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A POLITICAL ECONOMY OF DEFENCE INDUSTRIAL
RELATIONS IN A CHANGING ATLANTIC ALLIANCE:
IMPLICATIONS FOR CANADA

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I. INTRODUCTION

The economic dimension of the defence and security policies of Canada, the US, and Europe since the founding of the North Atlantic Alliance in 1949 seldom has been without its share of contentious issues. From the first disputes over the inclusion of Article II and its statements concerning broader economic cooperation, through the calls for rationalization, standardization, or interoperability (RSI) and the burden-sharing debate, and up to more recent disagreements over the Reagan pipeline embargo, support for SDI (financial, industrial, and political), and modern variants of burden-sharing such as that for out-of-area crises, the economic dimension has remained an arena of divergent interests and vigorous debates.

Until the mid-1980s, the continuing and immediate presence of the Soviet military threat served to subdue or at least to mute the potential discontent generated by these matters. Over the last half-decade or so, however, the unexpectedly rapid decline of this threat (often now defined instead as a 'risk') and the subsequent uncertainties in the international security structure have faced NATO with the urgent task of reviewing its rationale and its roles. There even has been some debate as to whether the alliance has become obsolete, although recent events in the Persian Gulf and internal problems in the Soviet Union suggest that the optimism of the later 1980s regarding an emerging post-Cold War climate of peaceful cooperation are somewhat naive.

As the governments of the West work to redefine their previously relatively predictable, if not always comfortable relationships, the vacuum

created by the disappearance of the East-West confrontation also has highlighted the existence of internal, especially transatlantic economic divisions. Of increasing concern within NATO is the potential for these divisions to hamper or even to block entirely progress on the critical discussions regarding its future security (or other) roles and institutional structure.

the close relationships between NATO's security policy (political) and defence production policy (industrial) is suffering. There is even a struggle to retain a NATO emphasis, as opposed to separate North American and European perspectives.¹

At the same time, defence economic policy issues are being complicated further by the failure to resolve differences in the broader international economy. In December 1990 at a meeting of NATO foreign ministers, US Secretary of State James Baker warned that a possible collapse of the GATT negotiations would damage transatlantic ties. His remarks led one official to comment ominously that

Trade has never been an issue at NATO meetings before, and the Americans were clearly issuing a warning by bringing it up.²

Later sections of this paper explore some of the parallel trends in the international political economy and in international defence economic relations, to suggest that there is indeed cause for concern in this regard.

Three general goals are sought in this evaluation of the defence economic--and specifically, the defence industrial base--policies or relations of the members of the Atlantic Alliance. The first objective is to set out briefly a policy-oriented conceptual framework. Some of the ideas considered in this section are not unique to the paper. Other authors have emphasized the benefits to be obtained by incorporating

concepts derived from the subfield of international political economy (IPE) into the examination of subjects more commonly situated within the rubric of strategic or international security studies, and their views are supported here.³ In this case, however, academic concepts are placed alongside the ideas and arguments of those directly involved in the policy area under review. What this approach sacrifices in wider theoretical applicability will, it is hoped, be compensated for by the improved policy-relevance and practicality of the text.

The second task is to apply this analytical framework to the evaluation of defence economic relations between Canada, the US and Western Europe. The key theme of this section is the problems of, and prospects for, cooperation, competition, or conflict--or a mixture of these elements--in matters of defence trade, R&D, and procurement policies, all of which are linked closely to national defence industrial base (DIB) policies. It is argued that there is visible a shift away from the relatively healthy mixture of cooperation/competition that marked the 1970s and early 1980s, towards a more troubling environment of competition/conflict, or what one NATO official terms "divisive competition."⁴ Trends in formal intergovernmental relations are supplemented by an evaluation of corporate activities and preferences in the context of constraints and incentives in the international defence market.

The final goal of the paper is to provide a discussion of the already-apparent, as well as the likely future, implications of these developments for defence industries in Canada and for the wide variety of government departments with a stake in this sector. Recent studies of Canada-European defence trade have provided useful insights, and it is hoped that these may be added to here.⁵ The comments on the implications for the fragmentary

and ad hoc "defence industrial policy" resulting from various departments' activities and interactions with defence-related manufacturers in Canada then should supplement the generally outward-oriented nature of most existing analyses.

Of course each of these three tasks would by themselves provide the basis for separate studies: however, there also is value in illustrating and tracing the linkages in order to appreciate the problems facing those involved in this area, whether in government or corporate capacities, Canadian, American, or European.

II A FRAMEWORK FOR ANALYSIS: ACADEMIC CONCEPTS AND POLICY ISSUES

Enough already has been written regarding the internal theoretical and logical consistency or otherwise of regime analysis, its persuasiveness as an explanation for the persistence of patterns of cooperative state behaviour 'after hegemony,' and the feasibility as well as the utility of applying the concept to the study of international security and defence issues.⁶ When examining Western defence economic relations within the existing 'security regime' of the North Atlantic Alliance, the apposite question instead is one that approaches the topic from a different direction; that is, asking why a cooperative international regime (or cluster of regimes) has not successfully been established to cover defence trade, R&D, procurement, or a 'NATO-wide' DIB.

Realist critics of regime analysis have countered that perspective by arguing that neoliberals fail to understand fully the implications of continuing international anarchy for the prospects of cooperation, competition, or conflict in the international system.⁷ Indeed, despite the

repeated efforts of its advocates in national governments and at NATO, one has great difficulty in identifying even what might be described as 'incipient regimes' in these areas of policy. Possibly the only exception to date is the NATO Conventional Armaments Planning System or CAPS, but even this initiative is very low-key (through choice as well as circumstances) and is not intended to produce major advances in the short term.

While both sides of the debate possess their strengths and weaknesses, however, neither broad theoretical framework provides a practical or policy-oriented means of explaining why a long-standing and relatively successful organization such as NATO cannot establish clear guidelines and greater cooperation in the defence economic relations of its members. To obtain such an explanation, it is necessary to look to perhaps the most succinct commentator regarding the difficulties facing any meaningful improvements in US-European defence economic relations, Thomas A. Callaghan Jr. His ideas are useful especially because he might be termed a 'neoliberal' in his policy prescriptions, but a 'realist' in his evaluation of the problems that must be overcome.

In a recent study of these issues Callaghan summarizes the nature of the barriers to transatlantic cooperation, which he labels "second-order attitudinal problems" and "first-order attitudinal and structural obstacles."⁸ The former most often are the subject of attention and complaint, but the latter are the more deeply-rooted and fundamental. Second-order attitudinal problems include divergent, often non-military requirements linked to collaborative projects; out-of-phase replacement schedules and funding plans (the issues addressed by the CAPS); protectionist DIB practices; and differing operational requirements,

specifications, or standards. These matters are in "the realm of governmental, military and industrial officialdom--the bureaucracies." Based on administrative process or procedures, therefore, their solution may be sought through legal or political direction.

