

## The making of arms in South Africa

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Post-apartheid South Africa has seen marked declines in military expenditure but it still spends sixty percent of the total for sub-Saharan Africa, and there seems little chance of this changing. In light of tremendous need in areas such as housing, health, and education, there would appear to have been the potential for converting for civilian purposes the resources monopolized by the military under apartheid, yet this has not happened. There seemed to be little hope for its arms industry, yet it survived and its prospects are improving. Despite the changes in polity and economy and the pressing social and economic problems in the country, the new South Africa has committed itself to maintaining a high degree of militarization.

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During the apartheid regime, South Africa built up one of the most advanced arms industries of any developing or newly industrializing economy. This was part of a strategy, irrespective of economic cost, of attaining self-sufficiency in armaments in order to defend white minority rule against perceived internal and external threats. Central to this strategy was the creation of a large, public-sector defense industry, centered on a single, state-owned arms procurement and production corporation, Armscor, and coinciding with the regime's effort to provide infrastructure and other economic support to large-scale private capital and to secure jobs for working-class Afrikaners.<sup>1</sup> The strategy left South Africa with an advanced and comprehensive arms industry, but at great economic and fiscal cost.

This article presents a history of that industry. It charts the creation of Armscor, the post-apartheid breaking up of its procurement and production roles to form the current arms producer, Denel, and the even more recent restructuring of the industry. It is a story that shows the continuing legacy of apartheid, underlining the strength of the vested interests that make up the country's military-industrial complex, and highlights the important influence international arms producers can have. The article raises concerns over the structure and governance of the industry and over the offset deal associated with the most recently signed major arms acquisition package, and traces the dangers that are present for any small country that becomes embroiled in the international arms market.

### The origins of South Africa's defense industry

South Africa's defense industry was established with British aid just prior to the Second World War. During the war both public and private sector companies manufactured a substantial amount of basic weaponry for the Union Defence Force and the Allied forces, including armored cars, bombs, and ammunition. As elsewhere in the world, after the war most of the wartime arms factories converted to their pre-war civilian activities.<sup>2</sup> During the 1950's and early 1960's South Africa relied heavily on imports of arms from abroad (mainly Britain). But its withdrawal from the Commonwealth in 1961 and the imposition, in 1963, of a (voluntary) United Nations arms embargo provided the impetus for developing a domestic defense industry. An Armaments Production Board was established in 1964 to control the manufacture, procurement, and supply of all armaments for the South African Defence Forces (SADF). By the mid-1960's nearly 1,000 private sector firms were involved in various aspects of domestic arms production.<sup>3</sup>

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In 1967 the United Nations Security Council passed a resolution, calling on all states to stop supplying South Africa with arms. During the same year the Minister of Defence, P.W. Botha, visited armaments factories in Portugal and France as part of an in-depth investigation into various "models" for domestic arms production that South Africa might adopt.<sup>4</sup> The French military-industrial system, with its high degree of integration between the public and private sectors, was then used as the model for South Africa's domestic defense industry.<sup>5</sup> In 1968, the Industrial Development Corporation (IDC) helped to establish a new state corporation, the Armaments Development and Production Corporation, or Armscor. Armscor's initially limited tasks included the take-over and expansion of all state-owned arms manufacturing facilities, the setting up of new facilities, and the administering of all arms exports and imports. New state-owned factories were only built for the production of weapons that were defined as "strategic" or where manufacture was uneconomic by normal business standards.<sup>6</sup> Armscor expanded its production activities through the acquisition of private companies and the establishment of new subsidiary companies.<sup>7</sup>

Increasing international opposition to apartheid, and world-wide demands for a mandatory arms embargo against South Africa, prompted the government to embark on a major reorganization and expansion of its defense industry during the mid-1970's. In the same year in which the UN imposed a mandatory arms embargo against South Africa,<sup>8</sup> 1976, Armscor was reformed and assumed responsibility for the procurement and production of armaments for the SADF.<sup>9</sup> This made Armscor

