it has been minimised by the cessation of the practice of granting 'open general licences' as prevailed in the inter-war years. The holder of such a licence was able to export an unlimited number of a particular type of weapon to all but a few specified countries. It is not only now standard practice for licences to be granted for the export of a specified number of items to a specified country by a specified consignee, but in addition the licenses themselves expire after a relatively short period—usually either 6 or 12 months in the case of an export licence, and one month only in the case of a transit licence. Even when these export licences have been granted, governments retain the right of immediate revocation.

End-use control

However exhaustively applications for an export licence are examined and however stringent the conditions incorporated into the export licence when it is eventually granted, the whole exercise is futile if there is no control over the eventual destination of the consignment. This aspect is what is known as 'end-use control', which is designed to ensure that the purchaser stated on the licence application will in fact be the eventual user of the weapons to be exported. Though all the major exporters of arms exercise some form of end-use control, the methods they employ vary considerably in their effectiveness, so that it is possible for shrewd operators to shift their arms around from one country to another until they can send them legally to their destination. As to the forms of end-use control, the basic divide is between countries that rely upon documents and those that rely instead upon information gleaned from intelligence and diplomatic sources: some countries use both methods.

The 'end-use certificate' is the usual document involved, which is simply a declaration by the purchaser that the specified arms are for his own use and will not be transferred without the

supplier country's prior consent. In the United States, all sales of government-owned weapons are subject to the insertion of a standard condition into the contract that the purchaser 'shall not transfer title to or possession of the items furnished under this sales agreement to any person or organisation or other government, unless the consent of the government of the United States has first been obtained'. This also applies to instances of grant military aid, whilst sales by private arms manufacturers are covered by the same stipulation that is contained in the Consignee Purchaser Transaction Statement. Limited use is also made of the import certificate. This may be demanded by the exporting country from the country of destination as proof of the latter's intention to import a particular consignment of arms. It is basically designed as a safeguard against diversion during transit, though it is by no means a foolproof method — the old adage that 'where there is a will, there is a way', very much applies here.

The French customs authorities have one other device aimed at preventing diversion during transit. They operate a 'caution money' system whereby the company exporting arms has to deposit a certain percentage of the value of the arms to be exported, which will only be returned when the French consular authorities—in the country of destination have confirmed the arrival of the arms concerned — this is primarily used in the case of company to company sales where the abuse of end-use control is considered most likely.

End-use control, although fairly comprehensive, nevertheless has been seen to break down on several well-publicised occasions. A more recent case involved the Swiss firm of Oerlikon-Bührle. Shortly before the outbreak of the Nigerian civil war in July 1967, the Swiss Government learnt that the Federal Government of Nigeria wished to purchase some arms. The Political Department advised the Defence Ministry against arms sales in the light of the existing tense situation, thus effectively placing an embargo on sales to Nigeria. After receiving a report on 30 August 1967 from Lagos that two employees of Oerlikon were acting as instructors in the use of their company's anti-aircraft guns, it was eventually ascertained in July 1968 that the guns were recent exports from Switzerland. In the enquiry that followed, carried out by the Federal Attorney's office, it was learned that during the period 1965 — 1968 some 20.5 million dollars of arms were sold to countries that had been

embargoed by Switzerland.

The method they had employed was to obtain end-use certificates from officials in non-embargoed countries who were not competent to sign them but nevertheless who were prepared to do so in this instance. It was thus on the basis of these documents that the Swiss Government had authorised the export of the arms concerned.

The Soviet Union also faces this same problem of end-use control, but appears to guard against the re-transferring of sophisticated weapons by exporting Russian technicians with them. In the case of obsolete weapons, however, control has not been as effective and it is reported that the Russians were not pleased on hearing of the transfer of Russian arms from the United Arab Republic to the Nigerian Federal Forces, for example.

Licensing and co-production agreements

As Third World countries have become more industrialised, so there has been a trend towards greater self-sufficiency in armament production. This has most simply been achieved via licensing and co-production agreements, which has immediately raised the question as to whether these agreements constitute arms exports from a control point of view: even though it is only technical data that is being sent abroad.

