Defence Industrial Restructuring and Economic Growth in South Africa

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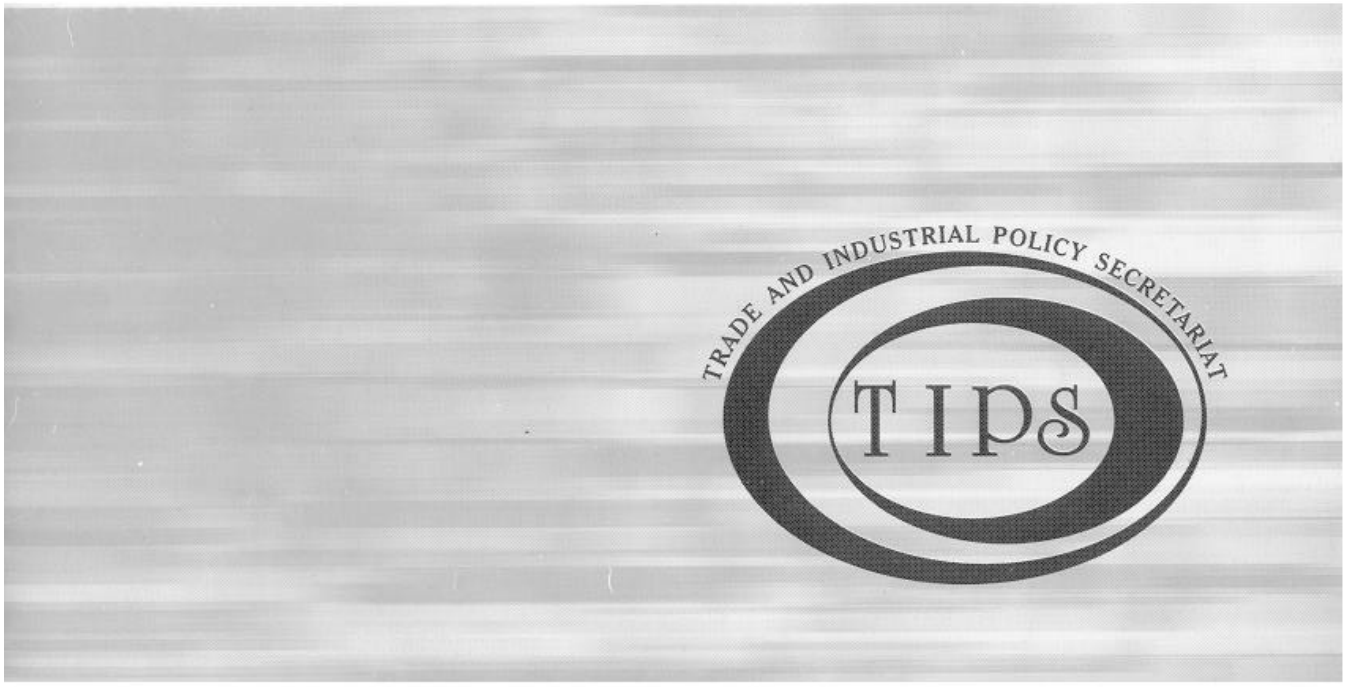

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ABSTRACT

This paper considers the developments in the international arms market and restructuring of defence industries and the implications for countries such as South Africa. Small industrialised economies with an indigenous defence industrial base clearly face problems in the new environment. The paper will consider: the way in which the South African industry has restructured in the post-apartheid period, both the public sector (Denel) and private sector companies, and will undertake an analysis of how the industry has responded to the cuts in spending and the offset deal and the flattening out of spending. Within this context, the issues of Denel's privatisation, future prospects for the industry, and policy issues/implications are considered.

1. INTRODUCTION

Over the last decade the international arms industry has seen significant restructuring, with increasing concentration of the market and internationalisation of the major players. These changes have important implications for countries with defence industries, especially small industrialised economies where the defence industry has been an important part of the economy. South Africa is such a country, though with a particular history.

South Africa's transition to democracy and the ending of apartheid was accompanied by a parallel process of demilitarisation, which reversed the militarisation of South African society that occurred during the 1970s and 1980s. This saw dramatic cuts in the defence budget, the ending of compulsory conscription for white males, the re-establishment of civilian control over the armed forces, and the implementation of various disarmament measures. The measures included the termination of the country's nuclear weapons programme and the destruction of the country's stockpile of anti-personnel mines. The domestic defence industry, which was built up during United Nations arms embargo, was forced into a process of downsizing and restructuring in response to the cuts in domestic defence spending and the decline of the international market (Batchelor and Dunne, 1998). In recent years, the declines in expenditure have slowed and the South African National Defence Force (SANDF) has been allocated funds to purchase new weapons systems. This procurement has been tied to offset agreements, which have promised the domestic industry some respite.

This paper examines the developments in the international arms market and the restructuring of the defence industries and the implications for South Africa. Section 2 looks at global changes in expenditure and the changes in the international arms industry, and Section 3 considers the changing procurement relations. Section 4 describes the restructuring of the South African industry in the post-apartheid period, with Section 5 considering the general economic effects of defence industrial bases (DIBs) and Section 6 considering the implications for South Africa. Sections 7 and 8 then consider two important issues for South Africa: the privatisation of the state arms producer, Denel, and the recent arms procurement package. Finally, Section 9 presents some conclusions.