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the central player in South Africa's domestic defense industry. As the country's procurement agency it determined the size, structure, profitability, and many other aspects of the local defense market but it simultaneously functioned as one of the country's largest domestic arms producers, with private firms acting as subcontractors. It was both player and referee in the domestic defense market.<sup>10</sup> It thrived until the early 1980's,<sup>11</sup> when declining domestic demand and rising overhead costs led to problems that affected the whole industry.<sup>12</sup> But the mid-1980's saw a resurgence on account of South Africa's growing militarization of the state<sup>13</sup> and its increasing involvement in a number of regional conflicts (e.g., Namibia, Angola). These required a guaranteed supply of weapons of everincreasing sophistication. Arms (and oil) became "strategic industries." As a result, Armcor benefitted from massive state investment and received privileged access to state resources such as foreign exchange, R&D subsidies, and government loans. Thus, by the late 1980's Armcor had emerged as one of the country's largest industrial companies with total employment of over 30,000 people.

South Africa's external strategic environment changed dramatically after 1989. The end of the Cold War and the breakup of the Soviet Union effectively put an end to superpower rivalry in many parts of the Third World, including southern Africa, and provided opportunities for countries to reduce their levels of military expenditure and implement disarmament measures. The linked processes of democratization and disarmament, which occurred in many countries in the region, had a positive impact on the South African state's external threat perceptions, and this led to dramatic changes in the country's defense and foreign policies. South Africa withdrew its armed forces from Namibia and Angola in 1989, formally abandoned its policy of military aggression and regional destabilization (e.g., covert support for UNITA in Angola and RENAMO in Mozambique),<sup>14</sup> and embarked on an ambitious program of diplomatic and economic outreach to African states.<sup>15</sup> These developments, together with the ending of apartheid, removed the dominant source of instability and antagonism in the region and led to a dramatic improvement in inter-state relations between South Africa and its neighbors.

At the same time as these positive political developments were taking place, South Africa experienced its worst domestic recession since the 1930's. As a result of severe budgetary constraints and because of changing government spending priorities, the de Klerk government cut South Africa's defense budget dramatically after 1989 and, as from 1994, the ANC-led government continued the trend. These cuts had a significant impact on the size of the overall South African defense market.<sup>16</sup> Many firms exited the defense market. It became increasingly concentrated, with a few large firms occupying monopoly positions in most of the market's sectors

and subsectors. A study undertaken during 1991 to determine how Armcor's assets and technological abilities could be retained came to the conclusion that the best solution would be to separate Armcor's production and procurement roles and form a new company capable of managing the production assets. The cabinet approved the formation of a new public-sector industrial group, Denel Pty (Ltd), in 1992, to be placed under the jurisdiction of the Ministry of Public Enterprises. Armcor remained part of the Ministry of Defence and retained responsibility for the procurement of armaments for the SADF.<sup>17</sup>

**Denel's restructuring experience, 1992 to 1996**

Denel inherited most of Armcor's production and research facilities, assets valued at R4.5 billion (book value), over 15,500 employees, and a share of Armcor's long-term liabilities.<sup>18</sup> The formation of Denel as a contractor and competitor, separate from Armcor, fundamentally altered the nature of the domestic defense market and the cozy relationship that had been built up between the public and private sector defense industries since the 1960's. From its inception Denel pursued rationalization and restructuring. To remain in the defense market it adopted a "shrink to fit" strategy. This involved cutting internal costs (e.g., reducing capital spending, retrenching workers) while trying to preserve core capabilities and key operations in defense production. Denel also pursued vertical integration, whereby it increased the amount of defense work in-house and reduced sub-contracting to the private sector.<sup>19</sup>

At the time of its formation Denel's business activities were divided into five groups,<sup>20</sup> which in turn consisted of a number of divisions and business units. In 1993, Denel restructured its 18 divisions and subsidiaries into six industrial groups: Systems, Manufacturing, Aerospace, Informatics, Properties, and Engineering.<sup>21</sup>

Denel dominated the declining domestic market, averaging a 48 percent share, while undertaking a number of adjustment strategies to reduce its defense dependence. With marked success, it vigorously pursued defense and civilian export markets, particularly since the UN arms embargo was lifted in May 1994.<sup>22</sup> In doing so the company has benefited greatly from the General Export Incentive Scheme (GEIS), introduced in 1990 to promote manufactured exports. Denel became one of the largest recipients of GEIS subsidies and in 1992 Denel was the second-largest recipient, after steel producer Iscor.