Belgium has been involved in numerous licencing agreements, largely through the Fabrique Nationale d'Armes de Guerre (FN), one of the foremost manufacturers of small arms in the world. Their approach is that such agreements do not in fact constitute arms exports. However the Belgian Government requires to be informed of negotiations that are taking place. Similar arrangements prevail in Britain, the Netherlands, Sweden, Italy and Switzerland: though their primary aim in these countries is to prevent the exporting of classified technical data. Only in France, Germany and the United States is it legal requirement for firms concluding licencing agreements involving arms, to secure government authorisation. To this end the United States includes 'technical data' on their Munitions List thus making it obligatory for manufacturers who wish to conclude technical assistance agreements, as well as licencing agreements, to get clearance from the Office of Munitions Control first.

It is clear that as with the export of arms themselves, such licencing agreements could prove to be an embarrassment to the exporting country, particularly as production could continue indefinitely where this is 100 per cent local. This occurred for example, with the construction of a small-arms and machine-gun factory in Egypt by Sweden in 1952. The subsequent deterioration in relations between Egypt and Israel left Sweden embarrassed about her assistance in this field.

TABLE 1a
POSTWAR LICENSING AGREEMENTS (UP TO 1968) PARTIAL LIST

Licensors	Licensee	Systems Licensed	
United States	France	Hawk missiles, Sikorsky S-58 helicopters.	
	Belgium	Lockheed F-104, North American F-86, minesweepers, Hawk missiles.	
	Italy	F-84, F-86, F-104, Bell Iroquois helicopters, M-113 Armoured Personnel Carrier, M-47, M-48 tanks, Hawk missiles.	
	Netherlands	F-104, F-5.	
	Japan	F-86, F-104, F-4, AT-33, 34 trainers, Bell Iroquois helicopters, Neptune ASW.	
	Canada	F-104, F-86, F-5, AT-33 trainer, Neptune ASW.	
	West Germany	F-104, Bell Iroquois helicopters, Charles Adams destroyers Hawk missiles.	
	Britain	Sikorsky S-51 helicopters.	
	Spain	Frigates, F- fighter.	
	Portugal	Frigates.	
	Australia	F-86, A-4.	
	Sweden	Aircraft engines.	
	Mexico	LASA 60 aircraft.	
	Argentina	U3A and T-34 aircraft.	
	Taiwan	Bell helicopters.	
	United Kingdom	France	Vampire, Sea Venom fighters.
		Belgium	Hawker Hunter, Gloster Meteor fighters.
Italy		Vampire fighters.	
Australia		Vampire fighters, Canberra bombers.	
Switzerland		Vampire, Venom fighters.	
Sweden		Aircraft engines.	
Netherlands		Sea Fury, Hunter and Meteor fighters, submarines, Leander class frigates.	
India		Vampire and Gnat fighters, Andover aircraft, Leander class frigates.	
		Denmark	Vosper patrol boats.
		United States	Canberra bombers.
France	Canada	CC-106 Yukon and CL-28 Argus aircraft.	
	Switzerland	Mirage fighters, Magister trainers.	
	Australia	Mirage fighters.	
	West Germany	Magister trainers.	
	Israel	Magister trainers.	
	Denmark	U-4 coastal submarines.	
	South Africa	Panhard armoured cars, Magister trainers, AMX tanks.	
	Belgium	Mirage V fighters (co-production)	
	Spain	Daphne submarines.	

	Brazil	MS-760 Paris aircraft.
	Sweden	Alouette helicopters.
	United States	Breguet patrol craft, Alouette helicopters.
	Argentina	MS-760 Paris aircraft, AMX tanks.
	Dominican Republic	AMX-13 tanks.
USSR	India	Alouette helicopters.
	China	MIG-15, 17, 19, 21 fighters, T-34, T-54, PT-76 tanks, BTR Armoured Personnel Carriers, Riga type frigates, W-type submarines.
	Poland	Submarines, T-34 tanks, minesweeper destroyer escorts.
	Czechoslovakia	MIG-15, 17, 19, 21 fighters, BTR APC.
	India	MIG-21 fighters, Atoll missiles.
	Yugoslavia	T-34 tanks.
West Germany	Spain	Lurssen Patrol boats, He-III aircraft.
	France	Lurssen Patrol boats.
	Denmark	Coastal submarines.
	Pakistan	Cobra missiles.
	Brazil	Do-27, Do-28 transports.
Italy	West Germany	Fiat G-91 fighters.
	South Africa	Macchi MB-326 trainers.
	Australia	Macchi MB-326 trainers.
	Argentina	MB-308 aircraft.
	Brazil	MB-226 aircraft.

