Ulrich Albrecht

Greek-German Military-Industrial Relations and their Implications for Economic Development

AP 18 (M&R) - December 1984

Die "Arbeitspapiere" stellen keine Äußerung der Berghof-Stiftung für Konfliktforschung GmbH oder der Mitglieder des Stiftungsrates dar; sie werden von den Autoren verantwortet, die Mitarbeiter von im Berliner Projektverbund geförderten Projekten sind.

C bei den Autoren

Berliner Projektverbund der Berghof-Stiftung für Konfliktforschung
Winklerstr.4a
D-1000 Berlin (West) 33
Tel.: (030) 8928000 und 8928009
The Greek programme to procure a next-generation combat aircraft, and the ambition to utilize the programme for the maximum of possible compensation orders to employ Greek industrial capacities, are publicly well known. The public may also be aware of the quantum jump in Greek military effort associated with this programme. The total programme is estimated to cost $3 bn. ¹ This amounts to two times the defence budget 1983 of this country. ² By comparison: the MRCA Tornado programme, which produced a fiscal crisis in Germany due to the extraordinary amount of finance involved, costed at DM 20 bn. roughly fifty per cent of the FRG defence budget. ³ What may not be known to the general public are the various implications of such big programmes for economic development, for the improvement of the general level of technology, and for ambitions to gain more political independence.

The Greek programme aims at a maximum of industrial and commercial concessions from the supplying partner. Case studies about comparable efforts in other countries reveal that even if there are such concessions, the recipient country may find it hard to convert these compensations into actual assets. ⁴ Hence the present paper will focus upon the policy implications in a broad sense which such major military procurement programs will entail.

Needless to say that such an approach faces serious methodological problems. A thorough analysis, even if limited to the macro-economic impacts of the fighter program, would require a careful opportunity cost assessment, in order to evaluate the potential benefits and losses to the Greek economy. The state of the art does not permit such an exercise with sufficient reliability. If intangibles are going to be discussed such as political returns of such a program the methodological problems are much greater. Hence the following is an effort to argue referring to analogous cases, pointing at experiences abroad which apparently apply also the the Greek case, and referring to the plausibility of the argumentation.
In this vein, the present paper is organised in the following manner. The record of the Greek arms industry is briefly assessed with a view to the question whether it is indeed in a threshold position. The order-of-magnitude needs to be studied with reference to foreign involvement. Furthermore, the dynamics of dependent military industrialization are verified in the Greek case, before more general conclusions are offered.

II.

Sketch of the Greek arms industry

Some ten years ago, a Greek arms industry was virtually non-existent. There have been, of course, earlier efforts to turn out some equipment, such as KEA or Kratiko Ergostasion Aeroplanon, a plant established by the Naval Air Arm which manufactured British Blackburn Dart planes under the Greek translated name Velos, starting deliveries in 1926, or the Greek Powder and Cartridge Co. Inc. A detailed study about these early beginnings has been published in German in 1976. Since 1971, however, a significant program for the establishment of a full-fledged arms industry went under way, comprising the following five projects:

1) The Tanagra project of establishing a major maintenance and overhaul facility for advanced military aircraft with a view to later licenced production. This ambition, which was supported by the military junta, was reduced by legislation submitted by the Karamanlis Government in April 1975, which established EBAY, or Ethnikis Biomichanias Aeroporikon Ylikon. EBAY is not any longer aiming at the generation of technology for economic growth, it stresses employment and balance of payment benefits. The Karamanlis Cabinet hoped that EBAY would create 3,000 jobs and that it would lead to the saving of foreign currency in aircraft procurement (the cost of national procurement for spare parts was assumed to sink by 50 - 65 mn DM annually within a three-
year period, and the same amount was expected in return for contract work to foreign customers).

(2) The project to promote the Greek electronics industry, sponsored by UNIDO and the Greek Planning Authority. First orders for military radio and digital communication equipment as well as for laser technology were given by the Greek armed forces as well as OTE in 1975.

(3) The embryonic Greek capacity for the production of naval combatants, mainly the Hermopolis shipyard on Syros island, should be expanded to the manufacture of torpedoes, for the assembly of small and medium-sized naval craft, and for the building of components of modern naval vessels.

(4) Heavy army equipment were to be made at the expanded tank repair shop at Volos. The Austrian firm of Steyr-Daimler-Puch AG was seen as a principal counterpart for the licence production projects (the Kürassier tank destroyer, and the Pinzgauer transport vehicle).

(5) Military infrastructures were programmed for a major build up, especially in the Eastern Aegeis and in Thracia.