Denel entered into a number of joint ventures and strategic alliances with foreign and local firms.<sup>23</sup> By 1997 it had entered into more than 35 joint ventures covering

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development, manufacturing, marketing, and product support.<sup>24</sup> The vast majority of these were concluded with foreign defense firms, and concentrated on the Rooivalk attack helicopter and product developments of existing weapons systems and defense products. The success of these international joint ventures and strategic alliances, both in monetary terms and technology transfers, is difficult to quantify but has been vital for the development of the company.

All of Denel's groups and their respective divisions and business units pursued strategies of diversification, particularly the acquisition of non-defense products or firms, mergers and joint ventures with civilian firms, and the development of civilian products derived from existing defense technologies and products. This led to the share of civilian business (both domestic and export) rising from 21 percent in 1992 to 37 percent in 1996.<sup>25</sup> Only one division, Houwteq, pursued a dedicated strategy of conversion that involved the transformation of all its resources and productive capacities from military to civilian use. Having previously been involved in military satellites, the company pursued the development of low-earth orbit civilian satellites for earth resource management and telecommunications. However, this conversion effort was not successful, in part because the company could not find local or international partners. The satellite program at Houwteq ended in October 1994. Divisions such as Informatics and Denel Prop have, however, been successful in converting from defense to civilian markets, given that they – unlike many other of Denel's divisions – did not have to convert technology, plant, and equipment. Still, the strategy of conversion has now been largely abandoned because of the significant difficulties and costs involved in converting facilities to civilian use and the expensive failure of Houwteq's conversion effort.<sup>26</sup>

The changes in the composition of Denel's turnover, particularly the real increases in exports and civilian business, point to the significant progress that the company has made in reducing its dependence on the local defense market. But when one examines Denel's financial performance, and its performance relative to private sector defense companies, it becomes obvious that it struggled to transform itself into a profitable, commercially viable company while adjusting to a dramatic decline in demand for its most important products, armaments.<sup>27</sup>

### Recent restructuring of state assets in South Africa

When the ANC-led government came to power in April 1994, it rejected the idea of privatizing state assets. This was because it realized, correctly, that the previous National Party regime had used the privatization of state enterprises, such as chemical producer Sasol and steel producer Iscor, as a vehicle to institutionalize by economic means the political power it was resigned to losing.<sup>28</sup> Yet as a result of pressure from the World Bank, domestic commercial and economic interests, and its own desire to reduce the level of government debt – inherited from the former regime – the

Ministry of Public Enterprises published for discussion in August 1995 policy guidelines for the restructuring of state assets.<sup>29</sup> These guidelines combined with the government's decision to purchase weapons from foreign suppliers, with offset stipulations.<sup>30</sup>

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This decision made explicit an already implicit government view that the maintenance of a comprehensive in-country capability in military production was not feasible anymore. Developments in the international arms markets implied that South Africa's future would be as a small arms industry, operating in niche

markets, possibly in collaboration with a major international player.<sup>31</sup> The recognition of this new reality – that even second-tier producers are unable to sustain a comprehensive arms industry – led to the decision to procure externally. Once this decision was made, it was also decided to maintain the competitive parts of the arms industry by wringing as many concessions as possible from potential foreign suppliers, especially, but not only, in the form of defense-related industrial participation programs (or “offsets”). A major justification for offset packages became their claimed economic benefits.

Offset proposals in conjunction with the most recent arms acquisition deal included direct contracts with South African defense firms, investment in Denel, and various non-defense investments ranging from automotive components to manufacturing, telecommunications, stainless steel and specialty steel plants, gold jewelry, plastics, and high-quality textiles.<sup>32</sup> The industrial participation portion of the foreign companies' tenders was assessed according to “credits” awarded for each type of economic benefit. To illustrate, the number of offset credits for job creation should equal their 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 fulfill their obligations within seven years, and must provide a performance guarantee equal to five percent of the offset component.