Source: *The Arms Trade and International Systems*, R. E. Harkavy, Ballinger 1975.

One further question arises out of licensing agreements, which is whether the arms manufacturing countries should seek to control not only the agreements themselves but also any subsequent export of arms that are manufactured abroad under licence. The United States is in fact the only country to exercise this policy as a matter of course; France and Belgium have also exercised control in isolated cases. Clearly then, this is an area where control of the ultimate destination of arms is not effectively exercised. Leading on from this is the increasingly important question of the disposal of obsolescent arms.

The surplus problem

Whilst the small-arms used by the soldier of the Second World War did not differ materially from those used in the First World War, this could not be said of weaponry over a similar time span today. Indeed so fast is the rate of change of technology, that it is true to say that much of the weaponry that appears in service has become obsolescent during the period that it took to reach there from the drawing board. Thus the

problem of how to dispose of obsolescent weaponry, when they have been replaced by new, has become increasingly important. This is aggravated by the fact that though weapons are being replaced more often, their lifespan remains the same. To give an example, the standard infantry weapon of the Biafran forces in the Nigerian civil war was the non-automatic Czechoslovakian Mauser rifle, the manufacture of which began in Czechoslovakia in 1924.

There are three options in disposing of surplus arms — they can be scrapped; demilitarised or sold. The first of these options is not an attractive one economically, though it is without question the most certain means of control. An M47 Patton medium tank is estimated, at 1972 prices, to have a scrap value of not more than 2 000 dollars. Against this, a known purchase contract for fully serviceable M47's priced them at 32 000 dollars. The weight of the economic argument, then, is unquestionable, however this is not to say that governments have accordingly bowed before this. Sweden, for example, sold two squadrons of her surplus J-29's to Austria, whilst the remainder

were broken up despite the existence of willing, but unsuitable buyers. In post-war Britain, as a matter of policy, certain types of arms were scrapped if they could not be sold to suitable foreign governments, rather than auctioning them off to private dealers or other unsuitable destinations. The arms concerned included field, anti-tank, anti-aircraft and naval guns, automatic weapons, mortars, flame-throwers, aircraft with certain exceptions and naval vessels. The United States also embarked upon a massive programme of scrapping after 1945, with the most notable victim being the B47 bomber; however this is a course of action seldom followed nowadays.

The second option is demilitarisation — a term conventionally used to refer to the removal of the lethal elements of a weapon, whilst still leaving it serviceable for civilian use. Armoured vehicles lend themselves most easily to this type of action which is why they are not included in the British list of arms that they would sell to private concerns for scrap purposes only.¹⁰ One well known example of the adaptation of a fighting vehicle to civilian use was that of the Sherman tank's conversion to a tractor. This was achieved by removing the Sherman's upper armour, putting the engine into the fighting compartment and cutting off the back part of the hull to make the 'Shervick'. Another popular weapon in this regard was the non-automatic rifle. Interarms, the world's largest private dealers in military equipment, built up a huge business converting Lee-Enfield and Mauser rifles for use as civilian sporting rifles. The United States proved to be the most fertile ground for such 'sporterised' rifles, so much so that American manufacturers of new rifles managed to get the Federal Gun Control Act passed in 1968 which forbade the import of surplus military firearms.

This last example, where the weapons remain every bit as lethal after demilitarisation as before, displays the control problem inherent in this form of disposal of surplus military equipment; that of ensuring that such demilitarised equipment does not find itself being employed in a military role again. In 1955, after hearing that Sherman tanks and Valentine self-propelled guns had found their way to Israel and Egypt respectively, without the British government's knowledge, the British introduced a new control measure under which they "will not permit the export of demilitarised vehicles or weapons except when the government of the country of destination is prepared to give a guarantee that surplus war

material intended for civilian uses will not be allowed to be re-exported in a condition fit for use as weapons of war".¹¹

One other item of military equipment lends itself to conversion for civilian use and that is aircraft. Such a method of disposal of surplus aircraft has only taken place on any scale in the United States, and all such sales are subject to export licensing control by the Office of Munitions Control, even if they have passed into civilian hands. However the tendency now is to cannibalise old military aircraft for spare parts, whilst post-war civilian vehicle production has been such as to make the demilitarised armoured vehicle unattractively economically. The net result of the financial unattractiveness of scrapping and of the diminishing field of use for demilitarised weapons has been that governments are now most inclined to sell their military surplus to another country or to transfer it in the form of military aid in pursuit of some political end. This option of course carries with it the greatest problem of control, circumventing the move born out of the First World War to contain the traffic in arms.