2. THE CHANGING INTERNATIONAL MARKET FOR ARMS

With the end of the Cold War came profound changes in the levels of military spending around the world. The reduced involvement of two superpowers in areas of conflict reduced the scale of conflicts and the resources available to combatants. With biting economic constraints and the increasing need to use resources for other purposes, their world military spending fell by one-third between 1989 and 1998, but with wide regional variation. Western Europe, for instance, only experienced a decline of 14%, with North American seeing a reduction of 32% and the Commonwealth of Independent States a decrease of 76%, between 1992 and 1998. In contrast, prior to the Asian crisis of 1997, the region was showing increases in military spending (Stockholm International Peace Research Institute (SIPRI), 1999).

At the same time, the arms trade reflected the decline in procurement expenditure. SIPRI figures for trade in major conventional weapons show that, since the final years of the Cold War (1984-88), when transfers were relatively high, arms transfers went through a transitional period of steep decline between 1989 and 1994 and then seem to have stabilised, but at a much lower level than that achieved in the late 1980s.

There is more recent evidence that the decreases in military spending have bottomed and have started to increase again. There are pressures from NATO and the new US administration to increase expenditures (SIPRI, 2001).

These changes in the demand side of the international arms industry were accompanied by a marked restructuring in the supply side. The Cold War defence industry was clearly historically unique, however, and different to what had come before it: the industry was very modernist with its clusters of inventions and its technocratic culture, and was a consciously planned product of the nation-states who wished to have the capability to produce and develop a comprehensive range of weapons (Lovering, 1998). In this way, it was the product of a particular structure of national and international relations, markets and technologies, all 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 (not including China and Russia) accounted for almost 90% of production, with sales of about US$200 billion. In the US, concentration peaked in 1998 when four huge arms companies absorbed more than 20 others. Further concentration has been blocked by anti-trust concerns and some problems with integration of different companies. Western Europe seems to be heading toward cross-border integration, although 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 that had been expected. What is clear is that the old 'spin off' of technology, i.e. the benefits of military technology for civil industry, is no longer important. Instead, 'spin in' – the increasing use of civil technology and products in military goods – has become prevalent.

The major defence companies also changed. They moved away from being manufacturing companies over a range of products to become systems integrators, putting the products of other contractors together. This 'hollowing out' saw companies achieve profitability and the acceptance of financial analysts while shedding employees and production facilities (Markusen, 2000). In this way, subcontracting has become increasingly important for the defence contractors and has led to more non-traditional companies being involved in work for defence companies. It is also clear that supply chains have extended internationally, as evidenced by BAE Systems' move into South Africa (Batchelor and Dunne, 1999). There have also been: numerous cross-border equity swaps and purchases; and the development of joint ventures, licensed production, and 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).

These developments led to the development of networks around the world and made the existence of a comprehensive production capability within any country other than the US an impossibility, and unlikely even for them. In addition, financial capital became of growing importance for the 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 require the support of national governments as major customers and national orders are important in getting export orders. In addition, they get considerable support for exports from the government.

There were clear changes in the nature of the defence corporations as they became more like civil companies and took on the corporate governance structures of civil companies. They retained close links with the 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). There were also changes in employment relations. Companies shed large numbers of employees and as they moved away from production they retained an increasing proportion of engineers and scientists. There was also a range of subcontracting companies who became dependent on them, many of these not obviously producers of military goods, as increasing spin-in of civil technologies occurred.

With the cuts in procurement, trade became increasingly important to the companies and they pushed to achieve exports. At the same time, the subcontracting and creation of networks led to an increase in trade within companies and within their networks.

3. CHANGING PROCUREMENT RELATIONS

In the post-Cold War world, countries moved away from a planned national DIB, in which companies had perceived themselves as the workshop of the defence ministry and were awarded cost plus contracts. There was a degree of privatisation, and with this, a change in the regulation of the industry within countries both at a formal and an informal level. The UK was a pioneer in this respect, and in the mid-1980s, moved to a more commercial environment with competitive tendering, contracts awarded with reference to market prices, etc. These changes in procurement relations and the decline in orders led to a marked restructuring of domestic companies. In many arms-producing countries, it 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.

However, the DIB was much less successful in capturing the government (Dunne, 1995). They saw the need to find ways of lobbying government and started to identify the most useful channels. This led to a different relation to government than these companies had had in the past. Financial capital came to play an important role as the companies restructured and looked for alternatives to government support, while internationalisation of the companies allowed them to be involved in procurement contracts in other countries, though they still retained a national base.

In attempts to support the local industry and reduce its costs, export policy was extremely important. It did, however, lead to now well-known scandals as governments supported, encouraged, subsidised, and took rather questionable actions.[1] Offsets became increasingly important for foreign sales and this increased the links with governments who were providing support (Martin, 1999).

It is arguable that these changes represent a reinvention or 'reconstruction' of the DIB into a more informal, international, and a less visible form. The major defence contractors are no longer the workshop of the defence ministries, but are more commercially-based firms with large numbers of contractors that have to use lobbying in order to influence government.