The Ministry of Finance and the Department of Trade and Industry personnel, who assisted in the final stages of negotiation, are convinced that they achieved a particularly good deal.<sup>33</sup> The defense offsets, especially the defense industrial participation (DIP) components, while undercutting any remaining aspirations for South Africa to maintain its own comprehensive defense industrial base, have certainly provided a substantial lifeline to the South African defense industry. Industry response in general has been favorable, notwithstanding some dissenting

voices, especially from the aviation sector.<sup>34</sup> The impact of the offset deal has been more on the side of defense and related industries, as more progress has been made there, than with the non-defense industrial participation (NIP) scheme. But critics raised concerns about the capability of the local industry to benefit from the deals.<sup>35</sup> They suggested that while the aerospace sector seemed best placed to benefit and to prove itself 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 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. Denel and private companies have been drawn into the international circuits of defense production, both in terms of indirect DIP and direct DIP.<sup>36</sup> There is an increasing participation of European defense groups and investors in the South African industry, at prime contractor and sub-contractor levels. This participation is part of an ongoing restructuring and expansion of international defense groups such as EADS and Thales. Local divisions can influence government-to-government dealings to the benefit of the parent company and local subsidiary.

Moves since 1998 to restructure and privatize Denel have come to be closely bound up with the recent arms procurement deal and associated industrial participation program and the decision to find a large international defense company to take a strategic equity partnership in Denel. The visit of the UK Prime Minister to South Africa in 1998 saw the signing of a memorandum of understanding between BAE Systems and Denel. Denel was then internally restructured yet again, in 1999, shifting from a loose network of companies and divisions to more autonomous business groups. The current business units are Denel Aerospace, Denel Ordnance, and a commercial and IT division. There is a small training grouping, the Kentron Training College, which provides bridging programs for aspirant military engineers.<sup>37</sup>

In October 2000, the South African cabinet approved BAE Systems as the preferred strategic equity partner for the Denel Aerospace and Ordnance Groups. Within Denel Aerospace, at a secondary level, Snecma/Turbomeca was approved as the strategic equity partner at division level for the Airmotive business unit. Similarly, within Denel Ordnance, the UK pyrotechnic manufacturer Pains Wessex Defence was confirmed as the strategic equity partner for the Swartklip division.<sup>38</sup> At the macro level, it was hoped that the strategic equity partnership with BAE Systems could be completed by March 2001, but the negotiations have proved lengthier than initially thought.<sup>39</sup> There have also been pressures within Denel to return to concentrating on perceived traditional strengths, although this is not without its contradictions,<sup>40</sup> and to downsize in areas such as small arms.<sup>41</sup> The commercial and IT group is to shift away from Denel Aerospace and Denel Ordnance, and ultimately will be disposed of as a completely separate entity.<sup>42</sup> This restructuring clearly is a continuing process but reflects the policy of breaking up Denel with strategic

partners, with privatization planned later when the issue of the involvement of black empowerment has been more fully considered.<sup>43</sup>

### Concerns

A number of concerns arise from the reported and planned changes. First, the issue of regulation could be problematic. The continuing links between Denel and Armscor may compromise Denel's role and some consideration has to be given to the control of state and private entities that obtain major strategic partners. There is some concern that rent-seeking behavior within the state, industry, and foreign players may affect the success of the privatization measures. Indeed, the role and influence of the international companies is of concern, as they may be difficult to control, and may lead to the creation of a strengthened military-industrial complex. This could see further pressure to increase military expenditure and to loosen export controls.

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 defense offsets and their economic effects does not instill confidence.<sup>44</sup> Few countries appear to have been successful in using defense offsets well, and to embed and extend technology transfers. Those domestic defense industries that are expected to benefit from offset deals are often characterized by a "technologically sophisticated conservatism,"<sup>45</sup> which does not lend itself to the development 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."<sup>46</sup> In addition, new modes of structuring technology-intensive production may be more appropriate for the "new economy."<sup>47</sup>

While still in a formative stage, the policies have come under public criticism on several fronts. The prices of the new weapon systems have been criticized as inflated by the offset arrangements. In addition, reports have identified beneficiary companies with links to the head of the weapons procurement committee.<sup>48</sup> Hidden costs, including unanticipated capital expenditure to activate imported equipment, increased imports of goods and services, putting pressure on the balance of payments, and the R&D expenditure required to benefit from technology transfers have been highlighted. There are also concerns about the budgetary impact.<sup>49, 50</sup> The initial estimate of 65,000 jobs and earnings of R110 billion on the original R31 billion arms procurement package have been revised downward. These figures and the likely regional effects have been questioned.<sup>51</sup> The DIP may have a positive effect on the defense industry, but at an unclear direct and opportunity cost to the economy.