It is important to note the difference in the surplus problem as it stands in the 1970's as opposed to that after the Second World War. After 1945 it was chiefly the United States and Great Britain who had to dispose of large quantities of armaments, however post-war buying trends in the third world means that a similar problem will now be faced by the 60 odd developed and developing countries that now have sizeable military inventories. In theory the resale of surplus weapons should present no greater problem, from a control point of view, than that concerning the sale of new weapons. The same export-licensing and end-use control measures may be adopted, however there are three main reasons why, in the case of surplus weapons, there will be more difficulty in the successful application of these controls. These are the economic pressures on a country to offset the cost of purchasing new weapons by selling off the old; the strength of the position of the private arms dealers in the surplus weapons business because of their knowledge of the market; and finally the strength of customer pressure for surplus weapons.

It is clear however, that in a power orientated world the possibility of effective control of the arms trade, is minimal; for arms mean power. Too many regimes today rely upon arms for their

existence to allow any meaningful reduction in the scale of arms transfers; furthermore there are strong economic reasons beyond political ones that assure an unabated flow of arms in the modern world. This latter aspect deserves a closer study in order to appreciate the magnitude of the problem.

ECONOMIC FACTORS

According to various estimates, world military expenditure is running at between 400 000 million dollars and 500 000 million dollars a year — double the tally a decade ago and well on the way to one million dollars a minute! Total world military expenditure in 1977 was about 325 410 million dollars at current prices under the system of exchange rates used in the SIPRI Stockholm World Armaments Yearbook 1978. So the increase for 1979 looks like reaching 40 per cent. Taking inflation into account this means that the trend for expenditure on arms has at least doubled in the last 15 years. If this rate continues it is estimated that in the year 2000 the world will spend about 1 000 000 million dollars, at today's US dollar values, on military requirements. Of course not all military spending is lavished on

armaments as such. Armaments procurement is only a proportion of total expenditure, which includes the maintenance of the human element. In the period 1960-1975, 41 per cent of the United States' total military expenditure consisted of weapons and ammunition, 18 per cent supporting equipment, 17 per cent spare parts and 24 per cent training services and construction. Similar percentages can be said to be true of other nations. It is fair to say then, when taking defence related industries into account, that the greater part of the figures for military expenditure quoted are directly responsible for industrial activity.

In terms of the importance of arms exports and imports to the balance of payments the following figures are relevant: The United States gained 39 per cent of the arms export trade, the USSR 28 per cent, France 8 per cent, and Britain and West Germany 5 per cent each. Other developed countries provided 11 per cent, whilst 6 per cent came from developing countries. These figures, which are for 1978, gain significance when arms exports are classified as a percentage of these countries' total exports. Thus: West Germany 0,6 per cent; France 1,5 per cent; US 4,5 per cent and USSR 10,1 per cent.

TABLE 2

Summary of arms market shares across weapons systems Interwar

Rank	Combat Aircraft	Transport Aircraft	Trainer Aircraft	Tanks
1	United States	United States	United States	France
2	United Kingdom	Italy	United Kingdom	United Kingdom
3	France	United Kingdom	Germany	United States
4	Italy	Germany	France	Italy
5	Germany	France	Czechoslovakia	Czechoslovakia
Postwar				
1	United States	United States	United States	USSR
2	USSR	USSR	United Kingdom	United States
3	United Kingdom	United Kingdom	France	United Kingdom
4	France	France	USSR	France
5	China	UAR	Netherlands	UAR

Interwar

	Armoured Cars	Submarines	Warships	Patrol Vessels
1	Austria	United Kingdom	United Kingdom	Italy
2	United States	Italy	Italy	United Kingdom
3	France	France	France	Germany
4	Germany	United States	Spain	United States
5	Czechoslovakia	Japan	Japan	Spain

Postwar

1	United Kingdom	USSR	United States	USSR
2	United States	United States	United Kingdom	United States
3	France	United Kingdom	Canada	United Kingdom
4	West Germany	Chile	Argentina	China
5	Belgium Italy	Netherlands	France	

Source: The Arms Trade and International Systems, R. E. Harkavy, Ballinger 1975.