After ten years, the balance of these undertakings is contradictory. The Tanágra complex was erected according to schedule, costing $400 mn. The contracts with American multinational corporations (Lockheed, General Electrics, Westinghouse) were prematurely cancelled about two years ago, because the Greek management has become sufficiently competent to handle maintenance and repair work. The Tanágra facility is reportedly utilized to 75 percent of capacity, a reasonable figure by international standards. Compensation orders for the current fighter rearmament programme are assumed to go to 80 percent to this facility, offering further prospects of expansion.

Yet anything more than a repair and maintenance shop did not emerge from this major investment in military aircraft technology. According to earlier plans, production of a primary training
aircraft should have commenced at the complex in 1981, let alone expectations to proceed to licence production of advanced military aircraft such as the then discussed Lockheed CL-1200 Lancer or the Dassault-Breguet Mirage supersonic fighters. The failure to turn to more demanding technologies gives the banale reason that there is hardly any technology "fall-out" which could potentially benefit the level of Greek technology in general.

Hopes to improve the country's balance-of-payments situation by earning tens of millions of dollars by doing maintenance work for foreign military establishments apparently were also frustrated. In technological terms, Hellenic Aerospace Industry may be correct to claim competence to service some 20 different types of advanced military aircraft. 7) Some of these types, e.g. the American LTV A-7 attack aircraft, are used by nobody else than Greece and the US in the Mediterranean region, and prospects for maintenance orders hence were to remain limited from the very beginning. In economic terms, HAI may also be competitive in the contract terms offered, but the main reason that hopes for large-scale foreign orders did not materialize are of a political nature. The acquisition of foreign military technology always creates a clientele relationship, which works as long as donor and recipient pursue roughly comparable political aims. If a non-producer of military equipment wants to take some of the follow-on work incurred by former purchases from a principal source of supply beyond his own domestic requirements, than he is expected to cooperate extremely well with the source of theses weapons. The plan to carry out a major share of maintenance and repair work on US types of aircraft for foreign air forces was implicitly based on the assumption that Greece would politically cooperate in an intimate manner with US strategies in the region. The Greek Air Force is dominated by US equipment: 58 LTV A-7H, 53 Lockheed F/TF-104G, 74 Northrop R/F-5A/B, 59 McDonnell-Douglas R/F-4E, altogether with 15 obsolete Republic RF-84F reconnaissance planes 259 US aircraft, are rivalled only by 36 French Daussault-Breguet Mirage F-1CG fighters. Given the political position of the current Greek Government with respect to the Reagan administration, there is little wonder
that hopes e.g. to service the fleet of Egyptian F-4Es did not materialize.

Before we go into a more general analysis, a look at other arms industry projects in Greece besides the Tanagra complex may be in order, according to the five groupings given above. The micro-economic level of assessment should provide the evidence for more general conclusions about the actual role of the arms sector for the development of Greece.

- The military electronics sector shows impressive accomplishments, apparently much beyond the UNIDO and Greek Planning authority ambitions. Developments are especially worth mentioning in the private sector.

Alpha SAI is rapidly expanding into military markets. The firm was awarded two technologically demanding contracts by the Greek Ministry of Defense in 1983 (an electronic time-controlled fuze for Pyrcal, and a proximity fuze for naval targets). Together with the US firm of Martin Marietta (better known as makers of the controversial Pershing II intermediate range missile), Alpha is opting for the contract to produce the tactical C^{3}I system of the Greek armed forces. - Standard Electric Hellas, or SEH, a subsidiary of the West German firm Standard Elektrik Lorenz, is producing equipment which is used by the Bundeswehr, notably VHF communication equipment of the SEM series of the types called for by original plans, and is looking for a share in the Greek fighter program.

While multinational enterprises show some dynamic in the Greek arms electronical sector, in collaboration with private Greek capital, the public sector is stagnating. Velectra, a joint venture founded by the former Greek Government, originally earmarked for the C^{3}I job, has been liquidated.

- In shipbuilding, were Greece is quite competent, things went differently. The Syros shipyard originally destined for expansion did a few programs, e.g. the Goulandris class coastal patrol boats. Much more important became, however, the
private Skaramanga-based Hellenic Shipyard, which turned out ships in the same class (labelled Panagoupoulos and - much more significant in terms of technology - produced under licence La Combatante II class fast attack missile boats carrying Norwegian Penguin missiles). In contrast to earlier planning, the private firm and its collaboration with multinational enterprises abroad appears as more viable than the old-fashioned approach as identified by Hermopolis.