The first-order obstacles which Callaghan identifies relate to issues of sovereignty, divergent national macroeconomic budget and resource policies, conflicts between defence and deterrent strategies, and the absence of inter-allied cooperative structures. Such obstacles are said to require attention in "the realm of American and Allied Heads of Government and their Parliaments" as they obtain especially where there exist no established laws or policies, or else where they frequently are contradictory. Attitudinal difficulties of this type include US concerns that resource pooling would erode national technological competitiveness, and unwillingness to share either the financial risks or economic benefits of NATO defence industrial cooperation; and the inability of the European members of the alliance effectively to share the burdens or benefits of increased cooperation so long as the various governments there are unwilling to eliminate unnecessary DIB duplication.

Structural first-order obstacles complicate matters further, Callaghan argues, since even were these attitudinal obstacles to be overcome NATO still would lack the structures required for a successful 'resource pooling' or cooperative DIB regime. For the US, he argues that

It is the absence of structure that (1) supports the concept that all cooperative effort should be peripheral rather than central to our budget and procurement process; and (2) fosters the bazaar-like procedures whereby all cooperative effort is ad hoc, rather than routine.⁹

These missing structural elements include forums for organized intra-

European and Canadian-American 'pooling,' and an overarching structure to link the two; and the absence of united Presidential and Congressional consensus on cooperative strategies to be pursued with the NATO allies.

The solution to these critical first-order obstacles in Callaghan's view lies in the establishment of a new 'Two-Pillar Treaty' covering transatlantic security and defence economic relations. The treaty status of such an agreement especially is important as it would involve the US Congress and various European parliaments as well as heads of government. In doing so, the treaty necessarily would require the political support which too often has been absent in the past and which has led to the failure of initiatives begun at the bureaucratic level. Section III below returns to these issues in the discussion of the Defence Trade Study initiative currently underway in the Conference of National Armaments Directors (CNAD) at NATO.

While the academic debate over regime theory is not referred to directly in the Callaghan study, the concepts involved are representative of his ultimate objective for a transatlantic cooperative agreement. To this limited extent at least, regime analysis offers a useful heuristic device to describe the ideal against which to begin to emulate the nature, depth, and likely durability of contemporary cooperative initiatives. However useful it may be, nevertheless, this approach remains only one element of the broader analytical framework required to evaluate the prospects for defence economic relations in the West. A central underlying theme of the analysis presented here is that these issues cannot be understood adequately without being seen in the context of wider trends in the international political economy.

Defence economic initiatives and disagreements both parallel, and are connected with, events occurring in the international economic relations of the western states (and to some degree the 'global economy'). The Single European Act and the Canada-US Free Trade Agreement have their defence industrial base counterparts at least partially in the Action Plan of the Independent European Programme Group (IEPG) and the North American Defence Industrial Base Organization (NADIBO) manifesto. As a corollary of these activities and agreements in the civil and defence sectors, concern also has become apparent in both regarding the possible emergence of regional trading or political blocs.

In addition to highlighting one reason why governments often view defence economic policy as an important element of national economic competitiveness, these parallels also clearly indicate the need to have an analytical framework that includes elements of structural change in the IPE of the West. The paper will utilize the ideas of both Susan Strange and Robert Gilpin in examining the nature of this change and the implications of structural uncertainty for transatlantic defence economic cooperation. Although both authors focus upon the international economy (or the international political economy) their work will be found to be valuable for the analysis of trends in the international defence market.¹⁰

The final element of the analytical framework in part leads from these last comments regarding the defence market. Structural and process-level concepts help to set out the broad environment facing policy makers, but reference also must be made to the concerns of the specific actors involved, whether national governments, international organizations, or major defence contractors. Section III therefore evaluates their aims and relative influence. Finally, Section IV examines in more detail the

implications of these trends for Canadian industry and for government policies in this sector; reviews current responses; and makes some suggestions as to the prospects for the medium-term future.

III. DEFENCE INDUSTRIAL BASE RELATIONS IN NATO: PROBLEMS AND PROSPECTS

a) Early Failures

Within the framework of the Alliance, from the very first meeting of the North Atlantic Council in September 1949, there has existed at least rhetorical acceptance of the importance of fostering greater transatlantic cooperation in defence procurement, trade, R&D, and industrial base policies. The Military Production and Supply Board (MPSB) was established by the Council in 1949 "to promote co-ordinated production, standardization and technical research in the field of armaments."¹¹ The Committee of Defence Research Directors (renamed the Armaments Committee in 1958) was added to the Board in an effort to shift cooperation upstream, that is, into the R&D phase rather than the later production phase. During this period the NATO Basic Military Requirement (NBMR) procedure also was instituted with the aim of leading the allied governments towards developing common, non-duplicative systems.

The fate of the NBMR initiative epitomized that of all such efforts within the Alliance:

Each country tried to influence the NBMR to meet both its own national requirements and its own industrial research and development capabilities. If the national and NATO interests were parallel, the country would support the NBMR and be prepared to fund it. If not, the result was endless discussion and procedural delay.¹²

The Conference of National Armaments Directors, or CNAD, replaced the Armaments Committee in 1966 with Terms of Reference reminiscent of the

MPSB, but achieved limited success and by 1980 had shown little headway since "the collective will necessary to raise the needs of the Alliance over national interests, of both the armed services and the defence industries, was absent."¹³

Bureaucratic initiatives undertaken by NATO proved insufficient to overcome first-order attitudinal obstacles. To the larger European states, in particular Britain and France which both still possessed extensive domestic defence industrial capabilities, a cooperative transatlantic DIB and procurement regime appeared likely to entail unacceptable US economic and security dominance. Such a scenario raised fears of sovereignty, technological and industrial dependence, and potentially extensive European adjustment costs in defence-related employment.

The development of the collective political will or mutual expectations favouring greater cooperation also was hampered by the lack of credible, consistent and positive US leadership. Throughout the 1950s, 1960s, and 1970s, successive Administrations' promises failed to be translated into reality. Secretary Dulles' 1957 pledge at the NATO Summit meeting in Paris that the DoD would purchase European-developed armaments for its own forces came to naught. The American decision not to order the French-designed Atlantic Maritime Patrol Aircraft - the unanimous choice of the NATO Armaments Committee - but instead to develop and produce the Orion in competition, created considerable anger in Europe.