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

Lobbying is done using their subcontractors and trade unions, local government and development corporations, particularly in areas where the contractors 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 domestic jobs at home, as well as being able to influence domestic procurement through their links abroad, by pressuring host governments to put pressure on their home government. Companies are also often involved in determining the threat and the response to it.[2]

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.

4. SOUTH AFRICA'S DEFENCE MARKET

Within this context the South African defence market has seen dramatic change in size and structure since the late 1980s. Before 1992, the state-owned company – Armscor – acted as the procurement agency for the SANDF. It also owned a number of subsidiary arms production companies, and was the major domestic producer of armaments. In 1992, Armscor was split into Denel, a new state-owned industrial company that inherited all of Armscor's former arms production and research facilities, and Armscor, which retained responsibility for procurement for the SANDF (Batchelor and Willett, 1998).

South Africa's re-admittance into the international community and the lifting of the mandatory United Nations arms embargo in May 1994 allowed South Africa to purchase armaments from foreign suppliers for the first time since 1977. The decline in domestic procurement expenditure and the shrinking international market led to considerable downsizing within the public and the private sectors, with the share of imports in total procurement spending remaining relatively constant from the early 1990s until the recent SANDF procurement package.

Denel has continued to dominate the domestic defence market, averaging 48% of the domestic market since 1992, while the private sector's share has averaged 52%. However, Denel's current share of the domestic market is significantly lower than in the 1980s, when the former Armscor subsidiary companies (now part of Denel) accounted for nearly 70% of the domestic market (Batchelor and Willett, 1998).

In addition to its 48% aggregate share of the domestic defence market, Denel continues to dominate most of the seven major sectors of the domestic defence market, particularly aerospace, ammunition (small, medium and large calibre), weapons systems (including infantry weapons, cannons, artillery systems and missiles), and military vehicles. The other major sectors of the domestic defence market – electronics, maritime and support equipment – are dominated by the three largest private sector defence firms, namely Reunert, Altech and Grintek. Denel also dominates many of the sub-sectors of the domestic defence market such as information technology and testing (Dunne and Batchelor, 2000).

[2] Future weapons systems are not simply determined by government, they are dependent on what technologies are available in the pipeline and what companies feel is manageable. They are obviously state dependent.

The three largest private sector defence firms (Reunert, Grintek and Altech) dominate the private sector's share of the domestic defence market: in 1996, they accounted for over 80% of the sector's share of the market. Since the early 1990s, these firms have acquired many small- and medium-sized private defence firms in an attempt to consolidate their positions in the domestic market. These firms, like Denel, have also attempted to vertically integrate by outsourcing far less of their defence business than in the past. This process of vertical integration has had a very negative impact on the hundreds of smaller defence firms, particularly those that act as suppliers and subcontractors for the larger defence firms. Many small- and medium-sized private defence firms exited the defence market, merged with or were acquired by larger defence firms (e.g. Reunert acquired the armoured car division of TFM in early 1997). As a result, the domestic defence market (excluding imports) has become increasingly concentrated. In 1996, Denel and the three largest private sector defence firms accounted for over 90% of total domestic acquisition spending.

Although Denel dominates a number of sectors of the domestic defence market, the private sector defence industry is still extremely important. In 1996, Denel was smaller than Reunert in terms of turnover, but larger than Altech and Grintek. By 1996, according to interviews with company officials, none of the private sector companies had defence taking up more than 20% of turnover (Batchelor and Dunne, 2000). Denel is clearly much more dependent on arms production and exports than the private sector companies, and in 1996, Denel's defence sales, including exports, accounted for 64% of turnover (Denel Annual Report, 1996/97).

Since its establishment in 1992, Denel's financial performance has not been particularly impressive. Over the period 1992-96, its turnover declined by an average of nearly 6% *per annum* in real terms, while the three largest private sector companies, Reunert, Altech and Grintek, witnessed positive average annual increases in turnover during the same period. The late 1990s were more mixed, with the companies restructuring internally and Reunert showing declines in turnover.

The average annual growth (negative) in Denel's net profit between 1992 and 1996 was better than Altech and Grintek but worse than Reunert. In the latter half of the 1990s, Denel was reporting losses and only returned into the black in 2001.[3] Denel also has a much higher level of total assets relative to turnover than the private sector companies, suggesting it retains poorly performing assets. The high value of Denel's total assets relative to the private sector companies is largely a result of the fact that they are appraised at book value rather than market value (Batchelor *et al*, 2001).

Job creation by the group is also problematic. Denel's total employment declined by nearly 9% between 1992 and 2000 from 15 572 to 11 090. Over the same period Reunert's employment had remained relatively constant at 12 000-13 000, but in the late 1990s declined to 3 716. Both Altech and Grintek witnessed declines of over 20% in total employment during 1992-96, but less marked changes in the late 1990s.

Clearly the changes in the South African defence market reflected to some degree the changes taking place internationally, but there are also noticeable differences. As we have seen, the end of apartheid led to substantial changes in the sector, but also left it with a legacy of a large public sector producer and a strong grouping of vested interests around the military.