- The tank plant public enterprise apparently developed along perceived lines. The main resource for heavy army equipment (= tanks) is the tank plant erected with US technical and financial support in Velesington (in the middle of Greece), a public enterprise. The technology applied is said to be "most modern", with facilities to upgun older tanks, and to furnish them with advanced electronics and new diesel engines. 9) Alongside with the prestigious main tank plant, which caught the attention of planners, private industry came to fruition with auxiliary programs.

EBO, the Hellenic Arms Industry, operates two plants (in Aighion, to the West of Korinth, and at Lavrion, South of Athens) which are credited abroad with high standards of modernity. 10) The first of these in fact was created under contract by the West German multinational company of Heckler & Koch (not a big enterprise, but a leading firm in small arms, running facilities in 26 countries, mostly in the Third World), and was financially supported by the Federal German Government. Monthly production rate is 2,000 assault rifles of the German G3 design, fulfilling a Greek order for 200,000 copies, and exports mainly to African countries. The Aighion plant also does licence work for other German firms: Rheinmetall of Düsseldorf has granted the licence for the barrels of its dominant 20-mm-antiaircraft gun and other parts of weapons. The capacity of machinery installed with its upper limit of calibre 105 mm obviously points at the manufacture of the current standard NATO tank gun, also produced by Rheinmetall. Finally, Heckler & Koch's perennial rival, Mauser, is producing barrels of its 30mm gun at the Aighion plant, by now
for the Greek Artemis antiaircraft system. - The other EBO shop at Lavrion is described as a highly automated factory for the manufacture of gun powder for all sorts of munitions from 20 mm to 203 mm (also a standard NATO calibre), with an export content of 70 percent valued at $280 m. in 1983. - German firms are also active in a third EBO establishment, near Elefsis, where the Siemens AG is participating in the development of the fire direction and radar system of the Artemis system.

Pyrcal, the Greek Powder and Cartridge Company, did considerably less well than EBO. After accumulating losses over eight years, and losing export markets, the Government took over. The company reportedly turned out a modest profit in 1983. But in general the future of this firm, which does not operate with foreign support, and which embarked at the rather demanding technology of anti-tank submunitions, is in doubt. With 4,000 jobs at stake, the Government is unlikely, however, to fail to come in for support of Pyrcal.

The Austrian firm Steyr-Daimler-Puch founded in 1970 Steyr Hellas, which was also taken over by the Greek Government, to 60 percent of the shares. The production of 680 wheeled vehicles is ceasing, and the production of the Greek adaptation of a Steyr design of an APC, named Leonidas, is unlikely to proceed beyond the first 100 units (originally, the replacement of all 800 American M113 APCs and large export orders were envisaged). The Greek version is too expensive (costing three times as much as the American M113), and compensation orders for this foreign contract are said to be disappointing. Hence there are no great incentives to go for a second batch of German Leopard tanks (to be produced at this plant), despite the compensation offer of 40 percent of contract value. Steyr Hellas is today looking for the civilian truck market, which is limited in Greece indeed.

Elveimak SA in the North of Athens is manufacturing under licence from the Austrian firm Argus grenades (hand and gun grenades) since 1978. The plant is now turning to manufacture technically more demanding plastic splinter mines, to an Italian licence. Past
production runs for grenades exceeded one million copies, of which one third went into exports. With a capacity to turn out 3,000 grenades per day, this record is not impressive, and indicates a vast underutilization of capacity, apparently below the 30 percent mark.

The private sector in the Greek arms industry is furthermore characterized by a number of smaller enterprises - firms doing public orders as well as private ones, such as D.Agelopoulos Hellas (Acharnai, Attika), G.Georgiu Metal Industry (Kropaea, Attika), G.Staikos (Athens), Kourakos Bros. (Piraeus), P.Rizos Aeronautical Ground Equipment and Tools (also Piraeus), and M.Sabboulidis and F.Passaris (SAPA Hellas). In a systematic perspective, evidence about such firms suggests that they ought to be considered as comprador bourgeois - doing services to the Greek state which otherwise nonnationals would perform, possibly at even higher costs to the public. Beyond the claims of technological competence submitted by a number of these firms, the innovation created at those shops appears as limited. This may also be true for newcomers, such as the General Engineering Group (Piraeus), which began by making drop-tanks and subcontract work for a Swiss business aircraft producer, with farreaching ambitions to do more advanced technological projects.
III

Economic-political implications

The survey indicates that there are three basic elements in the Greek arms economy which interact:
- the public sector,
- the private sector, and
- foreign investment by multinational companies into both of the latter.