Dulles' pledge was followed a decade later by Secretary of Defence McNamara's proposal to establish a 'common market in armaments' with Europe. Despite well-publicized statements to the press, McNamara never raised the proposal officially in NATO and the issue was dropped from the U.S. agenda until the 1977 'Carter Initiative' for a Long Term Defense

Program (LTDP). Again, however, Carter failed to pursue the idea further. In 1979 the House Armed Services Committee on NATO Standardization, Interoperability and Readiness declared that it "found no redeeming political, economic or military value in a Two-Way Street with Europe." The response in Europe matched these sentiments as one French official remarked that transatlantic defence industrial cooperation was "dead in the water."¹⁴

b) Defence Economic Cooperation in the 1980s

After three decades of frequently-empty promises and rhetoric, the early 1980s appeared to witness remarkably rapid progress towards the creation of a more formal and institutionally-entrenched cooperative regime. From a broad Alliance perspective, several circumstances lay behind these improvements in US-European DIB and procurement relations. Following the recognition of Soviet strategic nuclear parity, the adoption by NATO of the strategy of flexible response, and the subsequent shift in defence planning from purely short-war scenarios to include the possibility of extended conventional conflict, questions of sustainability, support, industrial preparedness and mobilization potential led to greater attention being paid to DIB issues. In most if not all cases, national industrial capabilities were found to be in an alarming condition of decay. At the same time, Soviet technological advances appeared to be reducing the traditional qualitative advantages enjoyed by NATO forces. Finally, the thesis of impending structural disarmament as a result of spiralling defence R&D and production costs was recognized and accepted as

constituting a significant challenge to the allies' limited defence budgets.

Between 1982 and 1987 several US and NATO actions were seen as signalling a new, high-level political acceptance of the need for closer cooperation. The 1982 Roth-Glenn-Nunn Amendment called for a strategy and a structure to help reduce duplicative defence industrial activities. In the same year the Reagan Administration established the Defense Science Board Task Force on International Industry-to-Industry Armaments Cooperation to encourage improved relations at the corporate level. In 1983, the new Pentagon Steering Group for NATO Armaments Cooperation "signalled DoD recognition that, even for the United States, arms cooperation was not a luxury but a necessity."¹⁵

Undoubtedly the single most important American initiative was the 1985 Nunn-Roth-Warner Amendment to the FY 1986 Defense Authorization Act. The Amendment set aside by FY 1988 a total of \$445 million to support the early stages of international collaboration in the NATO Cooperative Research and Development Program. The guarantee of funding, appropriated by Congress, was a striking contrast to the empty words of Dulles, McNamara and Carter. The clear demonstration of political leadership and willingness to collaborate at the R&D stage also addressed European fears of technological subordination. Many government officials and experienced observers felt that the critical attitudinal obstacles identified earlier were being overcome, and that it was possible to identify "what might be called the beginnings of an Alliance defence industrial base."¹⁶

Positive signals regarding what Callaghan terms first-order structural difficulties added to the optimistic outlook of this period. The NATO Conceptual Military Framework and the Alliance Cooperation Improvement

Strategy (part of CNAD's Conventional Defence Improvements program) laid the groundwork for the approval in December 1987 of the Conventional Armaments Planning System. The specific goal of the CAPS process was to identify as early as possible in the R&D phase any potential cooperative projects. The CAPS successfully met the requirements of its initial trial phase and was established formally within NATO.¹⁷ A process and a forum for the organized pooling of NATO members' military requirements, and a means of reducing duplicative R&D, appeared to exist at least in an early shape.

By the end of the decade, however, the foundations of these attitudinal and structural improvements proved to have been built on shifting sands. The flagship of cooperation, the so-called 'Nunn-funded' projects, fell victim to external events which exposed the fragile and often narrowly selfish basis of support for the initiative inside the US. The unexpectedly rapid collapse of the Soviet conventional military threat in central Europe, national fiscal problems, and the continually leaping costs of highly advanced defense technologies led to a budget squeeze and pressure to reduce procurement expenditures. The U.S. Services, while happy to utilize funds appropriated under the Nunn Amendment, did so only to support projects peripheral to the integrity of their key programs. As pressure on acquisition budgets increased, these peripheral projects bore the brunt of stretch-outs and cancellations. Unwilling to be seen to support unwieldy and expensive international ventures easily portrayed to the electorate as exporting American jobs and technology while employees faced large scale lay-offs, Congress put up little resistance. As the Nunn-funded Autonomous Precision-Guided Munitions (APGM) project, the NATO

Frigate Replacement (NFR-90), Modular Stand-Off Weapon (MSOW) and the Advanced Short Range Anti-Air Missile (ASRAAM) each were cancelled, the former head of the DoD's International Programs office commented that "I don't think we have a pattern for success--although we have a couple of patterns for disaster."¹⁸ The question that remained was whether defence economic cooperation "is now permanently on the wane or just entering a new period of realism and maturity."¹⁹ The rest of this section of analysis addresses this issue by examining trends and events beyond the immediate organizational boundaries of NATO, ending with a return to that forum and a discussion of the most recent proposals to create more open transatlantic defence trade.

c) Economic Regionalism and Transatlantic Cooperation

The failure of these collaborative efforts is the most visible sign of a more troubling tendency towards economic regionalism and the possibility of a 'Two-Pillared NATO'. Such a security structure need not create significant problems if it is arrived at by mutual consent (though Canada historically has expressed great concern even over this possibility). However, if the Alliance is polarized as a result of what earlier was called divisive competition - a mixture of competition and conflict in economic relations - then the repercussions may be more severe.

The initial impetus towards bilateral Canadian-American defence economic cooperation was internal and functional, rather than based upon external political relations, and may be traced as far back as 1917. The Defence Production and Development Sharing Arrangements of 1958 and 1963 respectively are recognition of Canada's inability to support the full

range of domestic DIB capabilities - indeed, it may be said to be the first western allied nation to succumb to structural disarmament.²⁰ The creation of the North American Defense Industrial Base Organization (NADIBO) in 1987 thus might be seen simply as the next phase in this functionally-driven trend, as formal recognition of the existence of a de facto integrated NADIB. The new NADIBO, a specifically security-oriented body, in turn therefore could be argued to represent a step towards creating the North American pillar of Thomas Callaghan's two-pillared and cooperative western alliance.

This interpretation, however, overlooks the force of national economic interests, especially domestic protectionist sentiments in the US which reinforced existing concerns over the security implications of a decaying and dependent defence manufacturing sector. A variety of proposed protectionist amendments to the Defence Appropriations Act seemed portentous of future new restrictions on access to that market. The rejection of Canadian suggestions that the defence sector be included in negotiations for the Free Trade Agreement raised concerns over the future viability of the export-dependent Canadian DIB, and the current disagreements evident in discussions of the Pentagon's review of bilateral trading arrangements further suggests that awareness of such trends played a part in the Canadian government's and industry's desire to move towards some more formal NADIB linkages.²¹ To the extent that this is correct, the NADIBO may be related as much to contemporary international economic trends towards the emergence of competing regional blocs as it is to bilateral defence imperatives or any vision of cooperation.

The intensification of defence economic cooperation within Europe during the 1980s, closely related to the commercial integration formalized in the Single European Act, has led to expressions of concern over the possibility that "we will see an increase in US-European confrontations in the fields of technology, industry and trade."²² There is a considerable literature already existing on this question, but two recent examples are cited here which, it is argued, clearly indicate the likely divisive consequences of European defence economic integration for transatlantic relations.

