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1-1-1990

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Occasional Paper No. 9002  
May, 1990

Political Change and World Arms  
Markets: Impacts on the  
Structure of West European Arms  
Industries

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POLITICAL CHANGE AND WORLD ARMS MARKETS:  
IMPACTS ON THE STRUCTURE OF WEST EUROPEAN  
ARMS INDUSTRIES

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Paper presented to the Conference on Restructuring Arms Production in  
Western Europe, Hamburg, Federal Republic of Germany, June, 1990.

## POLITICAL CHANGE AND WORLD ARMS EXPORT MARKETS: IMPACTS ON THE STRUCTURE OF WEST EUROPEAN ARMS INDUSTRIES

### Introduction

The various political and economic changes in Eastern and Central Europe portend much reevaluation and restructuring of both strategic plans and military preparations in Western Europe. While only a portion of defense policy depends on security threat analysis (with the other segment accounted for by economic welfare concerns entailing jobs, technological advancement, and corporate profits), <sup>1</sup> the reality of Soviet military withdrawal, governmental reform, and the crumbling Warsaw Pact necessarily diminishes the impetus for NATO armament. Programs aimed at a standardized NATO tank and a new Euro-multi-role jet fighter, for example, already under pressures of varying national priorities, now may require extensive reevaluation. National defense roles for NATO members, such as Britain and Norway, also must be reevaluated; the need for extensive naval capabilities to block and pursue Soviet forces in the North Atlantic is no longer self-evident. Western European defense budgets have long been closely constrained; now, at least in the short term, they appear even less politically palatable.

Clearly, violent European political conflict is not dead, and depending upon the outcome of national rivalries and ethnic strife in the East, defense needs, and even the temptation for intervention could reemerge. However, the political and economic benefits of cordial East-West relations are likely to continue to outweigh any supposed benefits of extensive Western involvements in divisive Eastern ethnic disputes. Any emerging European security system would have to grapple with the necessity of precluding or at least controlling the violent escalation of such disputes. In this context, it has been suggested that appropriate defense preparations would be minimalist and non-provocative, aimed at self defense and local defense of allies or dependents rather than offensive strikes.<sup>2</sup> Thus, conceivably an era similar to the 1920s and 30s in terms of Western

military preparations (if not in unresolved Eastern political conflicts themselves) is dawning, with a potential deemphasis of armament research and development.<sup>3</sup>

Yet counter pressures also are spurring continued efforts to develop and procure arms. Uncertainty over NATO's future in the midst of German reunification and Eastern ethnic conflict poses the need for a European security system. This could develop along one of at least three lines: (1) the revived Western European Union, spilling over into a greatly empowered European Community, complete with expansion of foreign policy collaboration to defense, and anchored by British-French nuclear potential; (2) a French-German (and possibly British) entente in which the recent beginnings of joint strategic consultation (a Franco-German military brigade and redefined French nuclear doctrine to include German defense contingencies) could be expanded in order to weld the new Germany more firmly to her Western neighbors and also to open dealings with the East; or (3) a Euro-wide security organization, probably based on the Conference on Security and Cooperation in Europe (CSCE), with the remnants of NATO and the Warsaw Pact consulting with neutrals and the superpowers to regulate and defuse conflicts through common enforcement. Conceivably the latter might entail a formal security treaty, though the impetus for a World War II peace treaty is complicated by the formal belligerent status of extra-European states such as Uruguay. Much depends on Germany's future, either associated with a redefined NATO or neutralized, free to arm or restricted militarily.<sup>4</sup>

In any of these scenarios, defense forces would continue to have a considerable role and new armament would be required. Indeed it has been argued that while NATO arms standardization and procurement diminishes, certain forms of Euro-standardization and armament sophistication must increase, as in development of C<sup>3</sup>I (command, control, communications) systems both for general defense and for necessary "surveillance, inspection, communications and many other forms of supervision and verification to encourage confidence-building between the two power blocs."<sup>5</sup> Thus, the extent of



European armament might be lower than that projected in the recent past, and force configurations might be designed more for passive than for active defense, or at least for reassurance as much as deterrence,<sup>6</sup> but the temptation to develop high technology equipment for these needs would persist.

Together with the new trade patterns of the Single European Act in 1992, these trends bring European arms trade and production into question. Until now, the major West European powers (Britain, France, Germany, and to a lesser extent, Italy) have sought to maintain across-the-board military production potential. Such potential has been seen as a necessary major power credential, as well as a key to continued technological competitiveness.<sup>7</sup> The memory of wartime unpreparedness made it seemingly imperative to maintain weapons design and production teams, despite both the temptation to import arms from the most reasonable supplier and strong US weapons export dominance in NATO.

Increasingly, though, the realities of limited national market size and escalating cost and investment requirements (not to mention the now diminishing NATO arms requirements) have threatened the myth of national arms autonomy. In Britain, France, and the Federal Republic, defense firms already have been largely consolidated in each area of production (land, sea, air, electronics, engines, etc.), and resulting "national champions" have been subsidized and nurtured.<sup>8</sup>

The latest developments in the emerging European economic and currency markets, in European political reform, and in Third World, North American, and Asian markets now appear to be pushing the existing arms production patterns into a more complete restructuring, which is likely even further to eclipse European national boundaries. The survival even of consolidated national firms is in question, and the role of international competition in the defense sphere is still being determined. European states' ability to maintain credible production in all types of armaments appears increasingly problematic, if not militarily unnecessary.

