The Globalisation of Arms Production and Trade: Implications for the UK Economy

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Comments welcome

1. Introduction.

This paper considers some of the changes that have been taking place in the defence industry since the end of the Cold War and the implications for the UK economy. The next two sections consider the general trends and the scenario for the UK. This is followed in section 4 by a discussion of the impact of globalisation on the defence industry and the changes that have taken place in the companies and in the procurement relations in sections 5 and 6. The next three sections consider the importance of the arms industry to the economy. Finally, section10 presents the main points, some conclusions and policy proposals.

2. Global trends in milex, arms trade

With the end of the Cold War the old certainties changed and were replaced by an uncertain world. It was not necessarily a safer world, but the reduced involvement of two superpowers in areas of conflict certainly reduced the scale of conflicts. With biting economic constraints and the increasing need to use resources for other purposes there were huge reductions in military spending (Fig 1). Between 1989 and 1998 world military spending saw a reduction of one third, but with wide regional variation. Western Europe seeing only a decline of 14%.

Percentage changes in real military expenditures 1989-98

World	-34%
Western Europe	-14%
North America	-32%
CIS (1992-98)	-76%
Asia	+27% (but economic crisis 1997)

Source SIPRI (1999)

At the same time the arms trade reflected the decline in procurement expenditure. SIPRI identify the trade of major conventional weapons. Their figures show that from the last years of cold war 1984-88, when transfers relatively high, arms transfers went through a transitional period of steep decline between 1989 and 1994 and now seem to have stabilised but at a much lower level than that achieved in the late 1980s.

3. Scenario for UK

Despite sharp reductions within the UK, the resources devoted to military spending are still high relative to other countries in similar situations. The UK devotes 3% of GDP to military spending, which is a similar burden to France but larger than Germany at 1.7% and Italy at 1.9%. There are a number of strategic concerns for the UK. The resurgence and reinvention of NATO has raised questions about the future of the WEU and the likelihood of pan-

European Forces. It has also affected the issue of harmonisation of equipment with allies and who represents reliable suppliers. The US remains a major part of any future strategic considerations.

It is clear that the threats are different and are likely to require non-traditional responses. In the Post cold war the focus is on pariah states, terrorism, crime and peacekeeping (Kaldor, 1999). The activities of the armed forces are likely to be very different, what they do, where they do it and how. They are likely to require very different equipment and force structures. Strategic mobility and global information and communications systems are likely to be increasingly important and for these there is considerable dependence on the US.

With the changes in technology it is becoming impossible for countries to maintain the capability to produce a comprehensive range of weapons independently. The UK defence industry has moved from strategic justification to economic justification for its existence. It is, however a declining employer and is heavily subsidised. It is also now stuck with programmes and industry that are legacy of cold war. The economics of maintaining the capability have meant a push for arms exports, but there is excess capacity in the market, with weapon systems selling at near marginal cost, and extensive use of offsets and other measures. This makes it a difficult market and it is also not a growing market. The UKs pride at gaining an increasing share of a declining/static market does seem somewhat misplaced.

4. Globalisation and military industries: behind the myth

There has been considerable interest in globalisation and its implication for the economy and security. There is also considerable debate over the degree to which globalisation has occurred and how important it is (Held et al, 1999, Hirst and Thompson, 1996). The Cold War defence industry was very clearly historically specific, however, and very different to what had gone before it. It was very much a modernist industry with its clusters of inventions and technocratic culture. It was also a consciously planned product of the nation states, who wished to have the capability to produce and develop a comprehensive range of weapons, to create a national Defence Industrial Base (Lovering, 1998). In this way it was the product of particular structure of national and international relations, markets and technologies underpinned by a superpower arms race. It should be no surprise that the end of the Cold War saw such profound changes.

The resulting restructuring has left world arms production highly concentrated. In 1996 the 10 largest arms producing countries account for almost 90% of production: sales about $200 billion (not including China and Russia). This declining trend has stopped, though restructuring continues in the USA and the EU. In the USA concentration peaked in 1998 when 4 huge arms companies absorbed more than 20 others and further concentration has been blocked by anti trust concerns and some problems with the integration of the different companies. Western Europe seems to be heading towards cross border integration but cross Atlantic links remain important (Skoens and Weidacher, 1999).

This rationalisation in response to declining demand saw no real conversion to civil production and the internationalisation has not created the truly global companies expected. What is clear is that the old 'spin off' of technology, as the benefits of military technology for civil industry were called, is no longer important. Instead 'spin in', the increasing use of civil technology and products in military good has become prevalent. In the UK government research facilities seem to be moving to a support role for procurement rather than the basic

research establishments.