[3] The group announced a net profit of R24.1million for the financial year March 2000-2001. Export revenues during this period grew from 38% of total revenue to 46% (Star, 10 July 2001).

The 'hands off' policy of the new government led to the declines in both public and private sectors as outlined above, but recent changes in policy have led the government to consider the industrial problems and its future role. The implications of these changes are dependent on what the economic impact of the defence industries was and is likely to be. We now consider the economic effects of defence industries.

5. ECONOMIC EFFECTS OF DEFENCE INDUSTRIAL BASES

Generally, economic theory 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, security – as government spending – can have a positive demand effect. For Marxists, the story is mixed (Dunne, 1990). The Underconsumptionists, however, do have a clear and positive role for military spending, though it is not backed up empirically (Smith and Dunne, 1995).

There are a number of channels through which the DIB can affect the economy. It can support jobs, but can also divert resources from other uses. It can create negative externalities through its influence on other areas of the economy and can crowd out investment from the civil sector. A positive impact may be that it spins off technology to the civil sector, but while this may have been the case a few decades ago, increasingly there is what is termed 'spin in,' with civil technology being increasingly used in weapons systems. A positive impact could be achieved through the creation of demand, but this might create bottlenecks in the economy and impact negatively on the civil economy. Military spending has socio-political effects, such as militaristic nationalism, or helping control labour, which may impact on the economy. It can, however, lead to the creation of a coherent set of vested interests, the 'military industrial complex,' which acts in its own interests and invents threats to bargain for increased resources. Whether the overall impact is positive or negative is clearly an empirical question (Dunne, 1996).

A number of forms of empirical analysis have been undertaken. These include institutional and historical studies, econometric analyses and model simulations. Overall, the results suggest: a negative effect of military spending on economic growth for advanced economies, at the 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).

To this can be added the fact that the threats facing countries are different than during the Cold War period and are likely to require non-traditional responses. In the post-Cold War period, the focus was on pariah states, terrorism, crime and peacekeeping (Kaldor, 1999). The activities of the armed forces – as well as what they do, where they do it and how – are likely to be very different. They are likely to require different equipment and force structures. Strategic mobility and global information and communications systems are likely to be increasingly important and there is considerable dependence on the US for these.

With changes in technology, it is becoming impossible for countries to maintain the capability to independently produce a comprehensive range of weapons. 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 industries that are a legacy of the Cold War. The economics of maintaining this 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 the extensive use of offsets and other measures.

6. IMPLICATIONS FOR SOUTH AFRICA

Clearly, the South African defence industry has undergone considerable restructuring in the last few years in response to internal and external changes. This has manifested in the breaking off of state arms production to form Denel, although until recently, the government had adopted a 'hands off' approach. The massive reductions in procurement have led to downsizing, increased concentration and a push for exports. The changing international scene, both on the supply and demand sides, has also influenced the industry and continues to do so. The declining demand for exports has exacerbated local cuts in procurement and the changing nature of international arms producers has made maintenance of a national DIB impossible. This has heightened the spread of the major players into other countries to expand their network of component and sub-product suppliers and their search for markets. The changes in procurement relations in major arms-producing companies has been reflected in South Africa to some degree, with marketing and lobbying becoming an increasingly important tool of the public and private industries. There is still a strong set of interests around arms production that has influenced and is influencing government policy and these interests have been strengthened by the involvement of a number of major international players.

The defence industry remains a relatively important part of the South African economy and still has a substantial state-owned component. This suggests that there is still some restructuring to be undertaken. The form it will take is dependent on the outcomes of two major policy initiatives: the privatisation of Denel; and the recent R30 billion procurement package (now costing more than R40 billion), with associated offsets to provide advanced weapon systems to the SANDF. The outcome of these initiatives will determine the size, structure and performance of the industry in the future, with associated implications for the economy. As research suggests, there are substantial economic costs to maintaining a DIB. This is an important issue for the future of the South African economy and industry. We now consider these initiatives in more detail.

7. THE PRIVATISATION OF DENEL

The performance of Denel in the first five years of its life was not impressive and did not augur well for its future. From the mid-1990s, however, it appears to have forged a more coherent and mutually beneficial working relationship with the government. Since 1998, moves to restructure and privatise Denel have become closely bound with the arms procurement deal and associated industrial participation programme (Defence Industrial Participation – DIP). In addition, there have been efforts to find a large international defence company to take a strategic equity partnership in Denel.

The visit of British Prime Minister Tony Blair to South Africa in 1998 saw the signing of a memorandum of understanding between BAE Systems and Denel. Denel was then internally restructured in 1999, shifting from a looser network of companies and divisions to a more autonomous set of business groupings. The current business units are Denel Aerospace,

Denel Ordnance, and a commercial and IT division. There is also a small training grouping, the Kentron Training College, which provides bridging programmes for aspirant military engineers.

This at least partly reflected the policy developments outlined in the 1999 National Conventional Arms Control Committee discussion document "Policy on the South African Defence Related Industry," which sets out proposals for industry restructuring. This included breaking up Denel by selling off less than 100% in clusters, breaking off the attractive bits first to maximise revenue, and a proposal to encourage rationalisation of both the private and public industry.