The role of smaller EC members also is affected by these likely changes, as states make the choice of whether to join or refrain from further multinational arms projects, projects usually dominated by manufacturers from the larger advanced military powers. Neutrals such as Sweden also must contend with a tradition of defensive self-sufficiency and the need for restructuring in an age of skyrocketing defense costs and receding threats.<sup>9</sup> And East bloc powers also will enter the new strategic and economic dialogue within a "common European home;" defense production, although scheduled for cutback by 20% in the USSR and on the decline in recent years in the rest of Eastern Europe,<sup>10</sup> remains traditionally among the most efficient and internationally competitive Warsaw Pact economic sectors.

The purpose of this analysis, then, is to predict how the overall evolution of the international arms market is likely to affect the European arms industry and its international ties. To do that, we must first determine which international political and economic changes are likely to affect defense production and procurement in general, and then how these effects play out in Europe.

#### Political Changes and The Evolving Market

Europe is not the only place in the world undergoing major recent transformations and political changes. Indeed, European developments rebound in various regions, particularly with Soviet, and concomitant US pullbacks from Third World competition. Effects of greater superpower cooperation, or muted competition, have been seen from the Persian Gulf to Southern Africa and Southeast Asia. Important superpower clients can no longer necessarily count on assured access to arms on concessionary terms through military assistance programs. As the Afghanistan conflict winds down, Washington will be under greater pressure to justify high levels of arms transfers to Pakistan, for example. Moscow has enunciated a doctrine of "reasonable defensive sufficiency" toward Syria, under which limits on sophisticated weapons transfer are outlined.<sup>11</sup> At the same time, though, potential surpluses of military stocks could lead to increased superpower reliance

on military as opposed to economic assistance programs, as in recent US efforts to supply Peru's government for counter-insurgency and counter-drug warfare.<sup>12</sup>

Partly because of superpower cooperation, a number of lingering and destructive Third World military disputes and wars also are in a period of at least suspended hostilities. Again, South and Southeast Asia, the Gulf, Southern Africa, along with Central America, all have seen peace negotiations, if not outright settlement of persistent conflicts. The demand for weapons to continue these disputes has not disappeared, as demonstrated in continued ample supplies to the factions in Afghanistan, but the overall pace of arms demand, if not the impetus to supply, has slackened.<sup>13</sup> States located near chronic troublespots, such as the Persian Gulf, continue to arm, and some wars (e.g., Lebanon) rage on relatively unabated. In addition, there are plenty of breeding grounds for new or renewed warfare given political disputes in the Middle East, South and East Asia, East-Central Europe, the Pacific, Africa, and Latin America.

It is well-known that the 1980s brought an overall decline to Third World arms sales, although regions such as the Middle East, South and East Asia have continued to import large quantities and values of armaments. The declining oil market diminished available purchasing power (causing barter deals in some cases); foreign debts accumulated; and weapons inventories were filled.<sup>14</sup> However, while strategic interest in supplying clients also may be diminishing with the passing cold war, new localized strategic concerns are being cited to justify both the continued production of controversial weapons (one of the more outlandish examples were Pentagon arguments for the Lance II battlefield nuclear modernization citing development of Middle Eastern and Asian nuclear powers) and the sales of previously restricted systems (such as US promotions of the M-1 Abrams tank to Saudi Arabia). During the latter half of the 1980s, certain suppliers, such as Britain and the US, were among the states with the highest increase of arms transfers to the Third World, while others, namely West Germany and to a lesser extent Italy, registered significant decreases of Third World transfers.<sup>15</sup>



Rather than abandoning or constraining on-going weapons system production in response to declining demand, in general major suppliers have explored increased export potentials, even including government subsidy of foreign purchases such as renewed US emphasis on FMS sales, after a decade of stress on direct commercial sales, and British and French credits and guarantees for Iraq despite the latter's obvious oil wealth.<sup>16</sup> Despite lingering military concerns about weapons winding up in the "wrong hands," there is growing major power willingness to sell excess and previously restricted equipment on the open market, especially to states able to pay cash for the products. This is due to concern about diminished NATO and WTO procurement needs and to surplus production capacity.<sup>17</sup>

Demand for technology transfers also is intimately involved with the international arms market, and continues to grow. The production and acquisition of arms through imports and licensed production, as well as agreements on "offset" economic inducements to purchase arms, all are seen as a form of technological "quick fix" for LDC governments hard pressed to provide jobs for engineers and trained personnel, albeit at the cost of displaced development capital.<sup>18</sup> Whether development of an arms industry is the most efficient way to acquire technological sophistication is open to doubt, especially since co-production of arms under license is only a first step toward technological capability to develop or co-develop new weapons, but it may be one of the few obvious options readily available to LDC leaders. It also fits their interest in security and foreign investment. Even if the country in question does not have an immediate foe on its borders, independent arms production capacity provides a form of status and respectability that is expected to enhance international influence and, thus, security.<sup>19</sup>

Partly for these reasons, and to offset battlefield deficiencies and foreign dependencies, lethal weapons technologies recently have spread alarmingly. A number of LDCs are now able to produce, modify, or gain access to relatively sophisticated missile and warhead delivery systems. Those unable or unwilling to produce nuclear weapons are

nevertheless tempted to obtain other weapons of mass lethality, such as chemicals. In fact, one of the strongest correlates of arms importation in the Third World is an evolving national capability to produce such lethal devices, indicating a general militarization of political goals.<sup>20</sup> This tends both to call into question traditional defensive strategies, such as acquisition of buffer territories or building of fixed emplacements, and also to extend strategic thinking about "deterrence" further into the Third World realm.