As part of its integration program the European Commission proposed to establish a tariff on the import of all dual-use items and subcomponents, that is, goods with both defence and commercial applications. Such trade makes up the bulk of US and Canadian defence trade with EC states, and the draft of the Common External Tariff met with strong opposition from those countries' governments and industries. While the CET idea has since been placed on the shelf by the Commission, the issue is not settled and must be re-examined before 1 January 1991 to comply with the stipulations of the Single European Act.²³

It may be the case that some of the darker (or less creditable) motives attributed to the EC over this matter were exaggerated, and certainly even the EC members themselves were not united in support of the tariff, but the heated and vocal opposition it generated clearly points to the existence of strongly divergent views and expectations under the surface of US-European relations. These divisions likely were one of the motivating factors behind Secretary of State Baker's recent warning, referred to earlier, that a breakdown of discussions in the GATT would have dire consequences for transatlantic economic ties.

Focusing specifically on the defence sector, the 'Action Plan' set out in the 1988 Vredeling Report of the Independent European Program Group (IEPG) began the official process of creating a more open transnational European DIB and equipment market.²⁴ While official statements argued that this could help to provide the basis for better and more balanced two-way defence trade, there are reasonable grounds for doubt as to such an outcome. In particular, on 16 November 1989 the IEPG members signed the 'Coherent Policy Document' and Copenhagen Communiqué. The IEPG Policy Document attached to the Communiqué held out the attractive prospect of open access to the European Defence Equipment Market (EDEM) for North American manufacturers, and stressed the non-protectionist nature of its recommendations. However, in the Communiqué itself the paragraph on transatlantic dialogue included the condition that such opportunities for non-IEPG suppliers must be "consistent with their national policies and on the basis of reciprocity."²⁵

That the Document and Communiqué even indirectly could lay the foundations for justifying the future imposition of new European protectionist DIB or defence trade measures has been rejected by those participants involved whose preferences are in favour of open trade and active cooperation. One must assume nevertheless that the IEPG members recognize as do other officials that

The USA will simply not give up their protectionist restrictions; this is the heart of American nationalism, and the defence-industrial complex would not tolerate such an intrusion into US national security.²⁶

Statements by IEPG members less enthused with transatlantic ties also indicate that the initiative possesses strong potential to result in protectionist measures which could bring to the boil the disputes and

divisions simmering between the NATO allies.²⁷ To this author at least, the possible longer-term implications of this IEPG document bear a strong resemblance to the EC's much more controversial tariff proposal though in a new and less direct form, and from an alternative institutional source.

d) The International Defence Market and Corporate Activities

Signs at the intergovernmental level of a movement towards economic regionalism and sectoral protectionism in defence trade and industrial base policies should be viewed in the context of a broader pattern of structural uncertainty in the international political economy. The precise shape of this newly-emerging system (if it can be labelled as such) remains uncertain, but its central features are reflected by - and are a direct as well as indirect cause of - changes occurring in the international defence market. Of particular note for the present analysis is the manner in which these changes, in addition to stresses unique to the defence sector, have resulted in an ironic about-face by manufacturers and governments in their attitudes towards international cooperation, the possible implications of which are discussed below.

Changes in what Susan Strange has termed the primary structures of production and knowledge are illustrated by the shifting comparative advantage and international division of labour apparent in the field of advanced technology defence and dual-use products. This shift is most notable between the US and Japan, but may be seen in transatlantic relations and even in the rising technological capabilities of defence producers such as South Korea. The acrimony surrounding the proposed US-

Japan FSX fighter project may be linked directly to these changes, as the Congress reacted against what it saw as unfair technology transfer requirements which favoured a powerful economic competitor and could result in the loss of domestic employment. Concerns were expressed regarding the exclusion of American industry from the European EUCLID defence research program, which would improve European R&D levels and cut US companies out of future markets in Europe. The possibility that the Korean Fighter Project (KFP) would aid in the development of the South Korean aerospace industry, which might later become a competitor with US manufacturers of engine and aircraft components, led to unusual government attention and debate.²⁸

While it may be unfair to single out the US as an example, the importance of access to that market for Canadian industry renders domestic American protectionist sentiment particularly critical. There exists ample evidence of such sentiment being translated into Congressional legislation: restrictions on machine-tool and ball-bearing imports in 1986 and 1988, and Senator Alan Dixon's proposed Defence Industrial Base Preservation Act in 1987 are recent examples, while Dixon also led Congressional efforts to review the KFP agreement. Efforts by Representative Mary Rose Oakar and (again) Senator Dixon to add restrictive "buy-American" requirements and offset reporting regulations to the new Defence Production Act were headed off temporarily at least. Yet, at a time when renewed and serious attention is being paid in the Congress to the possible necessity of establishing economic conversion legislation to assist defence contractors and newly laid-off employees, such protectionist sentiment is likely to continue to grow in force.²⁹

These broader patterns of change and uncertainty in the primary structures of production, technology and capital, and in the secondary structure of trade, have been sharpened in the defence market by influences unique to itself. Most notable of these, and an issue mentioned earlier in this paper, has been the spiralling cost of defence R&D. Structural disarmament has become a real concern even for the US. The international defence market today thus is characterized by global surplus capacity, increased competition for new orders while these are declining both in size and frequency, and the encroachment of structural disarmament. These sector-specific problems have added to the tendency of governments to view defence economic relations in parochial and political terms, and to link defence trade and DIB policies to non-defence, international economic interests. Again, in the US this was reflected in Secretary of State Baker's comments regarding the impasse at the GATT negotiations in Brussels.

Under these circumstances the difficulties associated with major cooperative research, development and production programs - including bureaucratic inefficiency, operational requirements compromises, cost overruns and frequent delays - provided a convenient (and perhaps reasonable) excuse for governments often equally concerned to avoid facing domestic accusations of exporting jobs and technological advantages. Combined with the additional budget squeeze resulting from the new East-West thaw and the 'peace dividend,' formal government-to-government cooperative projects rapidly collapsed. In place of this more traditional approach, the US government in particular emphasized a policy of handing the initiative to industry to identify potential cooperative ventures which they could establish on a financially-viable, profitable basis.

Governments' role became reactive and 'permissive,' to remove obstacles to inter-industry agreements.