The very size and importance of the arms industry to the developed countries, coupled with the massive research and development costs associated with modern armaments, has meant that the traditional dichotomy between government and industry has broken down, regardless of whether formal nationalisation has taken place or not. Apart from the obvious advantage of promoting the arms industry from an export point of view, three other areas of real or apparent benefits can be identified. One is social, related to employment and regional policies; the other two are related to the protection and promotion of national industry in the international scene. Exports can facilitate longer production runs, thus lowering unit costs and, in many instances, consequently making particular projects economically feasible. Secondly there is a more general kind of gain concerning the enhancement of one's own particular position in the international balance of industrial power.

i) Balance of Payments

It can be said to be true that an adverse or favourable balance of trade is small in relation to the quantity of goods exchanged. Since high-technology armaments, particularly aircraft, are high priced goods with a relatively high local content in the form of know-how and material, exports of small numbers of these can be sufficient to swing the balance of trade one way or another. A further important feature of such arms sales is that in most cases the sale represents more than a one-off payment in that a

continuity of income is assured through the sale of related spare parts. It does not end there, since in developing countries this demand generally extends to the sale of ancillary systems, such as the construction of airfields, and the training of domestic personnel in the use of the weapons systems. For example, the British sale of Lightning aircraft to Saudia Arabia in 1965 included the provision of some one thousand people — mostly British — for a period of five years whose services included pilot training.

The most spectacular example of the response of arms sales to balance of payments policies is furnished by the United States. The American foreign exchange crisis of 1960 reflected, among other things, an acceleration in the cumulative deficit on the United States external account: according to the Department of Commerce the annual average deficit of 0,9 billion dollars, which had ruled over the seven years from 1951 to 1957, had increased to an annual average of 3,7 billion dollars over the three years 1956 to 1960. Since the deficit roughly corresponded to defence expenditure overseas calculated at roughly 3 billion dollars a year, it was decided that the balance should be corrected by manipulation in this area, partly by cuts in spending and partly by an increase in arms sales abroad. Previously the Military Assistance Programme had involved the transfer of arms to specific countries at no cost insofar as their purchase was funded by the United States. In response to the crisis this was changed to a system of outright sales.¹²

In addition, military assistance to those countries capable of maintaining their own forces was stopped — in practice this meant America's NATO allies except Greece and Turkey — and sales were stepped up. As can be seen from Table 3 overleaf, this policy was considerably successful in running down the deficit in the established areas overseas. However this was insufficient to bring about an overall reduction in the deficit because of the Vietnam war, as can be seen under S.E. Asia expenditure. Germany has been considered to be a special

area for reduction of overseas defence expenditure, and accordingly what are referred to as offset agreements are concluded every two years. Initially much of the United States expenditure in Germany was offset via increases in sales of arms to Germany. However since 1960 the purchase of arms themselves has not played a major role in this respect, rather a great deal of expenditure has been on components, replacements and spares, and the financing of research and development for the joint development of weapons.

TABLE 3
UNITED STATES
THE DEFENCE ELEMENT IN THE BALANCE OF PAYMENTS

	Billion dollars						
	FY 1961	FY 1962	FY 1963	FY 1964	FY 1965	FY 1966	FY 1967
US overseas defence expenditure (excluding S.E. Asia)	3,1	3,0	3,0	2,8	2,6	2,7	2,6
Defence receipts	0,3	0,9	1,4	1,2	1,3	1,2	1,8
Deficit (excluding S.E. Asia)	2,8	2,1	1,6	1,6	1,3	1,5	0,8
S.E. Asia expenditure	—	—	0,1	0,1	0,2	0,7	1,5
Total deficit	2,8	2,1	1,7	1,7	1,5	2,2	2,3

Source: Adapted from US Department of Defence house journal, Defence Industry Bulletin, March 1968, p.5

From an examination of the events it is apparent that Germany did not specifically buy American arms in order to alleviate the American balance of payments, rather they were concerned with strategic questions. Nevertheless it is plain from the behaviour of the three major arms exporters of the 1960's — the United States, Britain and France — that balance of payments considerations played a large part in their sales of military equipment. However it is surprising to note that there is no observable correlation between sales and the balance of payments, in that trade does not regularly increase when there is a deficit or decrease when there is a surplus. All that can be said then, is that defence sales remain a highly attractive area of activity in the solution of balance of payments problems.