Despite such attempts to escape from dependency on foreign arms and technology, much of the Third World remains highly dependent upon both. The US and USSR still account for up to 90% of global military research and development. For certain advanced systems and components, such as engines (or clandestinely obtained sophisticated nuclear triggering devices), as well as for training and logistical support, demand for major power equipment and input is likely to remain very high, especially since the powers also maintain influence on other arms supplying states such as Israel and Brazil through license arrangements, and since modern battlefield operations often require satellite intelligence. Growing debt burdens and economic downturns, restrictions applied by major powers, as well as differing motivations for producing arms (e.g., Israel's security-autonomy-trade interests compared to South Korea's mainly commercial production under US license), still make it extremely difficult for Third World arms industries to advance much beyond the rudimentary production capabilities of relatively simple systems.<sup>21</sup>

#### Implications for European Arms Industries

Even before the latest political and market changes emerged, European arms industries were under some pressure to restructure and reorganize. The rising cost of weapons research and development meant that fundamental questions of market size and return on investment were being confronted throughout the 1980s. With massive cost and price increases, only declining quantities of high technology weapons could be produced with basically fixed European defense and military R&D budgets. While the latter may

now also diminish somewhat, the basically 3:1 US R&D advantage over Europe probably will not change much in the foreseeable future.<sup>22</sup>

Military procurement priorities, as well as the high technology race brought the major European arms manufacturers inexorably into the production of sophisticated weapons mainly for the NATO market. Along with improving "two way street" sales to the US (closing the gap to merely a 3:1 US advantage there too), they also were able to market certain of these designs (mainly aircraft, tanks, and missiles) quite successfully in the Third World, along with lighter specialty designs such as naval patrol craft (especially from Italy and France, but also including the Federal Republic in submarine design). International production consortia were established, often however, without continuity from one project to another and usually excluding a key weapons producer, such as Dassault of France, whose products then competed with the joint project. Wealthy Third World customers, interested in the prestige and combat value of advanced weapons, were sought to increase orders and enlarge production runs. A close Euro-Arab/Middle Eastern connection was fostered, particularly to displace American-Third World arms sales when Congressional limitations were imposed. Technical and bureaucratic/legal complexities all increased as such weapons systems and overseas sales were engineered.<sup>23</sup>

While these "successes" were being registered, certain European weapons systems already were being reconsidered or abandoned before the Berlin Wall was breached. In some areas of technology, such as airborne radar, Europe was ill-equipped to compete internationally for lack of viable manufacturers. MSOW, the NATO Modular Stand-Off aircraft, was abandoned due to high cost and failure to make a coherent system out of modules. The much heralded NATO Frigate NFR90 project, on the other hand, evidently lost its major European participants largely because of over-standardization and insufficient use of modular components. Thus, the competitive sufficiency of certain European weaponry and joint weapons projects remained questionable.<sup>24</sup>



Now that the impetus for joint NATO procurement and standardization itself is slowing, and with the onset of the Single European Act (SEA), these trends and questions are magnified. Justification for cost-reducing longer production runs and expanded military R&D will become increasingly difficult. Both the search for non-NATO markets and competition to produce flexibly designed, light or multi-role weapons to supply them, will grow. Indeed, the production of primarily export oriented designs would involve competition with smaller non-European arms exporters as well as with the Americans and Soviets, and would be another reversion to the pattern of the 1930s, when manufacturers such as Vickers engineered whole product lines which were never procured by British forces but were sold instead piecemeal abroad to countries such as Chile, Thailand, and Finland.<sup>25</sup>

Yet the European production tradition of advanced major weapons systems, heavily designed for major power warfare, will die hard, both for reasons of governmental, military, and corporate inertia, and of on-going ties to demanding customers such as those in the Persian Gulf.<sup>26</sup> Just as it was hoped that the expanded Euro-market of 1992 would spur economies of scale sufficient to generate high technology consumer products to compete with Japan and America, a significant body of European opinion harbors the same hopes for military technology, even in the midst of declining real defense budgets and despite provisions by which the Rome Treaty exempts the defense sector.<sup>27</sup>

However, if changing economic and security incentives lead to a merged Euro-defense market, massive over-capacity and duplication of production in many systems will be exposed, with either, or both intense inter-firm competition (and conceivably government subsidy) or "merger mania" resulting.<sup>28</sup> Europe, in other words, increasingly is faced with twin dilemmas of: (1) remaining a primary source of high technology arms; and (2) maintaining national defense autarky myths.

Cross-national production collaboration, mergers, and consolidations could generate, on the one hand, a protected European defense economy, with efforts to insulate from



American and Japanese penetration, or, on the other, a transnational defense economy whereby US or Asian firms invest heavily in the EC environment (and vice versa), and EC firms establish even more extensive subcontracting and licensing arrangements with LDC and East European arms manufacturers.<sup>29</sup> We will see below that keeping the defense giants, including the USSR even with a projected 20% reduction of arms production, out of a European market would be very difficult. A number of provisions in EC community-building, as in the EUREKA project, already leave open options for members to maintain techno-industrial links to the US as well as to EFTA, neutral, and even East bloc states. In a period of declining perceived security threats, and with financial and market uncertainties about beginning massive and expensive defense projects, a similar logic for an open defense sector becomes difficult to resist.

Until now, European arms production has been stratified basically between the three major arms producing states, Britain, France, and the Federal Republic on the one hand, and smaller states and manufacturers who respond partly as subcontractors and partly with specialized designs on the other. The bulk of the business has entailed sometimes redundant and sometimes coordinated production by the Big Three, occasionally augmented by Italy.