The move to justify procurement of weapon systems by economic rather than security benefits is problematic, and the obscuring of the true price of weapon systems by offsets creates problems. It provides scope for corruption and policy confusion and compromises debates over alternative paths of security and

development. In a new democracy, the impact of companies used to operating in the world of arms trading, with its commissions and bribes and murky deals, is unlikely to be a positive one. The experience of South Africa is not a salutary one for other countries facing similar policy choices.

## Conclusions

The current form of the public-sector defense industry in South Africa is very much product and reflection of the role it played in the apartheid system. Considerable downsizing under the new government and the breaking up of Armscor into procurement (Armscor) and production (Denel) units has changed the face of the industry but left many of the underlying structures intact. As Brauer had foreseen in more general studies on second-tier arms producing nations, there was no option other than to further restructure, but there was considerable confusion over how this might be done.<sup>52</sup>

Downsizing of the South African defense industry does appear to be coming to a halt, with the end of cuts in military expenditure and offsets from the arms procurement package steered toward the defense industry. Denel remains as a state-owned producer but is restructuring with foreign strategic partners prior to privatization. Compared with similar countries it could be argued that there is still potential for further reductions in military expenditure, but that the actions of the vested interests involved seem to have stopped the reductions. This reflects development similar to those in other countries of a renewed, less visible, military-industrial complex, enhanced by the involvement of powerful international arms companies.

Future government policy-making needs to recognize this important feature of the political terrain. Given the evidence of the economic costs of defense 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, with a recognizable subsidy where needed, rather than develop policies that maintain a potentially costly resource, with subsidy and costs hidden from view and cloaked under the “offset” label. It is important that research is conducted for the life of the projects to inform future policy-making and to provide important lessons to other countries considering similar policies. There are certainly many lessons to be learned, both for future policy and for other countries facing similar policy choices.

## Notes

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1. See Fine, 1997.
2. Cawthra, 1986.
3. The Board took control of the Department of Defence’s workshops at Lyttleton and the South African Mint’s ammunition factory, and was authorized to coordinate arms production in the private sector. See Batchelor (1996) and White Paper on Defence and Armaments Supply, 1965-67.
4. Frankel, 1984.
5. Landgren, 1989.
6. The definition of “strategic” weapons included: ammunition, guns, missiles, explosives, propellants, mines, and bombs. See Landgren (1989).
7. The Defence Ordnance Workshop at Lyttleton and the Ammunition Section of the SA Mint became the first full subsidiaries of Armscor, namely Lyttleton Engineering Works (LEW) and Pretoria Metal Pressings (PMP). In 1968, a missile test range was set up in northern Natal and a new subsidiary, Kentron, was established to work on the development of missile technology which had previously been carried out by the National Institute for Rocket Research (NIRR). During 1969 Armscor took over Atlas Aircraft which had been set up with government assistance in 1964; and Musgrave, a private firm which manufactured rifles and high-precision arms components. In the following year it also took over two AECI factories that manufactured a variety of propellants and explosives. These two factories became the subsidiaries Somchem and Naschem. In the same year Armscor became the major shareholder in the private firm Ronden, which manufactured pyrotechnic products. This firm was later renamed Swartklip. A new production facility, Eloptro, was set up in 1974 to manufacture optical and electro-optical equipment for various weapons systems. In 1975 the Institute for Maritime Technology (IMT) was established in Simon’s Town to provide R&D support for the Navy.
8. Cobbett, 1989.
9. The restructuring and expansion of Armscor was financed by a secret government grant of R1,200 million. See Landgren (1989).

10. Armscor, together with the SADF, was part of the Department of Defence, and was directly accountable to the Minister of Defence. Because of the nature of its activities, Armscor was also a member of the Defence Planning Committee, the highest-level defense planning structure in the country. The organizational structure of Armscor consisted of a Board of Directors (appointed by the State President) and a Management Board.