This new character and level of cooperation involved a significant transformation as well in the attitudes and preferences of US and European industry. Throughout the 1950s to the late 1970s, industry on either side of the Atlantic was resistant to the notion of collaboration, which it saw as a government policy frequently marked by highly uncompetitive terms and a concern with equity rather than efficiency. By the late 1980s, however, declining markets and tighter defence budgets along with increasing international competition meant that on the basis of business logic alone, defence manufacturers had begun to look more favourably on cooperative strategies aimed at spreading costs, reducing risks and possibly obtaining wider market potential. The new government policies thus simply added greater impetus to this change of attitude.³⁰

In Europe, national consolidation is paving the way for increased international activity. The more traditional corporate strategy of cross-border mergers and acquisitions (e.g., GEC-Siemens of Plessey, or Thomson-CSF's of Phillips' defence units) has been added to by new ventures. Commercially-driven industrial alliances such as that between Thomson-CSF and British Aerospace, and shared-equity agreements such as those of Matra and GEC, or Marconi and Deutsche Aerospace, symbolize "the growing consolidation of a pan-European defence aerospace industry."³¹

These agreements and strategies might be interpreted as additional evidence of the emergence of a regional protectionist defence economic or DIB bloc in Europe. However, the latter half of 1989 also witnessed a large increase in transatlantic industry-to-industry agreements involving

US, British, Canadian, Spanish, West German, French and Dutch firms in cooperative R&D, production, and/or marketing operations. It is worth considering whether such industrial groups might be a third form of consortia, in addition to the national champions and pan-European consortia discussed above, to result not only from European market integration and the related rationalization of the aerospace and defence industry, but also from an industry undergoing a process of internationalization (or globalization) based on its own internal business and market-driven logic.³²

If the above amounts to more than merely idle speculation, the key question in terms of the present study is whether such inter-corporate agreements or strategies can counteract what is argued to be rising protectionist sentiment and the loss of government leadership at the political level. The analytical framework set out in Section II leads to the conclusion that corporate activities can succeed only in addressing barriers to cooperation at the second-order level, that of "governmental, military and industrial officialdom." Interviewees in foreign-owned Canadian companies and in Europe all pointed out that such industry initiatives are aimed solely at commercial prospects and profits, without wider political motivations.³³ While industry may alter the context within which government choices are taken, national DIB and defence trade protectionism remain fundamental obstacles at the first-order, political level.

e) Current Initiatives

One potentially countervailing initiative, if one accepts the concerns

expressed above, may exist in the form of the current discussions underway within the Conference of National Armaments Directors (CNAD) on the subject of NATO defence trade. Based initially on the suggestion by US Ambassador to NATO William Taft that the allies evaluate the possibility of creating a 'defence GATT,' discussion now has moved away from that contentious term and the idea of a formal trade treaty towards the idea of establishing an agreed set of trading principles and a commission to oversee such trade and to settle disputes which might arise.³⁴

Since the negotiations surrounding the Report on Defence Trade are ongoing, and therefore subject to modifications, details of the Report itself remain somewhat sensitive. However, one can identify several obstacles of varying degrees of importance that still lie in the path of its further development. First, there are clear differences in attitudes and opinions between the US and European members, for example, regarding the 'degree of openness' of their respective national markets, and indeed even over the meaning of the term 'openness.' A positive note in this regard is that disagreements over the first draft of the study report appear to have been overcome, and the most recent draft reflects greater mutual understanding over these basic reference points. Second, just as within the IEPG there exist intra-European divergences of opinions and objectives, so too do there appear to be competing perspectives and interests within the European grouping in the CNAD. The need to accept the principle of juste retour in defence trade, the time over which the transition to a free market can or should take place, and appropriate measures to protect the less developed defence industrial nations are recognized as important questions but agreement in practical terms has not been obtained. Finally, and ultimately perhaps the key issue, the CNAD

initiative is at the bureaucratic, 'second-order' level identified by Thomas Callaghan Jr. Without political and legislative support at the 'first-order' level, i.e. of heads of government and national legislatures, even some NATO officials involved in this issue currently have suggested that existing opposition at the bureaucratic level will suffice to prevent the initiative from moving beyond the stage of a useful paper exercise.³⁵

The analysis presented thus far has focussed upon the 'external dimension' of defence economic and DIB policies between Canada, the United States and Europe. Intergovernmental relations, initiatives begun within or by international organizations (NATO, the EC, the IEPPG), structural changes in the international economy (particularly as reflected in the defence market) and corporate strategies or preferences were evaluated in terms of the general theme of the prospects for cooperation, competition and/or conflict in defence economic relations. These in turn were linked to the very useful terminology provided by Thomas A. Callaghan Jr., regarding obstacles to the creation of a cooperative transatlantic defence economic regime. It is apparent that while progress has been made in several areas, and through various means, in addressing second-order obstacles both attitudinal and structural, first-order difficulties continue to beset more fundamental advances. In some cases, as suggested above, there are signs even of significant reverses towards what has been called 'divisive competition' - economic regionalism, sectoral protectionism, and mercantilism.

The last section of the paper now turns its attention to an examination of the 'domestic dimension' of defence economic relations,

particularly in light of the preceding analysis but also regarding more specific Canadian factors. This includes government policy towards the defence industrial base, and the administrative structure overseeing various aspects of the DIB; the future of Canadian participation in International Joint Development Projects (IJDPs); the general business outlook for the industry, and its main strengths and weaknesses; and the views of the industry itself regarding its medium-term prospects. Given the obvious fact that to be comprehensive such an evaluation requires far more space than can be allotted here, this will take the form of a review of existing studies, ongoing policy discussions in the federal government, and interviews conducted by the author.

IV. THE CANADIAN DIMENSION

Canadian defence policy clearly is undergoing a period of great uncertainty while the government's stalling of the completion of the defence review leaves the direction of the armed forces unknown. Of course without NATO settling its own future, military as well as political, it is difficult to assess Canadian commitments and requirements. There is the danger of a defence review released prematurely being rendered rapidly obsolete by changes in its external context, as was the case in 1987. Nevertheless, currently there is no defence policy in Canada, which leads to the adoption of a 'wait-and-see' approach by federal departments and industry alike. It must be assumed that some significant force reductions will be made, especially involving the European commitment, and this in turn will affect procurement plans to varying degrees, but as long as the leadership vacuum persists one can have little except questions.

It might be assumed that this condition of uncertainty regarding specific plans, but reasonable certainty of force reductions and related changes in procurement, would leave Canadian defence industry in at best a precarious situation. However, despite the vocal protestations of some defence industry representatives following the budget cuts of the late 1980s, the aerospace and electronics industry overall in Canada remains relatively insulated from the worst direct effects of reduced defence procurement expenditure. As an admittedly rough and simple rule-of-thumb, these sectors depend on defence for only about 30 percent of total sales. As a result especially of the DDSA/DPSA links to the US market, some 75 percent of this is generated by exports. Using this guide one may estimate that aerospace and electronics industries look to the domestic market for between 7 and 10 percent of total sales, a significant portion of which involves repair and overhaul (R&O) of existing equipment and facilities rather than new capital equipment purchases. It is the latter that is vulnerable especially to possible new cuts or stretch-outs in procurement plans resulting from the defence review. The R&O business may benefit from such a review if existing equipment is retained, although it is subject to other countervailing trends in technological development.³⁶

Specific aerospace and electronics companies are more heavily dependent on defence contracts (domestic and foreign), and the shipbuilding and ship repair industry relies on government contracts for over 90 percent of its business. The latter remains an anomaly, however, and certainly is not regarded as a key component for the future of the defence sector in Canada despite its historical and regional economic significance. The point remains that in direct terms at least, the effects of reduced domestic procurement budgets on defence industries in Canada need not

perhaps be more than those resulting from the problems of corporate business planning in the absence of effective government leadership explicitly stating a new defence policy for the 1990s.