In October 2000, Cabinet approved BAE Systems as the preferred strategic equity partner for the Denel Aerospace and Ordnance Groups. Within Denel Aerospace, Snecma/Turbomeca was approved as the strategic equity partner at the divisional level for the business unit Airmotive. Similarly, within Denel Ordnance, the UK pyrotechnic manufacturer Pains Wessex Defence was confirmed as strategic equity partner for the Swartklip division. At the macro level, it was hoped that the finalisation of a strategic equity partnership with BAE Systems could be achieved by March 2001, but the negotiations have proved lengthier than initially expected.[4]

There have also been pressures within Denel to return to concentrating on the Group's perceived traditional strengths – although this is not without its contradictions[5] – and to downsize in areas such as small arms.[6] The Commercial and IT group is to shift away from Denel Aerospace and Denel Ordnance, and ultimately will be hived off as a completely separate entity. The recent establishment of Arivia.Kom, as a joint venture between the IT divisions of Eskom, Datavia in Transnet and Ariel Technologies in Denel, is also a step in this direction (Gounden 2001: 10).

These partnerships at macro and meso levels are not necessarily discrete or self-standing. Turbomeca, for instance, will provide engines for a new light helicopter, the Augusta A109, and the Hawk advanced trainers on order from BAE Systems. As part of the Snecma group, Turbomeca has an extensive set of manufacturing and aircraft maintenance operations internationally.[7]

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[4] BAE Systems apparently offered in the region of between R500 million to 50 million pound sterling for a strategic equity partnership of between 20-30% in Denel Aerospace and Denel Ordnance (Martin Creamer's Engineering News, 31 July 2001). The South African negotiating team saw this offer as somewhat low. BAE Systems also requested that Denel's board of directors be reduced from its present eleven members, that it be given seats on the board, and that certain BAE Systems staff be placed in strategic management positions in the business groups (Interview with Denel executive, name withheld, 8 September 2001).

[5] Although Denel appears to be exiting its non-core business, its board has decided to keep property divisions Bonaero Park, Denel Properties and Aero Properties, as well as Specialised Protein Products, the R140bn soybean processing plant in Potchefstroom. Irenco, the third-party manufacturer of electronic and plastic injection moulding products, and Dendustri, the engineering services provider, would also be kept, for the short-term at least. However, the Group would 'manage out low-value property from the portfolio and grow the division with high return properties' (Star, 10 July 2001). For instance, Denel Properties (Denprop) added the Waterkloof Ridge shopping centre to its portfolio in March 2001. This follows the opening in February 2001 of Denprop's Castle Walk office park in Pretoria (Pretoria News, 28 March 2001).

[6] This is reflected in efforts to scale down the small arms producer Vector, which is unprofitable and facing a class action law suit in the US along with certain other small arms manufacturers (African Armed Forces, 31 May 2001).

[7] Interview with Mr Jean-Bernard Cocheteux, CEO of Turbomeca, in *African Armed Forces Journal*, 31 January 2001.

This is clearly a continuing process, but reflects the policy of breaking up Denel using strategic partners, with privatisation planned later when the issues of black empowerment have been considered.

There are a number of concerns that arise from recent changes and future plans. Firstly, the issue of regulation could be problematic. The links between Denel and Armscor may compromise the role of regulation, and some consideration has to be given to the control of state and private entities that have major strategic partners. There is some concern that rent-seeking behaviour among the state, industry and foreign players may impact upon the success of privatisation measures. Indeed, the role and influence of international companies is of concern as it may be difficult to control and may lead to the creation of a strengthened 'military industrial complex.' This could produce further pressure to increase military spending and loosen export controls. Finally, the shared/overlapping interests of companies such as BAE Systems, Snecma/Turbomeca and Westland Augusta in South Africa – which, in terms of the current defence offset programme in South Africa, are not uncommon – may raise concerns that companies can collude in their own interest. We now turn to consider the programme in more detail.

8. THE SANDF PROCUREMENT PACKAGE

The decision to procure weapons systems for the SANDF from foreign suppliers made clear an already implicit government view that the maintenance of a general capability in military production was not feasible. As we have seen, developments in international markets suggest that the future might entail a small industry operating in niche markets, possibly in collaboration with a major international player. This recognition of the new reality, where even second-level producers are unable to sustain a comprehensive arms industry, led to the decision to procure externally. Once this decision was made, a considerable amount of effort was put into attempts to wring as much from the potential suppliers as possible, both in the form of defence-related industrial participation, and in order to maintain the competitive parts of the industry and of non-defence products. A major justification for the packages was the economic benefits through these offset deals.

The proposals included: direct contracts with South African defence firms; investment in Denel; and diverse non-defence investments ranging from automotive components, manufacturing, telecommunications, stainless steel and specialty steel plants, gold jewellery, plastics and high-quality textiles. Credits were given for technology transfers and for economic empowerment. Under guidelines that took effect from September 1996, all government and parastatal contracts with an import content exceeding US $10 million must include an industrial participation component. The value of the offsets was to comprise a minimum 30% of a bid's imported component for civilian contracts. For defence contracts, the offsets should comprise 50% of a bid's imported components.