ii) Social Considerations

For historic and economic reasons, defence industries are often to be found in specific geographic areas. In Britain the Vickers' shipyards at Barrow-in-Furness employ 12 000 out of a working population of 32 000, and by reason of the town's isolation, are the only source of engineering employment for 40 miles around. In Sweden, the town of Karlskoga has a population of around 39 000 who depend primarily, as employees, or secondarily, through service trades, on Bofors. Whilst in the United States, California relies upon defence and defence-related industries to a large extent, particularly in certain counties. For example, in Los Angeles, the most populated area, the aerospace industry accounts for 328 000 jobs,

equivalent to 10,4 per cent of all employment.

Where interest group politics has become a major force in local politics, the pressures on government to maintain employment in such areas remains high. Industrialists, trade unionists and politicians in whose constituencies defence industries are situated, naturally tend to think of industries not simply as income generating but as necessary in terms of the national interest. To this end their concern with the continued success of local industries, leads to greater pressure for exports in order to keep the order books full and so in turn to keep unemployment down.

It is true to say that social considerations probably play a larger part in specific cases in Europe in determining export policy for armaments, than in the United States. In both cases, however, the evidence suggests that social policies are no more than a contributory factor in the maintenance of the armaments industry and so too the export trade.

iii) Economies of Scale

A more important economic pressure that calls for the export of arms, lies in the lower unit costs that are obtainable via longer production runs where economies of scale can be benefited from. This is made all the more important where the growing scale and complexity of arms manufacture has seen the unit costs of such high technology arms as aircraft, doubling and even tripling over the space of a few years.

The arms industry is plagued by a variety of uncertainties that together make the securing of a stable market for their products absolutely essential. These uncertainties arise out of the increasing complexity of the arms themselves; where the pre-1914 concentration of arms manufacture was centred around the heavy engineering firms such as Vickers, Krupps and the like, post-1945 arms manufacture has seen the emergence of electronics, chemicals and other such industries. Further, the interrelationships between weapons systems that have been evolved, means that the development of a particular weapon system requires similar development, and cost, in related spheres. For these and other reasons it is not possible to establish confidently a projected unit cost until quite a late stage in the development process.

The net effect of such continuous uncertainties, is to make the arms industry highly inflexible. The

'disproportionate' share of preproduction costs and the charges for discontinuous flows of work, have to be allocated over the cost of the product. This problem is exasperated in Western Europe where a permanent excess of production capacity exists for reasons other than economic ones.

There are two further major consequences of the existence of such uncertainties in the arms industry. The first has been to involve government, to an ever increasing extent, in the detailed funding and management of all phase of the weapons production process, from basic finance and research, right through to the assembly of the finished product. The second major consequence of uncertainty in weapons production has been to provide a constant incentive to optimise, which is usually consistent with maximising, output. Since resources are limited, governments tend to opt for fewer multipurpose systems, which are individually more costly and complex precisely because they serve many purposes. Therefore, government and industry have to maximise output in order to offset high costs and to reach the 'break-even' point where expenditure is recouped by sales.

This clearly places a heavy premium on long production runs and hence on foreign sales in order to facilitate this. The position being that not even the United States, where high technology arms are concerned, is there a large enough domestic market to facilitate the reaping of economies of scale. Exports, in the case of Western European arms manufacturers, have not been able to solve this problem altogether. Whilst the pressure to export remains high, alternative solutions have been sought via co-production agreements. One need only think of the French-German Transall and the Anglo-French-aircraft; the Anglo-French Gazelle, Lynx and Puma helicopters; and Martel air-to-surface missile to mention but a few, as evidence of this emerging production philosophy.

Where this philosophy has its pitfalls, is in the absence of such American features as a unified legal basis, a common engineering tradition and a more homogenous capital market. Their absence adds to the specific problems of co-ordinating a minimum of two states industrially and militarily with the result that overheads are increased. Other forms of co-operation costs arise from larger overheads associated with research and development, which although shared, are higher than they would be under sole

manufacture for the same production run.