Below this highest 'political' level, and in less direct terms, one may identify some new problems that will face those charged with the administration of the government's interactions with the defence-related sector as well as continuing difficulties that may be exacerbated by leaner budgets. The heavy dependence of the defence sector on exports (75 percent approximately) translates into a dependence on access to the US market for 80 to 85 percent of total export sales. The result has been that

The government's involvement in defence industry has been directed towards establishing an environment, conducive to increased exports of domestic defence production.³⁷

Of three conditions regarded in one recent study as essential to sustain "commercially viable military production in Canada," the third (to increase domestic expenditures) is certain to prove impossible.³⁸ The remaining pair of conditions, access to the US market and to the markets of Europe and the Third World, now also appear problematic.

The difficulties arising in Canada-US defence economic relations already have been discussed. The recent Pentagon review of the bilateral trading relationship included criticism in particular of the use of offset requirements by the Canadian government to promote domestic, non-defence related business. While the early drafts of the review at times demonstrated more than anything the biases of the author and his ignorance of the benefits to the United States of the existing bilateral arrangements, there also were some genuine issues of concern. The complaint about non-defence related offsets in a defence trade arrangement

had been addressed at least in part by the new Canadian policy of seeking qualitative rather than quantitative benefits, fitting into the DoD's policy of establishing secure second-source supplies in the NADIB.

It is clear, however, that in continuing to pursue its political objectives such as reducing regional economic disparities, technological advancement, and support for small business through the medium of offsets (also called counter-trade), the government will have to tread warily. As defence economic issues continue to rise in political debates, any significant disputes over offset requirements will serve only to fuel protectionist sentiments in Congress. Domestic demands for economic or other benefits from Canadian defence contracts placed with US companies will have to be met through policies carefully designed and administered so as to minimize the likelihood of initiating a potentially damaging dispute. The nature of the US procurement process undoubtedly will make this a very difficult task, particularly as American defence spending also declines.³⁹

The need to manage and coordinate policy in Canada will not be aided by the existing structure of administration concerning defence procurement, trade, and 'domestic economic benefits.' Efforts have been made to reduce the problems of competing or even contradictory departmental requirements being placed on industry, and to improve government-industry relations and coordination. The contract value level at which ISTC will begin to seek industrial benefits (IBs) has been set at CA\$100 million; Supply and Services Canada now has a Procurement Opportunities Board; and the frequently-heard industry criticism of the use of IBs to establish new defence companies across the country instead of supporting those already struggling to compete at least has been recognized and is being evaluated. The 'stacking' of new project management problems on the shoulders of the

relatively small defence sector also is under review, although the process is regarded as being at too early a stage to be judged properly and there are doubts about feasible alternatives.⁴⁰

Of course there also exist government policies, programs and organizations of great benefit to industry. The Canadian Annual Procurement System disseminates information on forthcoming opportunities to second- and third-tier suppliers, in response to the latter's demands; the Canadian Commercial Corporation and the Trade Commissioners provide invaluable support in seeking out and obtaining exports; and the Defence Industry Productivity Program offers assistance to companies for capital investment, R&D, modernization and marketing (DIPP funding also is repayable: the lack of government support of independent R&D or 'IR&D' continues to be a problem cited by industry officials). Despite these positive aspects, there clearly remain a considerable number of bureaucratic or administrative issues to be resolved. If significant sectoral protectionism arises in defence trade with the US and Europe, and is exacerbated by declining domestic budgets and vacillating political leadership, the resolution of these issues will become both more important and more difficult to achieve.

Within the Department of National Defence several groups play a variety of roles in matters of procurement, industrial base policy, and international cooperation in armaments. Two in particular must deal with the issues raised in the preceding section as these affect Canadian defence policy planning and the domestic DIB. The Directorate of Defence Industrial Resources (DDIR) was a product of the Final Report of the Defence Industrial Preparedness Task Force. The DDIR is involved very

closely in the defence-oriented NADIBO with its counterpart in the Pentagon, the Office of Industrial Base Assessment. Both groups face an uphill struggle to continue to promote the NADIBO and to build on the latter's early momentum. Although there may be much greater support for an integrated North American defence industrial base within Canada, DDIR still must work to build consistent domestic support while acting with OIBA to educate or persuade Congressional representatives and Service acquisition staff who regard Canada as a foreign competitor. The trends outlined in this paper suggest that this will prove an increasingly arduous task.

Concern with domestic support for international cooperation also is the subject of continuing discussions in the Directorate General International Programs (DGIP). A recent discussion paper expressed its support for continued Canadian participation in IJDPS although it noted the existence of contradictory opinions and suggested an alternative system for funding new programs. The paper and the review process it set out clearly highlighted the diversity of issues, actors, and interests which must be taken into account by defence policy planners. The status of the European defence market and EC policies after 1 January 1993; the role of the WEU, IEPG, EDIG, and the EUROGROUP; EC-NATO; the US and the Pacific markets; and the several types of defence trading arrangements, all must be evaluated and fed into any consideration of the climate for cooperation. Within Canada, other government departments' (OGDs) views must be included, and industry consulted.⁴¹

The DND study is a good representation of existing support for international cooperation at the bureaucratic level in Canada, as it similarly exists in other NATO states; and its analysis included a balanced

perspective of the factors favouring its preferred international outcome as well as those which may lead to divisive competition. Again, as with the CNAD study discussed earlier, it remains to be seen whether such support at the 'second-order' level can generate a commitment at the critical 'first-order' or political level.

The impact of changes in intergovernmental relations and international defence markets on the activities of those government agencies charged with overseeing various aspects of Canadian defence economic policy and the DIB is only one element in a full analysis of the 'Canadian dimension.' As the DND discussion paper mentioned above also argued, it is essential to consider the industry perspective. This section therefore concludes with an evaluation of the industry's views on the economic viability of maintaining domestic defence-related production in Canada, and the medium-term outlook for the DIB.