The industrial participation portion of the bid was assessed according to 'credits' awarded for each type of benefit. To illustrate, the number of credits for job creation should equal the estimated value of salaries and wages. New investments, research and development, and links with previously disadvantaged persons (either as shareholders or contractors) earned double credits. Bidders must fulfil their obligations within seven years, and must provide a performance guarantee equal to 5% of the offset component. Once the contract is awarded, the supplier must file bi-annual progress reports.

Ministry of Finance and the Department of Trade and Industry personnel – who assisted in the final stages of negotiation once the structure of the deal was essentially in place – are convinced that they achieved a particularly good deal. The anticipated export percentages of the projects well exceed the stipulated 50% level, and returns on investment on the overall cost of the procurement package are estimated to be approximately 94.5%. Furthermore, throughout the duration of the deal, exports are expected to be in the region of 280% of the original purchase price.[8] Many of the projects under the DIP scheme are still to be finalised, and others are in the exploratory and negotiation phases.

The defence offsets, especially the DIP components, have certainly provided a substantial lifeline to the South African defence industry, while at same time undercutting any remaining aspirations for South Africa to maintain its own DIB. While the industry response in general has been favourable, there are some dissenting voices, especially from the aviation sector.[9] The impact of the deal has been more on defence and related industries, as more progress has been made on the DIP side of the offsets than with the non-defence industrial participation scheme. Batchelor and Dunne (2000) raised concerns about the capability of the local industry to benefit from the deals. They suggested that while the aerospace sector seemed best placed to benefit and to prove themselves attractive to foreign companies, the electronics sector might have a harder time, and the maritime sector was likely to struggle. This would seem to have been borne out by recent developments.

The impact has been to provide orders to domestic companies and opportunities for companies to develop niches in the international market through links with the foreign companies. Private companies and Denel have been drawn into international circuits of defence production, both in terms of indirect and direct DIP. For instance, Denel has been contracted to build the tail section of the RAF's fleet of Hawk fighter trainers.[10] It is also building landing gear fuselage sections for the Gripen jet fighter, and rudders and ailerons for other BAE Systems aeroplanes. These are not overly high-tech manufacturing operations and may reflect some watering down of the technological path/expertise of Denel. Other DIP contracts are of a nature that is obliging contractors to rethink their niche business, e.g. Tellumat/Eloptro and their form.

There is increasing participation of European defence groupings and investors in the South African industry, at prime contractor and sub-contractor levels. This participation is part of ongoing restructuring and expansion of international defence groups such as EADS and Thales. Local divisions can influence government-to-government dealings to the benefit of the parent company and local subsidiary.

There have been some concerns raised over the value of the offset deal to the South African economy. The limited but growing international literature on defence offsets and their economic effects does not instill confidence. The impact of offsets is often found to be problematic in terms of job creation, the strengthening of backward and forward linkages, and technology enhancement (Struys, 2001). Nor do offsets constitute a 'third way' for the economic development of least developed countries (Matthews 2000; Batchelor and Dunne, 2000). A recent study of Saudi Arabia's defence offset programmes reveals that instead of a proclaimed 75 000 local jobs, the various programmes had generated approximately 2 000

[8] Interview, Dr. P. Jourdan, Director, Special Projects, DTI, 30 May 2000. Dr. Jourdan is now CEO of Mintek.
[9] Interview with freelance defence consultant, Mr. Dave Verster, Martin Creamer's Engineering News, 25 May 2001.
[10] Business Day, 26 October 2000.

jobs (Matthews 2000). Few countries appear to have been successful in using defence offsets to sufficiently utilise, embed and extend technology transfers. Those domestic defence industries that are expected to benefit from offset deals are often characterised by a 'technologically sophisticated conservatism' (BAEC 1998: 33; Batchelor and Dunne 2000), which does not lend itself to the densification of intellectual and social capital. What is required is a 'high degree of local technological absorptive capacity' to be achieved through a state-sponsored 'civil-military, science and technology strategy' (Matthews 2000). In addition, new modes of structuring technology-intensive production appropriate for the 'new economy' are needed (Dunne and Haines, 2001).

While still in their formative stages, the policies have come under public criticism on a number of fronts. The prices of the systems have been condemned as being inflated by the offset arrangements, while reports have identified beneficiary companies that are linked to the head of the weapons procurement committee.[11] Hidden costs have been highlighted, including unanticipated capital expenditure to activate imported equipment and the research and development expenditure required to benefit from technology transfers. Furthermore, as is acknowledged by Denel staff, there will be a variety of possibilities arising from defence offsets for technology transfer and other opportunities that the economy is not in a position to exploit.[12] The government claimed that the impact on the budget would be 'relatively attenuated and is entirely manageable.' In addition, it claims that the 'net effect on the total procurement on the South African economy is broadly neutral' (Ibid.). By contrast, the Institute for Democracy in South Africa (IDASA) Budgetary Group, anticipates that the R30-43 billion procurement package, despite being spread out over several years, will increase defence's share of the budget and somewhat reduce the percentage allocated to infrastructure and public works programmes. This will, in turn, undercut the provision of more funds for poverty relief and affect the more peripheral provinces such as the Eastern Cape. Moreover, Batchelor and Dunne (1999) suggest that the arms acquisition programme could lead to more imports and place pressure on South Africa's balance of payments.