5. Company changes

The major defence companies have also changed. They have moved away from being manufacturing companies over a range of products to become systems integrators, putting the products of other contractors together. This is what Ann Markusen calls 'hollowing out'. British Aerospace is the obvious UK example which in achieving profitability and becoming the apple of financial capitals eye shed half of its workforce and a lot of its production facilities.

In this way subcontracting has become increasingly important for the defence contractors, as they outsource. This has also led to more non traditional companies being involved in work for defence companies. It is also clear that the supply chains have extended internationally. This is nowhere clearer than in British Aerospace's moves into South Africa (Batchelor and Dunne, 1999). There have also been numerous cross border equity swaps and purchases, the development of joint ventures, licensed production, technology transfer, which are clearly a strategy of internationalisation by the companies. These developments by the companies were well ahead of the national governments' willingness to allow control over their national DIB to wane. (Skoens and Weidacher, 1999).

This has led to networks developing across the world and makes the existence of a comprehensive production capability within any country other than the US an impossibility, and even in the case of the US unlikely. In addition finance capital became of growing importance for survival of companies and had a hand in determining the form of restructuring of the industry. The companies have not globalised, however, in the sense of becoming transnational and losing their home base. They remain tied to their national bases, despite some British Aerospace claims[1]. They require the support of national governments as major customers and national orders are important in getting export orders. In addition, they get considerable support from the government in exports.

There were clear changes in the nature of the companies as they became more like civil companies and took on the corporate governance structures of civil companies. They still retained close links with procurement executive, however, so there were still some differences, but they recognised the importance of their customers perception of them in a way they had not before (Evans and Price, 1999). One interesting change was a recognition of the importance of their different stakeholding groups. They recognised the importance of reputation and that a change in their identity was important (Dunne and Parsa, 1999)[2].. It was no longer only the government that was important and the other stakeholder groups could assist the companies in lobbying for state support and orders.

There have also been changes in employment relations. Companies have shed large numbers of employees and as companies moved away from production they have retained an increasing proportion of engineers and scientists. There are also a range of subcontracting

[1] In 1997 a British Aerospace director at a UK aerospace trades union conference said "We want to be seen as British in Britain, German in Germany, Chinese in China and so on". This was an attempt to redefine BAe and there have been an extension of networks etc.. but BAe remains a UK based company and still sees the UK MoD as its main customer, as Evans and Price (1999) affirms.

[2] Not a lot of work has been done on this and an interesting project would be to look at the role of Directors and types of directors on the boards and how this has changed.

companies dependent on them, many of these not obviously producers of military goods, as increasing spin in of civil technologies.

With the cuts in procurement trade became increasing important to the companies and they pushed to achieve exports. At the same time the subcontracting and creation of networks has led to an increase in trade within companies and within their networks. This could lead to less visibility of the arms trade in future and make it difficult to control

6. Changing procurement relations:

In the post Cold War world countries have moved away from a planned national defence industrial base (DIB), in which companies perceived themselves as the workshop of the MoD. With privatisation came a change in the regulation of the industry both at a formal and an informal level. With the Levene reforms of 1987 came a clear change in the rules. The prevalence of cost plus contracts and gold-plating was no more. A more commercial environment was introduced with competitive tendering, contracts awarded with reference to market prices etc. Most importantly the cancellation of Nimrod and the purchase of AWACs from the US made foreign procurement a credible threat and represented a sea change in government industry relations (Dunne, 1995).

These changing procurement relations and the decline in orders led to a marked restructuring of domestic companies. In the UK this also led to the creation of monopolies for particular components and systems. With competition came failure and the losers were taken over or closed down, leaving the government facing single suppliers. With the credible threat, however the Defence Industrial Base became much less successful in capturing the government.

Financial capital came to play an important role as the companies restructured and look for alternative support to government, while internationalisation of the companies allowed them to be involved in procurement contacts in other countries, though they still remained national based. Ad hoc planning, was reintroduced, however, with the favouring of domestic companies, such as Major going for the Challenger over the US alternative. This led to a weakening of the government's position as the credible threat became less credible. The defence industry was also seeing the importance of lobbying.

In attempts to support the local industry and reduce its costs the governments export policy was extremely important. It did, hwoever, lead to now well known scandals as governments supported encouraged, subsidised, and took rather questionable actions[3]. Offsets became increasingly important for foreign sales and this increased the links with government who were providing support (Martin, 1999).