The much publicized failure of the 1987 White Paper on Defence, successive additional budget cuts in April 1989 and March 1990, and similar reductions in US and European defence spending initially created considerable anxiety among defence contractors and investors in Canada (as everywhere else). Diversification into commercial markets and alternative government procurement sectors such as telecommunications and coast guard or search-and-rescue (S&R) was seen as part of a 'survival strategy.' Those companies most heavily dependent on government and foreign defence contracts, in particular, were regarded as very high risk investments. However, while rationalization and down-sizing of the industry still is regarded as inevitable - and perhaps even both necessary and healthy - the pessimism of 1988-90 has been replaced by careful, guarded optimism.⁴²

The limited vulnerability of the defence sector to domestic budget reductions already has been discussed. Such reductions do, of course, have indirect implications for general confidence in the defence sector and, in more tangible terms, for the ability to obtain export contracts. Domestic purchases may at times be essential before foreign governments will be willing to place contracts for similar products. In other respects, despite its dependence on access to export markets, even declining defence expenditures throughout NATO may have a more limited direct impact on Canadian-based industry.

The 'niche-market' orientation of the industry and the absence of any companies heavily (or at all) dependent on producing major platforms such as planes or tanks, dictated by government decisions made in the 1950s, now may prove beneficial. While quantities of new orders everywhere decline, the electronics component of major systems is increasing; and where budget restraints lead to cancellations or reductions or orders, this generally implies a requirement to modernize and upgrade existing systems. Trends towards decline thus may be countered by factors favouring continued demand. In some cases, such as CAE Industries, fewer orders but more advanced and costly systems may create greater demand - in this case the company dominates the training and simulation market.⁴³ Canadian industry also tends to specialize in high-technology products with relatively small and infrequent orders, a characteristic which creates problems for the larger and less flexible US primes. In this sense, a more competitive international market and protectionist sentiments may have less detrimental effects on export opportunities. As one industry executive recently argued, Canadian companies' attitudes have become less pessimistic as they

recognize "that change itself presents some opportunity for industry in general and for the defence industry in particular."⁴⁴

V. CONCLUSION

Defence economic relations and associated issues have gained relatively high levels of political prominence recently as the members of the Atlantic Alliance have been faced with the unexpected and rapid transformation of the international security environment and the stresses of continuing structural change in the international economy. In these uncertain circumstances, the 'low politics' of defence economic relations can provide a more solid foundation for other agreements and discussions, or else they may undermine all efforts to manage this transitional period. The mix of cooperation, competition and/or conflict over questions of defence industrial base policies, defence trade relations and the future of international joint development projects may have a significant 'spill-over' effect.

This paper set out to develop a basic analytical framework for the evaluation of current defence economic issues, one that was both practical and policy-oriented yet comprehensive enough to incorporate the wide diversity of factors involved. Its underlying theme or question was the direction of and prospects for cooperation, competition and conflict, particularly related to the persistent failure of efforts to establish cooperative international (NATO-wide) regimes to cover matters of DIB policies, trade and armaments cooperation. Following this broader evaluation and consistent with the inclusion in the analytical framework of domestic as well as international influences, the paper then considered the implications of these matters for Canadian defence policy planners and the

defence industry itself. Although not completely pessimistic, the view of the international dimension expressed here is cautionary. Bureaucratic initiatives in NATO and in the Department of National Defence continue to support cooperative endeavours, and corporate strategies have altered considerably since the 1960s, but critical political support for defence economic cooperation appears to be absent while strong pressures are developing that may push nations further towards the divisive competition that is in no one's interest.

Notes

¹Written response to the author from a Canadian official in NATO, January 1990.

²Quote reported in Defence Newsletter, ed. Dan Middlemiss, 6 December 1990.

³For example, Joseph S. Nye Jr. and Sean M. Lynn-Jones, "International Security Studies: A Report of a Conference on the State of the Field," International Security 4 (1988): 5-27; Paul Buteux, "Regimes, Incipient Regimes and the Future of NATO Strategy," Occasional Paper 6 (University of Manitoba: Programme in Strategic Studies, 1989); and Ethan B. Kapstein, The Insecure Alliance: Energy Crises and Western Politics Since 1944 (New York: Oxford University Press, 1990).

⁴Interview with Canadian official, NATO HQ, Brussels, January 1991.

⁵See in particular a series of reports for the Centre for Studies in Defence Resources Management including David Mutimer, "Political Cooperation in Europe and the Transatlantic Defence Industrial Relationship," Solicited Research Report 2; Andrew Latham and Michael Slack, "The Evolving European Defence Sector: Implications for Europe and North America," Solicited Research Report 3; and James Fergusson, "Canadian Defence Trade and Europe: Methodological Concerns and Empirical Evidence," Solicited Research Report 4 (National Defence College, Kingston: CSDRM, 1990).

⁶The debates are summarized well in Stephen D. Krasner (ed.), International Regimes (Ithaca: Cornell University Press, 1983).

⁷Joseph M. Grieco, "Anarchy and the Limits of Cooperation: A Realist Critique of the Newest Liberal Institutionalism," International Organization 3 (1988): 485-507.

⁸Thomas A. Callaghan, Jr., Pooling Allied and American Resources to Produce a Credible, Collective Conventional Deterrent. A Report prepared for the US Department of Defense (1988), pp. 3-9.

⁹Callaghan, Pooling Allied and American Resources, p. 9.

¹⁰On the notion of international economic structures see Susan Strange, "Still an Extraordinary Power: America's Role in a Global Monetary System," in The Political Economy of Domestic and International Monetary Relations, eds., Raymond Lombra and Willard White (Ames, Iowa: Iowa University Press, 1982), pp. 73-103; Gilpin provides a detailed analysis of the movement of the international political economy towards economic regionalism, sectoral protectionism and mercantilist policies in Robert Gilpin, The Political Economy of International Relations (Princeton: Princeton University Press, 1987).

¹¹Edward Fursdon, The European Defence Community: A History (New York: St. Martin's Press, 1989), p. 45.

¹²Callaghan, Pooling Allied and American Resources, p. 124.

¹³Eldon J. Healey, "The Conference of National Armaments Directors: NATO's Forum for Armaments Cooperation," Canadian Defence Quarterly, February 1990, p. 25.

¹⁴Callaghan, Pooling Allied and American Resources, p. 129.

¹⁵Michael L. Moodie and Brenton C. Fischmann, "Alliance Armaments Cooperation: Toward a NATO Industrial Base," in The Defence Industrial Base and the West, ed. David G. Haglund (London: Routledge, 1989), p. 28.

¹⁶Moodie and Fischmann, The Defence Industrial Base and the West, p. 33.

¹⁷Healey, Canadian Defence Quarterly, p. 27; and Moodie and Fischmann, The Defence Industrial Base and the West, pp. 31-32.

¹⁸Quotation by Everett Greinke, reported in David Silverberg, "Two-Way Defense Trade Street Becomes Rocky," Defense News, 9 October 1989, p. 49.

¹⁹Silverberg, Defense News, p. 46.

²⁰Regarding the impetus towards bilateral cooperation, see Charles Pentland, "The Canadian Dilemma," in Dilemmas of the Atlantic Alliance: Two Germanies, Scandinavia, Canada, NATO and the EEC (New York: Praeger, 1975), p. 169. The history of the Defence Production and Development Sharing Arrangements is detailed in Dan Middlemiss, "The Road From Hyde Park: Canada-U.S. Defense Economic Cooperation," Paper presented to the Conference "The Road From Ogdensburg: Fifty Years of Canada-U.S. Defence Cooperation," St. Lawrence University, Canton, New York, 16-17 August 1990.