However, despite these and other problems, the advantages remain formidable and in terms of the arms trade, such co-production agreements that have a pre-defined market, should lead to a reduction in the pressures to export and so allow for a more responsible approach to arms sales. They do, however, allow for greater competitiveness in the export market by allowing producers to move from average to marginal cost pricing, thus perhaps counteracting the drift away from exports as suggested above.

iv) Industrial Power

A final aspect on the economic side that deserves brief mention is the observed propensity for industrial states to maximise their own position in the international balance of power. Because of the link between industrial capacity and military strength, the balance of power concept is of peculiar importance to the defence community. Hence a policy of enlarging the market for military exports, transcends mere protectionism, and becomes a positive affirmation of the role a country desires to play in the

international political order.

At the same time, as has been pointed out previously, the export side allows a country to retain its defence industry more cheaply in the interests of security of supply. The ideal is self-sufficiency, but only the United States in the western world attains this ideal by virtue of its endowment of resources and the scale on which they are deployed.

Western European countries have used another method to keep defence production in their own countries, by allowing American share participation in various companies as shown overleaf in Table 4. Whatever the methods employed, however, the motive must also be partially found in that of maintaining or improving upon a relative position in the balance of international industrial power.

Conclusion

This article has by no means attempted to be an all-embracing account of the arms trade; however, it is hoped that there have been some interesting points raised.

TABLE 4
US shareholding in W. European arms Industries

Country	Firm	US Shareholders	Stockholding Per Cent
France	SNECMA	Pratt & Whitney	10
Germany	VFW Messerschmitt Bölkow-Blohm	United Aircraft Boeing	26,37 16,6
Italy	Aeronautica Macchi	Lockheed	20
Netherlands	Fokker	Nortrop	20
Spain	CASA	Northrop	24

Source: The International Trade in Arms, J. Stanley & M. Pearton, Chatto and Windus, London 1972, p 156.

The arms trade remains as shady as ever in many respects, with men like Sir Basil Zaharoff being replaced by numerous others whose virtues, I suggest, would be more difficult to find. The sums of money now involved and the importance of arms industries to western nations' economies, has seen the scale of bribery and corruption increasing to incredible proportions; the highly publicised Lockheed scandals being just the tip of the iceberg in this respect.

Perhaps the most important features to take cognisance of, though, are the sheer size of the industry in the economies of the world, devouring vast quantities of scarce raw materials for unproductive if not destructive purposes, and secondly the fact that larger numbers of arms are finding their way into irresponsible hands — neither of which bodes well for international stability in years to come.

Foot-notes

1. F. McCullagh: *World Peace Foundation Pamphlets, Series 2, Part 2, p.6.*

2. J. D. Scott: *Vickers, A History* (London, 1962), p. 31.
3. F. E. Hamer (ed): *The Personal Papers of Lord Rendel* (London, 1931), p. 277.
4. D. Dougan: *The Great Gunmaker* (Newcastle, 1970), pp. 68-69.
5. *London Sunday Chronicle*, November 29, 1936, Interview with Rosita Forbes.
6. J. D. Scott: *op cit*, p. 81.
7. D. McCormick: *Pedlar of Death*. (London, 1965), p. 122.
8. *Report of the first Sub-Committee of the Temporary Mixed Commission of the League of Nations 1921*. (Quoted by F. Brockway in *The Bloody Traffic* (London: Gollancz, 1933), pp. 24-25.
9. J. E. Wiltz: *In Search of Peace, The Senate Munitions Inquiry 1934-6* (Louisiana State University Press, 1963), p. 93.
10. US Department of Defence Form 1513, Condition 7.
11. Sir Walter Monckton, House of Commons Report, 24th January 1950, Column 51.
12. H. A. Hovey, *United States Military Assistance*. Praeger Publishers, New York 1965.

Bibliography

1. ABAD, C. H.: *The Munitions Industry in World Affairs* (Scribners, 1933).
2. BATTY, P.: *The House of Krupp* (New York: 1967).
3. COLES, W.: *Senator Gerald P. Nye and American Foreign Relations* (Minneapolis: 1962).
4. SAMPSON, A.: *The Arms Bazaar* (Hodder and Stoughton, 1977).
5. STANLEY, J. AND M. PEARTON: *The International Trade in Arms* (The International Institute for Strategic Studies, Chatto and Windus, 1972).
6. STOCKHOLM INTERNATIONAL PEACE RESEARCH INSTITUTE: *The Arms Trade with the Third World* (Uppsala, 1971).
7. THAYER G.: *The War Business*. (Simon and Schuster, 1969.)