Table 1 shows the overall sales volume of the major European arms industries, running at approximately \$70-billion annually and employing upwards of half a million people. In terms of the relative shares of the major arms producing states, British concentration on, and investment in the overall defense production effort, as well as their basically privatized but publicly traded defense industry, are evident in a two-to-one national advantage in the number of defense firms in Europe's "top 100." The French rival Britain for third rank in overall world defense production volume, behind the US and USSR.<sup>30</sup> However, with more firms involved, Britain probably remains more vulnerable economically than other major European suppliers to market downturns and shifts of customer demand. Thus, as seen below, while general trends are evident in the

TABLE 1

## THE SIZE AND STRUCTURE OF THE EUROPEAN DEFENSE INDUSTRY

Number of Top 100 Companies <sup>1</sup>		% Public	% Private	% Consortium Owned	% State Owned	% Wholly Owned Subsidiary
<u>Country</u>						
UK	30	70%	3%	3%		23%
FRANCE	15	27%	27%		33%	13%
FRG	15	67%	7%	7%	7%	13%
ITALY	13	31%	31%		23%	15%
SWEDEN	6	33%	33%		17%	17%
SPAIN	5	60%	20%			20%
BELGIUM	4	25%	50%			25%
SWITZERLAND <sup>2</sup>	4	33%	67%			
NETHERLANDS	3	67%			33%	
NORWAY	2		100%			
AUSTRIA	1	100%				
GREECE	1		100%			
FINLAND	1				100%	

FY 88 - TOTAL SALES OF TOP 100 FIRMS - \$69.7-billion  
TOTAL ESTIMATED EMPLOYEES - 516,039

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Source: Adapted from Ian Curtis, "Europe's Top 100 Defense Companies," Defense and Foreign Affairs, 18 (January/February 1990), pp. 17-20.

<sup>1</sup> By sales of equipment hardware and software, relevant to the military.

<sup>2</sup> Military Group of ASCOM unclassified as to ownership.

response of Euro-arms industries, the various major and minor supplying states, and their defense industries could take different directions in reacting to growing problems of arms cost, production, and sales.

Weapons manufacturing firms in much of the industrialized world have three basic options to confront changing economic and political conditions. They can abandon the defense business largely or entirely rather than face uncertainties over markets, government subsidy, procurement priorities, and contract cancellations. Concomitantly, they can restrict defense production to a small and focussed segment of their business and hope for a niche in the market. Or they can expand, absorb rival companies, and seek to compete on a grand scale against other large conglomerates.<sup>31</sup> In a sense, the latter option has been exercised already for many years within European states by both governments and companies promoting consolidations and mergers to remain competitive. This has resulted in "national champions" such as British Aerospace (which has taken on new firms and roles in land-based equipment), and lately Mercedes-MBB (the latter still subject at least nominally to requirements to limit participation in certain defense sectors to avoid total monopoly). Britain and Germany (and to an extent Spain), with most defense firms publicly traded, are in line to participate in many such mergers and takeovers.<sup>32</sup>

With the Single European Act (SEA) of 1992, the way is eased to extend mergers across national boundaries, in effect to create "Euro-champions," although evidently few defense firms have taken advantage of the changing rules as yet.<sup>33</sup> Aside from cross-national mergers per se, production consortia, such as that involved in the Tornado fighter program, also fit the priorities of the Inter-European Programme Group (IEPG), enunciated in 1988 among 13 European NATO states. IEPG in effect mirrored developments in SEA by moving toward a common West European defense market. This would entail competing multinational consortia co-developing and marketing weapons, with assured participation for firms of each arms procuring state, thus at least postponing the need for outright cross-national mergers and takeovers, and protecting the status of



smaller defense firms. In 1989 an Action Plan of five points was adopted: (1) competitive contract tendering should take place across Europe without national impediments; (2) returns on investment should be shared according to the principle of juste retour; (3) less developed European countries' defense industries should be protected; (4) government financed intra-European technology transfer should be eased; and (5) R&D funding should be boosted.<sup>34</sup>

In spite of progress on these fronts, intra-European defense trade has yet to expand greatly, although in the search for cost efficiencies, governments of larger European powers have been more receptive to foreign purchases and partnerships than countries with smaller less efficient industries.<sup>35</sup> Even these hesitant moves toward Euro-wide weapons procurement, however, are coming at the cost of high (as much as 100% of the price) offset payments, such as those offered by German and French, as well as American tank manufacturers recently seeking to compete with Vickers to replace Britain's old Chieftain tanks.<sup>36</sup> With significant sales competition and offset requirements even inside NATO (whose political future is itself uncertain), and with declining need and government funds for many new weapons, prospects for greatly expanded harmonious joint weapons production or procurement remain problematic.

Fears exist as well that the impetus toward a merged defense market might not necessarily result in equipment very marketable outside Europe. Until now consortia have been developed mainly to compete for NATO sales and to expand joint procurement enough to make the products cost-effective. Some of these products have been marketed to richer Third World customers (e.g., Tornado aircraft and missiles), sometimes in lieu of US products, but others (e.g., helicopters) have enjoyed less global market success. Marketable designs (e.g. naval patrol vessels) often have been developed mainly for export and less in conjunction with NATO priorities. Therefore, the question remains of the ultimate main market for and characteristics of European weapons in the next decade.