So we appear to have witnessed a reinvention or 'reconstruction' of the DIB in a more informal, international, and a less visible form. The major defence contractors are no longer the workshop of the MoD, but more commercially based firms, with large numbers of contractors, that have to use lobbying to influence government. They do this using their subcontractors and trade unions, local government and development corporations,

[3] As the Scott report showed. See also James (1996) on the experience of Astra and Leigh (1993) on Matrix Churchill.

particularly in areas where they are important to the local economies. Companies need local sales as they provide a solid base and help them to sell abroad. They are more international and so can use the threat of losing jobs in the UK as well as being able to influence domestic procurement through their links abroad, such as through the EU.

Companies are also involved in determining the threat and the response to it with the changes in procurement. Smart procurement, proposed by the UK government in the Strategic Defence Review provides them with such opportunities.

In addition, the increasing use of civil technology in weapons system, the development of dual use technologies, and the increase in intra company trade make trade less visible. Despite the companies remaining dependent upon their national governments, there could be problems of control. The regulation of the arms industry and trade at local and international level is becoming an important issue.

Given these changes and the reinvention of the defence industrial base and its influence it is useful to ask exactly hoe important it is to the UK economy.

7. Importance to the UK Economy

During the early 1980s the defence industry in the UK became increasingly important to manufacturing as it was protected from the ravages wrought on the rest of the industry. The introduction of the Levene reform in 1987 changed all of that and with the changes that have followed the end of the Cold War it is now nowhere near as important.

The MoD estimates direct and indirect employment to be just over 400 thousand, with 150 thousand of those jobs linked to exports. While these estimates can be questioned as being overestimates, they still suggest that military procurement supports around 10% of manufacturing employment, which represents less than 2% of total employment.

A regards the arms trade, arms exports are variable year by year because of large contracts coming in in particular years. Nevertheless, the figures for deliveries in Table 1 were never more than the 2% of total Exports of goods (excluding services) in 1996. When the estimates of aerospace are added in the shares are higher but never more than 4.5%. Arms exports employed an estimated 150 thousand workers in 1996/7 , accounting for less than 4% of manufacturing and just over half a percent of total employment. See Table 2

Clearly, the industry is not as important to the economy as one might think. It is certainly more important to the manufacturing sector and has a greater presence within the high tech part of that industry. The question that has seen considerable debate is what is its economic effect.

8. Economic Effects of DIB

Economic theory generally has no distinctive role for military spending, it is just another form of government spending. Briefly (and superficially), for neoclassical theory, security may be necessary for trade, but there is a trade off between guns and butter. For Keynesians as government spending it can have a positive demand effect. For Marxist's the story is mixed Dunne (1990). The Underconsumptionists, however, do have a clear and positive role for military spending, though not backed up empirically (Smith and Dunne, 1995).

There are a number of channels through which the DIB can effect the economy

- support jobs but diverts resources from other uses
- creates negative externalities through its influence on other areas of the economy
- it crowds out investment from the civil sector
- it spins off technology to the civil sector -but more spin in now
- it creates demand but can also create bottlenecks in the economy
- it has socio political effects, such as militaristic nationalism or helping control labour
- the Military Industrial Complex acts in its own interests and not the country's and invents threats

But whether the overall impact is positive or negative is clearly an empirical question (see Dunne,1996 for detail).

There are also a number of forms of empirical analyses:

- Institutional and historical
- Econometric
- Simulation
- Model based

Overall, the results suggest a negative effect of military spending on economic growth for advanced economies-at expense of investment rather than consumption and that reductions in military spending can improve economic performance, particularly when the savings are reallocated (see Gleditsch et al 1996 for detail).

Given the important role that exports have played in the maintenance of the defence industrial base and the way in which they are used to justify it, it would seem reasonable to ask exactly what the benefits of arms exports are. We can see they are valuable to the companies, but what about the country?

9. Exports: the economics

One of the most important problems in judging the economics of arms exports is trying to make sense of the prices. They are not ordinary market prices. Often being set by negotiations that may take place between governments and include all sorts of deals. There are also hidden costs that are not included in the press releases including:

- Export credit guarantees
- Marketing and other support
- Offset arrangements
- Aid budgets
- Commissions and bribes
- Technology transfer and licensing
- Prop of UK components in exports

So while they may be profitable for the companies there seems to be considerable support from the taxpayer. There are some hidden benefits from licence, the provision training, spares etc but, overall, estimates that have been made by researchers suggest a relatively large subsidy:

- WDM (1995) £384 million (current prices)
- CAAT (1996) £1 billion (current prices)
- Martin (1999) £228 million (1995 prices)

In 1995-6 the current price value of arms exports was £2 billion and just under £3.5 billion. The differences in these figures mainly reflect the different treatment of R&D, but they all support the finding that exports are heavily subsidised. A response to this argument by the MoD is awaited.