The detailed sketch of the last decade or so of development of the Greek arms producing sectors suggests a few generalisations, which will be given according to the three groupings.

The public sector has expanded significantly. Public enterprises are to be found by now in all branches involved in military contract work. Public ownership appears as dominant in the areas were employment numbers are especially high (Tanágra, 3,000 jobs cited; Pyrcal, 4,000 jobs). In general, however, the public sector is not particularly prospering. The state apparently takes over when private firms of some significance, e.g. Steyr Hellas, do not flourish. Despite state intervention, taking over of ownership is not a decisive tool to overcome the problems which such a firm faces at its particular market. It must be feared that state ownership leads, while preserving employment and keeping a militarily relevant facility active, to fiscal losses by the Greek people.

The private sector shows much more dynamism. It collaborates mostly in a very intimate manner with foreign capital and with multinational firms. Purely Greek undertakings are found only at the lower end of the range of firms. In the significant sectors of electronics, shipbuilding, and technologically advanced components, the private sector appears to be in the lead. The export share of production in these sectors is worth mentioning. It is doubtful whether the countries receiving Greek military equipment are also political priorities of the Greek Government. The close orientation of the leading private firms on the Greek arms business towards multinational corporations and their
commercial sales policy appears as operating somewhat in contrast to official Government strategies.

The role of foreign capital appears to be crucial. The past accomplishments were achieved largely with foreign support, both by financing these undertakings and by delivering know-how. The US and the FRG are the two principal sources of supply for both of them. There is no language about independence from foreign sources.

It would be naive to assume that the ambitions of foreign multinationals were to bolster Greek objectives. There are a number of motives which could be quoted, above all of them considerations of expansion. Arms exports require under the conditions of an international buyers market aggressive strategies for sales. The multinational companies who manufacture military equipment in Greece apparently do so to bypass restrictions of a political nature in their main base countries, i.e. explicitly the Federal Republic and Austria. As foreign firms they cannot be controlled to the extent Greek enterprises in the private sector are subject to public scrutiny, and state-owned enterprises may even better be controlled.

Besides the question of congruence of Greek Government foreign policy and "Greek" arms exports, the more basic question arises about the actual contribution of multinational firms to the development of the Greek economy. As it turns out, multinational firms play a leading role in the more dynamic sector of the Greek arms economy, both the public and the private one. This crucial role needs a more rigorous assessment in order to understand in full the meaning for development.
IV
Two models of military industrialization

There are principally two models of establish military production in a semi-developed economy. The one tries to optimize political returns and is focussed on improving national independence by aiming at autarchy in weapons production. The other is stressing economic gains, looking to connect a limited industrial base with the flourishing arms sector of industrially more advanced production, chiefly by cooperating with multinational firms.

The Indian arms industry provides for an important example of the first strategy. In order to support the principal foreign policy option of non-alignment, the Government favours an arms industry which, after paying the entry costs into the business by manufacturing under licence, turns to indigenous designs in order to gain as much independence as possible from primary sources of major weapons in the industrialized world. The Government is willing to underwrite the overproportionate cost of such a product strategy. It also tries to economize the whole program by offering the indigenously designed weapons for export, possibly at political prices (and, as the Indian example demonstrates, with negligible success).

The alternative strategy has opposite political implications. The farming out of manufacturing activities of multinational corporations to Third World and peripheral countries is based on economic principles and requires political collaboration, the opposite to independence. In the first round very much in the same manner as cameras are more cheaply produced in Singapore than in Germany, or shirts more cheaply tailored in Hong Kong than in Britain, the manufacture of arms profits from low wage scales and other incentives offered in Third World and peripheral places differing from the base country of a multinational corporation. These are overproportionately big in the manufacturing of advanced weapons, which are turned out in rather limited production runs (numbering a few thousands in the case of tanks, a few hundreds
in the case of aircraft, and a few dozens to the utmost in the case of naval combatants), compared to other durable consumer goods or investment goods of a sophisticated kind, and which hence are mainly made with a high content of human labour.