In addition to the existing hierarchy of weapon manufacturing states reflected in Table 1, therefore, three basic forms of stratification appear likely to characterize future European arms production (see Table 2): (1) stratification by type of product lines; (2) stratification by orientation of international partnerships; (3) stratification by type of international cooperation and "open market" incentives. The first means that some states and consortia will aim primarily at non-European markets with simplified and specialized export-oriented product designs. Judging by past records this would be likely to include groups of smaller firms able to shift production priorities rather flexibly, or those with relatively little of their business volume in defense production. East bloc states could join such projects, given their traditional access to certain key Third World markets and their traditionally well-honed product lines produced reasonably efficiently in large quantities over many years (e.g. the AK-47 rifle, tanks, and infantry equipment).

On the other hand, other firms and consortia can be expected to aim primarily at the more "high-tech" oriented European, North American, and advanced Third World arms markets. Suppliers in this category would include the traditionally dominant states and companies, as well as advanced states heretofore largely excluded from NATO procurement for lack of "club membership," namely Sweden, Switzerland, and Austria. Indeed Sweden's traditional security autonomy depends on being able to join in the larger European market. Finland and other smaller European states, such as Belgium, Norway, Spain, Greece, Turkey, and the Netherlands could dabble in such projects occasionally, normally playing subcontracting and subsidiary roles.<sup>37</sup>

In this connection, the French foreign ministry recently has developed a report advocating defense industry concentration on high technology sectors suitable for export. Less competitive, exportable, or advanced sectors, such as artillery and shell manufacturers, would be abandoned in favor of more efficient foreign suppliers. In such an approach, "One or two industrial companies will stay in certain sectors, but others will either have to abandon entire branches, or have to give up prime contracting by finding

TABLE 2

## LIKELY STRATIFICATION OF EUROPEAN DEFENSE ECONOMY, 1990s

## I. Type of Products -

## MARKET

- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>1. Simplified/specialized</li> <li>2. High Technology</li> </ol> | <p>Mainly Extra-European - Third World<br/>Europe, Americas, Advanced<br/>Asian &amp; Middle East</p> |
|---|---|

## II. Orientation of International Partnerships

## ACTIVITY

- |  |   |
|--|---|
| <ol style="list-style-type: none"> <li>1. Euro- Mergers and acquisitions</li> <li>2. Euro- Consortia of producers</li> <li>3. Euro- American-Asian consortia</li> <li>4. Euro- LDC licenses</li> </ol> | <p>Co-development<br/>Co-development<br/>Co-production/co-<br/>development<br/>Co-production (gradual<br/>co-development)</p> |
|--|---|

III. Type of Cooperative and Competitive Structures Required<sup>1</sup>

## TYPE OF WEAPONS

- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>1. Multi-national co-development cartel(s)</li> <li>2. Competing consortia (national or international)</li> <li>3. Managed inter-firm trade</li> </ol> | <p>Large Systems (\$2-5 billion)<br/>Medium-sized (\$.5-2 billion)<br/>Systems<br/>Smaller components<br/>(less than \$.5-billion)<br/>and low-technology<br/>systems</p> |
|---|---|

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<sup>1</sup> Adapted from Andrew Moravcsik, "The European armaments industry at the crossroads," Survival, 32 (January/February 1990), p. 77.

co-operation abroad."<sup>38</sup> Across Europe, similar sentiments are being heard in what is the prevailing call for massive restructuring. For countries such as France, this restructuring indeed would represent a revolution in security policy by significantly increasing dependence on outside suppliers and eschewing across-the-board production.

When arms producers come to establish high technology international arms consortia, they could go in a number of geographical directions, and hence the second form of stratification. Even as intra-European consortia are developed, states heavily invested in the traditional North Atlantic arms trade, for example, Britain, Belgium, Norway, and the Netherlands, might be likely to enter consortia or engineer mergers with North American producers (the latter presumably also opening up to partnerships with Japan, South Korea, and other Pacific arms producers). Norway, Britain, and Germany, among others, also could join with EFTA states, such as Sweden and Austria. Growing German-French strategic consultations, and the interest of both in establishing links to the East could predict another set of ties including states such as Czechoslovakia, Poland, Hungary, and even the USSR. This would augment French-German-Italian arms consortia, seen already in the helicopter field.

A reunified or confederated Germany would have a number of advantages in defense production, including managers able to understand and engineer relationships with major East bloc arms consortia, as well as experience in newly emerging aerospace partnerships with Western and Asian firms. For example, rumored Daimler-Mitsubishi joint aerospace projects would afford Japan alternatives to reliance on somewhat reluctant US firms such as Boeing and General Dynamics for aerospace technology and project co-development, along with marketing access to Europe; Daimler would gain similar benefits in Asia.<sup>39</sup> Political incentives enter in as Japan, for instance, would be freer of US pressure regarding its developing jet fighter and satellite industries. Yet prospects for the success of such endeavors remain uncertain, given distances, diverse marketing traditions,



and the fact that Daimler is new to aerospace itself and Mitsubishi is not yet a major actor.