²¹The Congressional measures were the Berry, Bayh and Burns-Tollefson Amendments concerning speciality metals, naval procurement and the funding of foreign R&D. Views about the reasons for the decision to exclude defence from the FTA negotiations ranged from recognition of the strength of protectionist sentiments in Congress to simple recognition of the success to date of existing bilateral defence economic arrangements. Canadian responses to the Pentagon review of the DDSA and DPSA include skepticism, dismissiveness, sympathy and anxiety, while the idea of seeking a formal bilateral defence trade treaty has surfaced at several industry presentations and meetings attended by the author.

²²Jean-Louis Gergorin, Director for Strategy, Matra (France), reported in Giovanni de Briganti, "Trying to Dispel 'Fortress Europe' Perceptions," Defence News, 6 February 1989, p. 4.

²³The CET dispute is discussed in James Fergusson and Ernie Keenes, "Canada's Defence Industries and Europe 1992: A Preliminary Investigation," Occasional Paper 11 (University of Manitoba: Programme in Strategic Studies, 1990). Also see Theresa Hitchens and David Silverberg, "Protests Bog Down European Import Tariff on U.S. Defence Goods," Defense News 30

January 1989, p. 3. Lack of internal EC support for the tariff proposal was discussed in confidential interviews, Brussels, January 1991.

²⁴Towards a Stronger Europe, 1 and 2, A Report by an Independent Study Team established by Defence Ministers of Nations of the Independent European Programme Group. Several officials have suggested that the IEPG Action Plan needs to be reviewed to obtain renewed momentum as it has become obsolete. Interviews, Brussels, January 1991.

²⁵Copenhagen Communiqué, IEPG/MIN/D-14, 16 November 1990, p. 4. The IEPG document attached to the Communiqué is sub-titled as the Policy Document on the European Defence Equipment Market. This document does stress the importance of avoiding measures that could be viewed as protectionist, especially paragraph 3.

²⁶Written response to the author from a Canadian official in Washington, D.C., September 1990, confirmed during interviews also in September 1990.

²⁷British officials at the Ministry of Defence, London and at NATO HQ clearly emphasized that the Communiqué was not intended to justify protectionist measures, although in the latter interviews the existence of different views within the IEPG was recognized. Interviews, London and Brussels, January 1991. These alternative views were summarized in the statement by Philippe Roger of the French Ministry of Defence's Directorate of International Relations. Roger argued that "if U.S. protectionism were to become systematic, we would close access, and there would be retaliatory measures." Reported in Giovanni de Briganti, "IEPG Moves to Open Markets," Defense News, 26 November 1991, p. 3. Other interviewees in London and Brussels also expressed concerns that this could take place.

²⁸An example of the new US attitude towards defence cooperation with Japan may be seen in Patricia Schroeder (D-Colo.) "Relationship With Japan Must Change," Defense News, 21 March 1988, p. 28. For concerns over access to the EUCLID programs, see Beyond 1992, European Integration: Background and Definitions (Washington, D.C.: Aerospace Industries Association of America, Inc., 1989), p. 6. On the KFP, see for example David Silverberg, "Sources: S. Korean Aerospace Plan Too Ambitious," Defense News, 22 January 1990, p. 1.

²⁹Interviews with Pentagon officials, Washington, D.C., September 1990.

³⁰Interviews with Canadian and US defence industry representatives, various, 1990-1991.

³¹Jeffrey Boutwell and Peter Malone, "Mergers Only Part of 1992 Picture," Defense News, 9 October 1990, p. 40. A good example of such cross-national commercial alliances was the agreement between Aerospatiale and Matra of France with Messerschmidt-Boelkow-Blohm (now part of Deutsche Aerospace) of Germany jointly to fund the development of a new hypervelocity missile, the RM-5. This missile is intended to form part of an upgraded Roland surface-to-air missile system, in combination with the new

Glaive fire unit being designed by Aerospatiale and MBB. Since neither France nor Germany was regarded as likely to scrap their existing stocks of Roland systems, the new system was intended principally to compete in the international market for SAMs.

³²Giovanni de Briganti, "Spate of Trans-Atlantic Agreements Announced at Paris Air Show," Defense News, 15 June 1989, p. 16. Also telephone interview with a Canadian industry representative, February 1990.

³³Interviews, various, 1990-91.

³⁴For Taft's original proposals see Ambassador William H. Taft IV, "Toward Defense Industrial Cooperation in NATO," The Alliance Papers 23 (Brussels: US Mission to NATO, 1990). The newest draft of the CNAD study is entitled "Initial Investigation of the Feasibility of Improving the Conditions of Defence Trade Between NATO Allies," Report of the Task Group, Conference of National Armaments Directors, North Atlantic Council, document AC/259-D/1437, 12 March 1991. The study discusses a variety of alternative measures by which to pursue this goal, including those mentioned in the paper.

³⁵Interviews, Brussels, January 1991. If follow-on action is agreed to by the North Atlantic Council, another report will be prepared for the October 1991 CNAD meeting.

³⁶The estimate of percentage sales dependent on domestic orders by the Canadian government was suggested during interviews with Canadian government officials, Ottawa, November 1990. The author accepts responsibility for mathematical errors, however! For the R&O business, although the retention of older systems will create work in upgrading and modernization, advances in technology are reducing failure rates (i.e. there is a longer mean time between replacements while compartmentalization is making replacement easier.

³⁷P. H. Wall, "Defence and Industrial Policy in Western Industrialized Countries, The Case of Canada," Staff Note 2 (National Defence College, Kingston: Centre for Studies in Defence Resources Management, 1989), p. 27.

³⁸The three conditions are outlined in Wall, Staff Note 2, 27-28; the conclusions regarding the feasibility of ensuring the conditions are those of the present author.

³⁹Interviews with Pentagon officials and other US defence industry analysts, Washington, D.C., September, 1990; and Canadian government officials, November 1990.

⁴⁰Presentations made to the Canadian Industrial Benefits Association, Winter 1990 Program, 14 February 1990, Ottawa. Also interviews, Ottawa, November 1990.

⁴¹The author is grateful for the opportunity to review this discussion paper, and for the continuing assistance of the Department of National Defence.

⁴²This revised assessment was evident at a seminar attended by the author, "Aerospace and Defence: Investment Considerations for the Nineties," McDermid St. Lawrence Limited, Queen's Own Rifles Officers' Mess, Ottawa, 26 November 1990.

⁴³Telephone interview with a Canadian industry representative, February 1990.

⁴⁴Presentation made by a senior Canadian industry representative to the seminar "Aerospace and Defence," Ottawa, 26 November 1990.