Table 1: Defence spending as percentage of the total budget

	1988/99	**1999/00**	**2000/01**	**2001/02**	**2002/03**
Defence	11.4	11.4	14.6	16.1	17.3
Total	160.9	169	181.9	193.1	204.2
Defence %	7.1%	6.7%	8.0%	8.3%	8.5%

Source: IDASA 1999

As regards regional development, there are promises of important contributions, but these are not tied into a clear policy framework. The initiative is project-driven, but there is little in the way of public awareness of the investment possibilities on offer. There is no doubt that the procurement programme will impact on the economy, but its spatial effects are more difficult to estimate. The initial estimate of 65 000 jobs and earnings of R110 billion for the original R31 billion investment have been downscaled, and even these figures have been questioned (Bachelor and Dunne, 2000; Dunne and Haines, 2001). The DIP may have a positive effect on the defence industry, but it is at a cost to the economy and there is a clear opportunity cost

[11] Shamin 'Chippy' Shaik (Mail & Guardian, 26 May – June 1, 2000; 2-8 June 2000)
[12] Interview, Mr Pieter Labuschagne, Group Manager, Trade in Arms Control, DENEL, 1 June 2000.

for the use of these resources.

These concerns raise important questions as to the value of this particular deal, but also the use of offset deals in arms procurement generally. The move to justify procurement of weapons systems by economic rather than security benefits is problematic and obscuring the true price of weapons systems by offsets creates problems. It provides scope for corruption and policy confusion, as well as compromising debates over alternative paths to security and development. The impact of companies – used to operating in the world of arms trading with its commissions, bribes and murky deals – in a new democracy is unlikely to be a positive one. The restructuring of the South African defence industry still has some way to go and there are many lessons to be learned, both for future policy and for other countries facing similar policy choices.

9. CONCLUSIONS

The analysis in this paper suggests that there have been significant shifts in the nature, scope and workings of the South African defence industry in recent years, and that these have to be understood within the context of: changes in the international arms market; restructuring of the international defence industry; and the discourses accompanying these processes. The changes cannot be understood in terms of globalisation, but rather are a complicated process of internationalisation, where companies remain wedded to their home countries but increasingly have international joint ventures and other links. With the concentration and growth of major defence companies, brokered and networked production has become pervasive.

Another discernible trend is that new generation defence conglomerates are becoming more like non-defence companies and are increasingly influenced by financial capital. In both developed and developing countries, the 'military industrial complex' is reconstituting itself in more informal and less visible forms. As part of this process, the larger companies have found new ways to influence governments. This has clear implications for any country with a defence industry, as it implies that a comprehensive DIB is impossible to maintain. For relatively small economies, the only possible future lies in becoming a niche producer.

A standard argument is that defence industries are vital to national economies; however, a growing body of research suggests that military spending has essentially adverse macroeconomic effects. Increasingly too, defence companies are more reliant upon exports and use economic arguments to justify them. Nevertheless, arms exports are subsidised heavily by the government and the economic benefits are not clear.

There has been a marked restructuring of the South African defence industry, with downsizing coming to an end due to the termination of military spending cuts and the offsets from the procurement package. The industry still maintains a state producer that, prior to privatisation, is restructuring with foreign strategic partners. Compared with similar countries, it could be argued that there is still potential for further reductions in military spending, although the defence actions of the concerned vested interests seem to have stopped reductions. This reflects similar developments in other countries of a renewed but less visible 'military industrial complex,' which is enhanced by the involvement of powerful international arms companies. Future government policymaking will need to recognise this

important feature of the political terrain. Given the evidence of the economic costs of defence industries, a large opportunity cost is likely to be attached to any strengthening of their importance in the economy. It would seem better that the government aim to retain intelligent customer status – allotting a recognisable subsidy where needed – rather than develop policies that require a potentially costly resource, where subsidies and costs may be hidden from view through the brokering of procurement deals with offsets. At present, these proposals are based upon concerns and warnings emanating from recent developments. It is important that research is conducted for the life of the projects to inform future policymaking and to provide important lessons to other countries considering similar policies.

SELECTED REFERENCES

Barker, T., Dunne, P. and R. Smith. (1991) "Measuring the Peace Dividend in the United Kingdom." *Journal of Peace Research*. Vol. 28, No. 4, pp 345-358. With Terry Barker and Ron Smith.

Batchelor, P. and P. Dunne. (2000) "Industrial Participation, Investment and Growth: The Case of South Africa's Defence Related Industry." *Development Southern Africa*. Vol. 17, No. 3, pp 417-35.

Batchelor, P. and P. Dunne. (1998) "The Restructuring of South Africa's Defence Industry." *African Security Review*. Vol. 7, No. 6.

CAAT. (1996) "Killing Jobs." Campaign Against Arms Trade, April.

Castells, M. (1996) *The Rise of the Network Society*. Blackwell.

"The Changing Military Industrial Complex in the UK." (1993) *Defence Economics*, Vol. 4, No. 2, pp 91-112.