The third form of defense industry stratification in a sense subsumes the previous two, and involves the market structure thought to maximize defense production efficiency in projects of varying magnitude. Moravcsik proposes that co-development cartels, with major government subsidization and "juste retour" expectations will be required to produce the most sophisticated technologies and large weapon systems (in the \$2-5-billion development range-- e.g., fighter aircraft and engines, large missiles and nuclear systems, helicopters). Here it is highly likely that major US firms will bid to preclude Soviet participation in Euro-partnerships. With vast technological experience and advantages, as the Westlands Helicopter case showed, it is difficult to see how a superpower could be shut out of such major system consortia, unless European states, including Britain, were determined jointly to hone their own technology even at the risk of "inferior" products in the short term (risking little militarily in an era in which no major war is expected and selling systems abroad where they could).<sup>40</sup>

Moravcsik's second strata of arms sophistication, medium level weapon systems (ranging from \$500-million to 2-billion, and including electronics, armor, smaller missiles, etc.), could be based on competing production consortia, with more open market competition and return on investment. It is here that certain European suppliers (German tanks, for example) could have significant competitive advantages vis-à-vis Third World and North American suppliers, and here as well, more competition among groups of firms would be possible; Soviet and East bloc participation could emerge, since Moscow already has considerable experience with competing design laboratories in the state owned sector (MiG vs. Tupolev vs. Antonov vs. Ilyushin vs. Yakovlev, etc.). The US also could fit in, but would be somewhat less likely to dominate the technology at this level.

Finally, for smaller components and low technology systems (such as transport planes and trainers, munitions and small arms, etc.), below \$500-million, Moravcsik



suggests that small firms and national firms could still compete in a form of "managed free trade" familiar in today's European arms system. Indeed, when speaking of components it is well to remember that the entire global weapons business appears to be undergoing revolutions of both modularization and multi-national parts supply (as in automobiles). It has been estimated that 40% of even the vaunted Euro-Tornado aircraft is composed of US parts.<sup>41</sup> If present trends continue, and in the high technology area it is difficult to see how they cannot, air engines, radars, avionics, and other units to build into or hang onto weapons increasingly will be internationally derived, and if necessary, manufactured in relatively cheap labor markets in the Third World. This means that it will be somewhat difficult to categorize any weapon system as "European" in origin, and that firms' management will think less of end products and more of component supply opportunities. Current restrictions on end use and customer destinations also will be progressively more difficult to enforce.

Firms are on notice that survival in the developing international arms economy will be increasingly difficult. Those that fail to diversify product lines to anticipate and satisfy the demand for components or finished products in relatively massive numbers will have an especially difficult time. Those that over-commit to defense production will have little or nothing to fall back on in the way of civilian goods alternatives when markets vanish or diminish below the break even point. Those, even among traditionally prime contractors, unable flexibly to bid for subcontracting roles are likely to starve for contracts under conditions of uncertain government subsidies. Those with better access to commercial credit and bond markets will be able to raise sufficient capital to compete at least at the third, lower technology level of production.

### Conclusions

Changing international arms market conditions are making it harder on arms suppliers in all corners of the world. The US and USSR will be "unloading" surplus arms supplies on Third World markets, narrowing the room for European suppliers. Newly

industrializing country (NIC) arms suppliers are suffering from shortages of capital and technology to move beyond relatively rudimentary systems. This lessens the competition for Europe, but at the same time, arms markets are constricting as Third World customers have an increasingly difficult time coming up with hard currencies to purchase arms (even oil rich states seek barter and credit arrangements, although this could reverse again with a bolstered oil market in the late 1990s). European arms manufacturers, perhaps more than any others in the world, are confronted with the difficulties of remaining viable producers of high technology weapons.

When predicting behavior in the international arms transfer "system," it is important to note historical trends. Arms marketing patterns are strongly correlated to power status. While also interested in commercial advantages, the US and USSR have been for forty years the most strategically oriented of the major arms suppliers, shipping most of their weapons to favored clients in strategic locations (Israel, Pakistan, Iran, Saudi Arabia, Syria, Vietnam, Cuba, etc.). Indeed, the Americans have been more prone to politicize all forms of trade than other advanced economic power, as in grain embargos over Afghanistan. European arms exports have, since the 1960s, been driven by commercial interests, though in the case of Britain, France, and Germany, governments also strive to achieve an underlying interest in greater politico-military autonomy. Europeans have been less prone to embargo or restrict supplies to unfavored states, although in some cases they have done so either for political or constitutional reasons.<sup>42</sup>

As indicated by the recent EC embargo of Libya, and EC policy during the Falklands fighting, however, power and political shifts may be subtly reorienting the arms transfer policies of both the superpowers and European states. Depending upon the extent of nationalistic upheaval in Eastern Europe and the USSR, cold war tension reduction probably will mean fewer superpower controls on military technology transfer. Yet selective commercially driven restrictions could replace them, as demonstrated by the struggle of US aerospace firms to restrict Japanese access to US derived technologies and

yet still enter co-development consortia with, and obtain technological hints from Japanese firms. Eroding US politico-economic, and Soviet political hegemony also means that the superpowers increasingly will scramble for commercial (balance of trade) advantages through arms as well as other types of trade.

Concomitantly, if-- and it is a big "if" given the difficulties of Euro-arms consortia and common European defense procurement and policy-planning so far-- if Europe develops a unified arms production and procurement "community," along the lines envisioned in IEPG, then one also might expect increased politicization of European arms sales. In other words, as political cooperation in EC extends to the security and defense fields, EC foreign policy machinery will begin acting more as a power. Again, such extension of cooperation is by no means certain as East meets West (and neutrals) in Europe, but history would alert us to expect behavioral policy changes when power hierarchies shift.

This raises the possibility of making some sort of order out of the "diffuse economic competition"<sup>43</sup> likely to characterize the coming stratified arms transfer system outlined in this study. Will suppliers and supplier consortia compete in a "helter skelter" search for presumably shrinking global, if not regional markets, or will there be a call for renewed negotiations on "rationalizing" the arms market to provide: (1) legitimate and reliable security and technological transfers to customers in various regions; (2) stable expectations of market shares for arms suppliers' planning and investment purposes; and (3) dampened political tensions wherever possible? In other words, is there a prospect for a renewed series of Conventional Arms Transfer (CATT) negotiations, this time broadened to include middle and small level suppliers and regionally prominent customers?