11. Between 1977 and 1981 Armscor's R&D and production activities were considerably expanded and reorganized and total assets and total employment more than doubled between 1977 and 1982.

12. In 1984, a special committee was formed to deal with Armscor's financial problems. Contracts with private sector companies were canceled or postponed and a number of private defense companies closed down or exited the defense market (Batchelor and Willett, 1998; Landgren, 1989). By 1984, more than 2,000 private sector firms were involved in domestic arms production, either as contractors, sub-contractors, or suppliers (Armscor, 1984).

13. See Cock and Nathan, 1989.

14. See Manuel Ferreira's article on Angola and Tilman Brück's article on Mozambique in this issue.

15. Nathan and Phillips, 1992.

16. The industry has downsized dramatically and total employment in the defense industry declined by over 55,000 between 1989 and 1996, including over 10,000 in the public sector defense industry. Defense industry employment as a percentage of manufacturing employment declined from over 8 percent in 1989 to 5 percent in 1996.

17. Batchelor, 1996.

18. The state is the sole shareholder of Denel and the company operates according to normal commercial practices. It pays company income taxes and an annual dividend to its sole shareholder, the state. Denel inherited a proportion of Armscor's long-term liabilities, valued at R210 million in 1992. See Denel Annual Report, 1993/94.

19. Between 1992 and 1996 Denel shed more than 2,000 employees as part of its restructuring and rationalization program. In 1996 Denel's total labor force was 14,200, down from over 15,500 in 1992. Denel also begun to utilize more contract

workers, rather than hiring additional permanent staff; and in 1996/97 more than 25 percent of Denel's total employment was comprised of contract workers (Batchelor and Dunne, 2000).

20. Systems, Manufacturing, Aerospace, Informatics, and Properties and Engineering Services.

21. The major organizational changes took place in the Informatics and Engineering groups, which was split into two separate groups – Informatics, and Properties. The divisions and business units of the Engineering group were rationalized into one division, Dendex. The ownership of Gerotek Vehicle Testing Range, originally part of the Engineering Services Group, was transferred back to Armscor during 1993. However, Denel continues to manage Gerotek on behalf of Armscor. During 1994 a new industrial manufacturing business unit, Dendustri, was established, together with a New Business Development unit. These units formed part of the Business Development Group, formerly the Engineering Group. In October 1994 the satellite business at Houwteq was terminated. However, the facility has been maintained and now forms part of the Business Development Group. The OTB division was transferred from the Aerospace Group to the Business Development Group in 1994. In August 1996 the Musgrave division's production facility in Bloemfontein was closed. Most of the division's assets were sold to private investors, while certain specialized equipment and personnel were transferred to LIW (Vektor Division).

22. The value of total exports increased by about 60 percent in real terms between 1992 and 1995, before declining in 1996. The share of exports in turnover increased from 17 percent in 1992 to 29 percent in 1995 before declining to 20 percent in 1996. To support its export sales, Denel undertakes marketing in approximately 100 countries, and in 1995/96 Denel sold both military and civilian products in over 50 countries.

23. International joint ventures are becoming an increasingly common practice for defense producers worldwide. Joint ventures, alliances, and even cross-ownership have become means by which defense companies can internationalize despite the pressures from governments to remain part of a "national defense industrial capability." It is also a means by which international restructuring can take place to allow firms to survive in the increasingly competitive and concentrated international defense market.