10. Main points and Conclusions

1. The decline in milex following the cold war has tailed off and the declining trend in arms production has stopped. In the arms trade the volumes of major conventional weapons traded has bottomed out and remains stable.

2. Restructuring of the industry continues, but concentration in the US has come to a halt. US companies are having problems merging and with acquisitions eg Lockheed and Boeing are in trouble. It is more difficult than expected to put together companies with different cultures. This could happen with mergers in Europe such as Aerospatiale-DASA link. There is internationalisation but not globalisation. Companies remain wedded to their home countries but increasingly have international joint ventures and other links.

3. Major defence companies are 'hollowing out' becoming systems integrators with networks of suppliers, rather than producers. They are also becoming more like non-defence companies and increasingly influenced by financial capital.

4. The introduction of competition and the decline in demand made the Defence Industrial Base less successful in capturing government.

5. But the Defence Industrial Base is reinventing itself in a more informal and less visible form.

- Instead of a planned DIB companies lobby the government and have various stakeholders who do the same: workers, unions, local communities etc
- Companies play a role in determining threats and the appropriate technological response through 'smart' procurement
- Companies are directly supported by government through their support of arms exports

6. Companies have become important international players with extensive networks that allow them influence on local governments, such as lobbying through the EU

7. Defence industry has changed markedly but it still remains a powerful interest group and can still hold considerable influence over the government. It now relies on more informal influences on government, which make its influence less visible and international links that make them less controllable.

8. The defence industry argues that it is important to the UK economy, but research suggests

that military spending has a negative impact on the economy. The companies are reliant upon exports and use economic arguments to justify them. But arms exports are subsidised heavily by the government and the economic benefits are not clear.

9. Exports of weapons means they can reach potential enemies and so provide arguments for the development of a next generation! The need to export leads to weapons going to questionnable regimes and inevitably involves corruption.

10. These changes present important challenges to the peace movement. The new architecture of security and the defence industry has to be understood and the internationalisation of the companies tracked.

11. Policy proposals:

- Decide what we need for our defence and how best to get it. If we produce domestically we should be willing to subsidise it directly and not rely on exports.
- Aim for intelligent customer capability rather than supplier.
- Recognise that the MIC still exists, though in a less visible form, and is influencing government
- Recognise the internationalisation of defence production and consider multilateral agreements to control it
- Recognise the economic costs of the defence industry and the opportunity that still remains to use those resources to produce for fast growing civil markets.

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Table 1: Arms Exports

	Deliveries Total as	Estimated Aerospace	Total	Goods Exports	Deliveries % goods	% goods
1975	198	279	477	19185	1.0	2.5
1980	537	1000	1537	47149	1.1	3.3
1985	813	940	1753	77991	1.0	2.2
1990	1980	2487	4467	101718	1.9	4.4
1993	1914	1055	2969	121398	1.6	2.4
1994	1798	1148	2946	134664	1.3	2.2
1995	2076	2647	4723	153077	1.4	3.1
1996	3402		3402	166340	2.0	2.0
1997	4598	4598				

Source: UK Defence Statistics (1998), Economic Trends (1997)

Table 2: Arms Employment: Estimated Total and Export Related

	Employment		Emp in Emp		Share of Manuf		Share of total	
	Total	Exports	Manuf	Total	Total	Export	Total	Export
1980/1	740	140	6311	22991	11.7	2.2	3.2	0.6
1985/6	625	110	4882	21423	12.8	2.3	2.9	0.5
1990/1	550	145	4605	22920	11.9	3.1	2.4	0.6
1992/3	415	95	3983	21931	10.4	2.4	1.9	0.4
1993/4	395	80	3808	21613	10.4	2.1	1.8	0.4
1994/5	360	90	3823	21700	9.4	2.4	1.7	0.4
1995/6	410	140	3918	22028	10.5	3.6	1.9	0.6
1996/7	420	150	3913	22195	10.7	3.8	1.9	0.7

Source: UK Defence Statistics (1998), Economic Trends (1997)