Cooper, N. (1999) "The Business of Death: Britain's Arms Trade at Home and Abroad." (Library of International Relations (Series), 1.) I. B. Tauris & Co., Ltd.

Dunne, P. and R. Haines. (2001) "Defence Procurement and Regional Economic Development in South Africa: A Case Study of the Eastern Cape." Economics Discussion Paper, Middlesex University Business School. http://bobbins.mdx.ac.uk/SAoffsets/

Dunne, P. (1999) "The Restructuring and Reinvention of the DIB." Presentation to the COST Workshop on Defence Restructuring and Questions of Identity. Copenhagen. September.

Dunne, P. and S. Willett. (1992) "National Case Studies on Conversion: The United Kingdom." *Peace and the Sciences*. International Institute for Peace. Vienna. Pp 72-84.

Dunne, P. (1990) "The Political Economy of Military Expenditure: An Introduction." *Cambridge Journal of Economics*. Vol. 14, No. 4, pp 395-404.

Dunne, P. (1999) "The Statistics of Militarism," Chapter 43 in Dorling, D. and L. Simpson (eds.) *Statistics in Society*. Arnold, London, pp 376-383.

Dunne, P. (1996) "Economic Effects of Military Spending in LDCs: A Survey," Chapter 23 in Gleditsch, N.P., Cappelen, A., Bjerkholt, O., Smith, R. and P. Dunne (eds.) *The Peace Dividend*. Contributions to Economic Analysis Series (Series editors: Jorgenson D. and J-J Laffont). North Holland, pp 439-464.

Dunne, P. (1996) "Conversion in Europe: Challenges and Experiences," Chapter 8 in Moller B. and L. Voronkov (eds.) *Defensive Doctrines and Conversion*. Dartmouth, pp 56-62.

Dunne, P. (1995) "The Defence Industrial Base," Chapter 14 in Hartley, K. and T. Sandler (eds.) *Handbook in Defense Economics*. Elsevier, pp 592-623.

Evans, R. and C. Price. (1999) *Vertical Takeoff*. Nicholas Brealey Publishing, Ltd.

Gleditsch, N.P., Cappelen, A., Bjerkholt, O., Smith, R. and P. Dunne. (1996) *The Peace Dividend*. In the Contributions to Economic Analysis Series (Series editors: Jorgenson, D.W. and Laffont, J-J.). North Holland.

Gouden, S. (2001) "Restructuring of State Owned Enterprises: A Critical Element of Economic Restructuring in South Africa." http://www.und.ac.za/und/leadershipcentre/seminars/speech001.html

Haines, R.J. (1999) "Public-Private Partnerships and the Developmental State: The Case of South Africa." Paper presented to the Fifth International Conference on Public-Private Partnerships. University College, Cork. Ireland. 26-29 May 1999.

Hartley, K. (1999) "The Benefits and Costs of the UK Arms Trade." Mimeo. Centre for Defence Economics. University of York.

Held, D., McGrew, A., Goldblatt, D. and J. Perraton. (1999) *Global Transformations*. Polity Press.

Hirst, P., and G. Thompson. (1996) *Globalisation in Question*. Polity Press.

James, G. (1996) *In the Public Interest*. Warner Books.

Kaldor, M. (1999) *New and Old Wars: Organised Violence in a Global Era*. Polity Press.

Leigh, D. (1993) *Betrayed: The Real Story of the Matrix Churchill Trial*. Bloomsbury.

Lovering, J. (1999) "Military Industrial Restructuring and Governance in the Post Cold War World." Paper presented to the COST Workshop on Defence Restructuring and Questions of Identity. Copenhagen. September.

Lovering, J. (1998) *Labour and the Defence Industry: An Alliance for Globalisation*. Capital and Class.

Lovering, J. (1998) "The Defence Industry as a Paradigmatic Case of 'Actually Existing Globalisation.'" Paper presented to Workshop on The Place of the Defense Industry in National Systems of Innovation. Cornell University. October.

Martin, S. (1999) "The subsidy savings from reducing UK arms exports. *Journal of Economic Studies*. Vol. 26, No.1, pp15-37.

Martin, S., Hartley K. and B. Stafford. (1999) "The economic impacts of restricting UK arms exports." *International Journal of Social Economics*. Vol. 26, No. 6, pp 779-801.

Serfati, C. (1998) "The Place of the French Arms Industry in its National System of Innovation in the Governmental Technology Policy." Paper presented to Workshop on The Place of the Defense Industry in National Systems of Innovation. Cornell University. October.

SIPRI. (1999) *SIPRI Yearbook 1999*. SIPRI and Oxford University Press.

Skoens, E. and R. Weidacher. (1999) "Arms Production," Chapter 10 in *SIPRI Yearbook 1999*. SIPRI and Oxford University Press.

Smith, R. and P. Dunne. (1994) "Is Military Spending a Burden?: A Marxo-marginalist Response to Pivetti." *Cambridge Journal of Economics*. Vol. 18, pp 515-21.

Struys, W. (2001) "The Future of Offsets in Small Countries." Paper presented to the Fifth Middlesex Conference on Economics and Security. Middlesex University Business School. June 2001. Available at http://bobbins.mdx.ac.uk/~john6/conf2001/Workshops.html