Prospects in this regard, as in expectations of a unified European arms market, are contradictory. The superpower competition and suspicion, if not the domestic political disputes which doomed the original CATT talks now largely have disappeared.<sup>44</sup> Nevertheless, European states will struggle to find foreign arms markets, especially if the



US is not willing to import increasing proportions of Euro-arms. Arms manufacturers will be struggling to form workable consortia while retaining or developing important technological advantages. Research and development investments will be very difficult, even for single favored consortia, if some ready markets are not relatively assured. All this leads to skepticism about a CATT II effort,<sup>45</sup> but might also argue for a parcelling of regional access, perhaps along the lines of traditional regional arms dominance (US in Latin America, USSR and Europe (France) in Africa, all in various segments of the Asia and the Middle East, etc.).

In noting these possibilities, doubts immediately occur, but so do potential remedies. Would one set of manufacturers be content to allow others guaranteed access to the more lucrative markets (West, South, and Southeast Asia)? Would states with traditional access to various buyers be willing to share such sales with other less advantaged arms producers? As the arms production system becomes increasingly internationalized and composed of components manufacturers, however, such questions become moot. Would arms purchasers be willing to restrict their market (and hence price) choices by aligning with certain suppliers? Such questions could be approached by a system of subsidized pricing, and by credit and security guarantees from the major powers. Most arms buyers have relatively modest security needs and economic means, and could be satisfied by such a security regime. The major arms customers would be more likely to resist, as is the case in compliance with the nuclear non-proliferation regime. But even these states are experiencing the type of debt and purchasing power problems which could make the difficult CATT regime bargaining at least feasible. Clearly, with the international arms supply system in flux and international tensions somewhat diminished, there has never been a better moment to approach the problem.



## FOOTNOTES

1. See Edward A. Kolodziej, Making and Marketing Arms: The French Experience and its Implications for the International System (Princeton: Princeton University Press, 1987); and Kolodziej and Frederic S. Pearson, "The Political Economy of Making and Marketing Arms: A Test for the Systemic Imperatives of Order and Welfare," Occasional Papers, No. 8904 (St. Louis: Center for International Studies, University of Missouri-St. Louis, 1989).
2. See, for example, Jack Snyder, "Averting Anarchy in the New Europe," International Security, 14 (Spring 1990), pp. 5-41.
3. At least initially, for example, the unifying European Community is emphasizing research and development in the civil Eureka project rather than in joint military projects. However, the impetus for joint EC security policy also seems likely to grow. See Pearson, "European Security Policy and the Single European Act," paper presented to the Conference on The 1992 Project and the European Community, Florida State University, April 1990.
4. See, for example, Michael Mandelbaum, "Reconstructing the European Security Order," Critical Issues, 1990/1 (New York: Council on Foreign Relations); Malcolm Chalmers, "Beyond the Alliance System: The Case for a European Security Organization," World Policy Journal, 7 (Spring 1990), pp. 215-250; and on Franco-German arrangements, Werner Feld, "Franco-German Military Cooperation and European Unification," Journal of European Integration, 12 (Winter/Spring 1989), pp. 152-156.
5. "The European Market for: Military C<sup>3</sup>I," FS Reports, #E1292/M (New York: Frost and Sullivan, Inc., Winter 1990).
6. Mandelbaum, op. cit., p. 21, using a distinction developed by Michael Howard.
7. Kolodziej and Pearson, op. cit.
8. Andrew Moravcsik, "The European armaments industry at the crossroads," Survival, 32 (January/February 1990), pp. 65-85.
9. Johan Rapp, "Sweden moves to aid troubled arms industry," Jane's Defence Weekly, 11 (June 24, 1989), p. 1338; and Bengt Ljung, "Under the gun: A survey of the defense industry," Sweden Now, No. 2 (1989), pp. 19-21.
10. Stephanie G. Neuman, "Continuities and Change in the International Arms Trade," presentation to the Annual Meeting of the International Studies Association, Washington, DC, April 1990; on persistent arms production capabilities in countries such as Czechoslovakia, see Ian Curtis, "Europe's Defense Industry Faces Turbulent Times," Defense and Foreign Affairs, 18 (January/February 1990), p. 14.
11. These developments are analyzed further in Pearson, "Prospects of Third World Arms Transfers: Patterns of Demand and Conflict," forthcoming in Proceedings, Conference on Conventional Forces and Technology, Dallas, Southern Methodist University and the University of Texas-Austin, December 1989.
12. Mark R. Day, "Peru Balks at U.S. Military-Aid offer," Christian Science Monitor (May 3, 1990), p. 3.