24. Private communication with Denel official, August 1997.

25. Most of the constituent divisions increased the share of their civilian business (exports and local sales) between 1992 and 1996. However, only a few divisions (e.g., Eloptro, Mechem, Informatics, and PMP) have had relatively successful diversification experiences, with an increasing share and value of their civilian (both exports and local) sales.
26. Batchelor and Dunne, 2000.
27. Batchelor and Dunne, 2000.
28. “State asset sell off. Who Gains?” *Mail and Guardian*, 15 December 1998.
29. Ministry of Public Enterprises (1995) “Discussion document by the Government of National Unity on the consultative and Implementation Framework for the Restructuring of State Assets” (August). See also “Privatisation: A first step on the high road,” *Financial Mail*, 8 September 1995.
30. Offsets refers to the widespread practice that for every dollar flowing out to purchase foreign arms, the seller agrees that a dollar (or more or less, as contractually agreed) has to flow back into the country, i.e., “offsetting” purchases have to take place either in the defense or non-defense industry.
31. Dunne and Haines, 2001.
32. 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 (IP) component. The value of the offsets was to comprise a minimum 30 percent of a bid’s imported component for civilian contracts. For defense contracts the offsets should comprise 50 percent of a bid’s imported components.
33. The anticipated export percentages of the projects well exceed the stipulated 50 percent level, and returns on the overall cost of the procurement package are estimated to be on the order of 94.5 percent on investment. And during the duration of the deal, exports are expected to be in the region of 280 percent of the original purchase price. Many of the projects under the IP scheme have still to be finalized, and others are in exploratory and negotiation phases (interview with Dr. P. Jourdan, Director Special Projects, DTI, now CEO, Mintek, 30 May 2000; see Dunne and Haines, 2001).
34. Interview with freelance defense consultant, Mr. Dave Verster, *Martin Creamer’s Engineering News*, 25 May 2001.
35. Batchelor and Dunne, 2000.
36. For instance, Denel has been contracted to build the tail section of the RAF’s fleet of Hawk fighter trainers. 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 and expertise of Denel (see Dunne and Haines, 2001).
37. 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 set out proposals for industry restructuring. This included breaking up Denel by selling off less than 100 percent in clusters, breaking off the attractive bits first to maximize revenue, and a proposal to encourage rationalization of both the private and public industry (Dunne and Haines, 2001).
38. These partnerships are not necessarily discrete or self-standing. Turbomecca, for instance, will provide engines for the new light helicopter (LUH), the Augusta A109, and the Hawk advanced trainers on order from BAE Systems. As part of the SNECMA group, Turbomecca has an extensive set of manufacturing and aircraft maintenance operations internationally. Interview with Mr. Jean-Bernard Cochetoux, CEO, Turbomecca, *African Armed Forces Journal*, 31 January 2001.
39. BAE Systems apparently offered about 50 million pound sterling for a strategic equity partnership of between 20-30 percent in Denel Aerospace and Denel Ordnance (*Martin Creamer’s Engineering News*, 31 July 2001). This offer was seen as somewhat low by the South African negotiating team. 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; see Dunne and Haines, 2001).
40. 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 Specialized Protein Products, the R140 billion soybean processing plant in Potchefstroom. Irengo, the third-party manufacturer of electronic and plastic injection molding products, and Dendustri, the engineering services provider, would also be kept, for the short-term at least. However, as Botha pointed out, 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 center 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).

41. 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 U.S., along with certain other small arms manufacturers (*African Armed Forces Journal*, 31 May 2001).

42. The recent establishment of Arivia.Kom as a joint venture between the information technology divisions of Eskom, Datavia in Transnet, and Ariel Technologies in Denel is also a step in this direction.

43. Dunne and Haines, 2001.

44. 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 (e.g., Struys, 2001). Nor do they constitute a “third way” for the economic development of developing nations (Matthews 2000; Batchelor and Dunne, 2000). A recent study of Saudi Arabia’s defense offset programs reveals that instead of a promised 75,000 local jobs, the various programs had generated employment in the region of 2,000 (Matthews, 2000).

45. BAEC 1987, p. 33; Batchelor and Dunne 2000.

46. Matthews, 2000.

47. Dunne and Haines, 2001.

48. “Shamin ‘Chippy’ Shaik” (*Mail and Guardian*, 26 May-June 1, 2000; 2-8 June 2000).

49. 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.” By contrast, the IDASA Budgetary group, anticipates that the R30-43 billion procurement package, despite being spread out over several years, will both increase defense’s share of the budget, and reduce somewhat the percentage allocated to infrastructural and public works programs. This will, in turn, undercut the provision of more funds for poverty relief and affect the more peripheral provinces such as the Eastern Cape.

50. Batchelor and Dunne, 1999.

51. Bachelor and Dunne, 2000; Dunne and Haines, 2001.

52. Brauer (1991, 2000).

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