The actual beginning of a program of the second type is usually marked by the local demand of some Government (South Korea is a case in point) for some advanced equipment, which leads to the invitation to some arms producer from the industrialized world to build up a secondary production facility in the respective country. The multinational corporation will react favourably, because the setting-up of an additional production facility serves as a reliable opener of the respective domestic market, turning the respective Government into a reliable client for the company's range of products. After the fulfillment of domestic demand, both parties will discover the benefits of exporting: the multinational corporation by now has a production base outside the hard-currency region, is part of the export strategies of some third Government, and will hence be able to open markets which otherwise may be inpenetrable because of limited amounts of hard currencies, or lack of access to bilateral efforts to balance trade exchanges. On the side of the Government involved, the prolongation of a production run of a certain weapons program beyond the fulfillment of domestic demand will appear to be attractive on several counts. The first one will be to economize the concessions made to the primary partner in the deal, the multinational corporation (e.g. tax exemptions, the location of plants in industrial parks exempted from a number of industrial legislations such as the "free production zones" etc.). The next one will be to organize national strategies for exportations in line with the ambitions of the multinational firm. The third one will be that arms exports from a peripheral country mark a point of technological competence, a general point of reference for competitors and potential customers as well.
Conclusions:

The case of Greece indicates a middle position somewhere the two extremes indicated by the two abstract concepts. In order to test the actual position of the country, and to evaluate the political stance of the Greek arms economy, one needs to check actual cases.
In macro-economic terms, a further generalisation holds. The prospects that a semi-developed economy by and large will profit from military industrial efforts are slim. Confronted with the success strategies of multinational corporations, the hopes of semi-developed countries with respect to contributions by military technology projects to the general level of technology are regularly frustrated. There may be indeed technological "fall-out" of military projects, but not fully industrialized countries with an industrial base of limited differentiated production structures generally find it harder to cope with such incentives. Furthermore, production strategies focussed on imported technologies and organized by multinational corporations are particularly unlikely to open access to industrial structures to novel technologies emerging somewhere in a semi-developed country in a military R + D laboratory. In fact, empirical findings about e.g. the technology fall-out of military programs to the Egyptian economy tend to be very self-critical.
Alongside with the macro-economic implications, the establishment of an arms economy with the help of multinational corporations in a peripheral country (the common case, we have seen) brings in important political strings. It brings in a new line of conflict of interest between economic and foreign policy goals.
Arms procurements in the non-capitalist world appear often as one way out to improve at least the space for manoeuvre in this dilemma. It will remain interesting to observe whether Greece will manage to retain some freedom to manoeuvre in political terms by buying also military equipment from the East. According to the statement by Mr. Drossoyannis, the Alternate Minister of Defence, the Greek Government has signed a 5 bn. Dr (about $ 45 mn.)
contract with the Soviet Union covering the delivery of around 600 earthmoving vehicles (dumpers, bulldozers, excavators, etc.).[11] The equipment is intended for SIKEA, the Greek Army's construction work service, and is considered to present at least auxiliary military equipment. Today it is premature to access the actual effects of this political step.
Notes

1) This estimate is taken from H.M.F. Howarth, "Griechenlands Wehrindustrie im Aufwind. Das zukünftige Kampfflugzeug als Basis für die künftige Entwicklung", Internationale Wehr-Revue (Journal also available in English), no. 9/1984, p. 1287.

2) The Military Balance 1983 - 1984, ed. by the International Institute for Strategic Studies, London 1984, p. 35, gives the dollar equivalent of the Greek defence budget dr 151.80 bn. with € 1.805 bn, while Howarth (footnote 1) speaks about a program costing "three times the 1983 defence budget" (Ibid.).

3) DM 20 bn. as the cost of the Tornado program remains a heavily disputed figure. For the first critical assessment of the cost development of this program, see a chapter which I produced ten years ago with two colleagues: "Das Ende des MRCA?", in: Studiengruppe Militärpolitik (eds.), Ein Anti-Weißbuch, Reinbek nr. Hamburg (Rowohlt) 1974, esp. pp. 93 - 97. This early estimate of actual cost per unit of around DM 50 mn., leaving aside inflation, at 1974 price levels, turns out as terribly accurate under today's circumstances.

4) A seemingly pertinent example for Greece is the Swiss experience with the F-5 Tiger aircraft and the compensation program. See (also available in French and German) Europe's military aircraft purchases, edited by the Institute of Social Ethics of the Federation of Protestant Churches of Switzerland, Bern, Lausanne and Oslo 1975.

5) A more elaborated account of the beginnings of Greece's arms industry up to 1975 can be found in: U.Albrecht/D.Ernst/P.Lock/H.Wulf, Rüstung und Unterentwicklung. Iran, Indien, Griechenland/Türkei: Die verschärfte Militarisierung, Reinbek nr. Hamburg (Rowohlt) 1976, written by Dieter Ernst.

6) Details from Ernst, ibid., p. 162.

7) Howarth (footnote 1), p. 1288

8) Information about shipbuilding in Greece is taken from the authoritative Jane's Fighting Ships, ed. by John Moore, p. 209 - 214.


11) Cf. Military Technology, no. 10/1984, p. 188.