13. See Richard F. Grimmett, "Trends in Conventional Arms Transfers to the Third World by Major Supplier, 1981-1988," CRS Report for Congress, Final Edition (August 4, 1989), p. 6.
14. Among others, see John Turner and the Stockholm International Peace Research Institute (SIPRI), Arms in the '80s: New Developments in the Global Arms Race (London: Taylor and Francis, 1985), pp. 13-15; and Christian Catrina, Arms Transfers and Dependence (New York: Taylor and Francis and UNIDIR, 1988. See also Grimmett, op. cit., p. 46.
15. See Grimmett, Ibid., pp. 16 and 33-39; and Curtis, op. cit., p. 8.
16. Jacques Isnard, "Debt Rescheduling Frees French to Sell to Iraq," Jane's Defence Weekly, 11 (September 30, 1989), p. 674; J.R. Wilson, "U.S. Industry Must Look Overseas," Jane's Defence Weekly, 11 (September 16, 1989), p. 531; and Shireen T. Hunter, "Time to Stand Up to Iraq," Christian Science Monitor (April 9, 1990).
17. Geoffrey Kemp, National Public Radio, April 3, 1990.
18. On these effects and the debates surrounding them, see Third World Militarization A Challenge to Third World Diplomacy, ed. by J.S. Mehta (Austin: The L.B. Johnson School of Public Affairs, University of Texas, 1985); and Charles A. Kupchan, "Defence spending and economic performance," Survival, 31 (September/October 1989), pp. 447-461.
19. Kolodziej and Pearson, op. cit., with specific reference to Brazil.
20. Frederic S. Pearson, "The Correlates of Arms Importation," Journal of Peace Research, 26 (May 1989), pp. 153-163.
21. Stephanie Neuman, "Dependence, Power, and Influence: The Role of Military Assistance," in Military Assistance and Foreign Policy, ed. by Craig M. Brandt (Wright-Patterson Air Base, Ohio: Air Force Institute of Technology, 1989), pp. 7-32; and Neuman, "Continuities and Change," op. cit.; Keith Krause, "Third Tier Producers and the Structure of the Global Arms Transfer and Production System," and Andrew L. Ross, "The International Arms Market: A Structural Analysis," presentations to the Annual Meeting of the International Studies Association, Washington, DC, April 1990; and Chung-In Moon and In-Teak Hyun, "Muddling Through Security, Growth and Welfare: The Political Economy of Defense Spending in South Korea," paper presented to the Annual Meeting of the International Studies Association, Washington, DC, April 1990.
22. Neuman, "Continuities and Change," op. cit.
23. These included the need to involve numerous subcontractors and co-developers, and to obtain investment capital, payment sometimes in terms of bartered goods such as oil, and market guarantees. See Curtis, op. cit.
24. Ibid., pp. 9-12; and Neuman, "Continuities and Change," op. cit.
25. Curtis, op. cit., p. 14. See also, Amy Kaslow, "Defense Industries Seek Ways to Adjust," Christian Science Monitor (April 30, 1990), p. 3.
26. While warfare in much of the Third World probably will remain relatively localized and limited, the "electronic battlefield" will be increasingly a global phenomenon; even "light" weapons increasingly will involve sophistication originally



designed for the central European front, and will find ready markets among wealthier Third World customers. On the continuing appeal of "big ticket" products in the European defense industry, see Curtis, Ibid., p. 14.

27. Pearson, "European Security Policy," op. cit.; and Edward J. Laurance, comments, panel on "Perspectives on Change in the International Arms Market," Annual Meeting of the International Studies Association, Washington, DC, April 1990.

28. Douglas Barrie, "Euro-industry faces 'brutal' restructuring," Jane's Defence Weekly, 11 (October 7, 1989), p. 741; and Moravcsik, op. cit., pp. 67-68.

29. For further discussion, see both Barrie and Moravcsik, Ibid.

30. Ian Davidson, "France's defence 'must go high tech'," Financial Times (March 12, 1990).

31. Curtis, op. cit., pp. 12-14, speaks of expansion, merger, divestiture or exit from the defense enterprise as basic options.

32. Ibid., p. 13.

33. Ibid., pp. 12-14; and Moravcsik, op. cit.

34. Moravcsik, op. cit., pp. 70-71; and Curtis, op. cit., p. 12.

35. Curtis, Ibid., p. 12.

36. Charles Miller, "Krauss Maffei Offers 100 Percent Offset Deal in U.K. Tank Purchase," Defense News (April 9, 1990), p. 3.

37. On Belgian priorities and dilemmas, see Jane's Defence Weekly, 11 (June 3, 1989), p. 1101; and J.A.C. Lewis, "Belgian PRB looks to European Alliance," Jane's Defence Weekly, 11 (July 1, 1989), p. 1385.

38. The rationale even for continuing the controversial French naval fighter, the Rafale, as well as most naval construction is questioned. See Davidson, op. cit.

39. National Public Radio, March 7, 1990.

40. Moravcsik, op. cit., pp. 77; and Krause, op. cit. If Europe were to try to erect such barriers, almost exclusive reliance would be placed on Britain, France, and Germany, which in addition to difficulties in competing with the US would stir resentment against "military-industrial complexes" in smaller EC states such as Denmark.

41. Neuman, comments at panel on "Political Economy of the International Arms Trade," Annual Meeting of the International Studies Association, Washington, DC, April 1990.

42. See Kolodziej, Making and Marketing, op. cit.; and Pearson, "Problems and prospects of arms transfer limitations among second-tier suppliers: the cases of France, the United Kingdom and the Federal Republic of Germany," in Arms Transfer Limitations and Third World Security, ed. by Thomas Ohlson (Oxford: Oxford University Press and SIPRI, 1988), pp. 126-156.

43. David J. Louscher, "International Arms Procurement in the 1990s," presentation to the Annual Meeting of the International Studies Association, Washington, DC, April 1990.
44. On the failure of CATT see, Jo L. Husbands and Anne Hessing Cahn, "The Conventional Arms Transfers Talks: an experiment in mutual arms trade restraint," in Arms Transfer Limitations, *op. cit.*, pp. 110-125.
45. The view of Michael D. Salomone, for example, in comments on the "Political Economy of the International Arms Trade" at the Annual Meeting of the International Studies Association, Washington, DC, April 1990.