CONSTRAINING CONVENTIONAL PROLIFERATION:

A ROLE FOR CANADA

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Research Report Prepared for the

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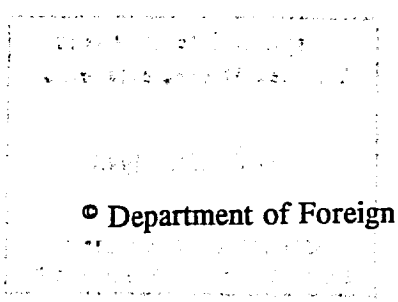

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Verification Research Program Preface

This report examines the issue of conventional arms proliferation from a Canadian point of view. It places particular emphasis on identifying pragmatic options for action, based on Canadian national interests, that could contribute to international efforts to constrain conventional arms proliferation. It also addresses the strengths and limitations of Canada's ability to contribute to such international efforts.

Among the issues discussed are the global conventional arms trade, Canada's defence production and exports, export controls, transparency measures (such as the United Nations Register of Conventional Arms), the relationship of arms spending to human rights as well as social and economic development, and post-conflict conventional weapons disarmament measures. While primarily directed at exploring a possible role for Canada in constraining conventional weapons proliferation, the report's findings have wider relevance to international discussions on this issue.

This comprehensive and thorough examination of the issue of conventional proliferation underlines the complexities surrounding the identification of both causes and practical solutions in this area. While the ability of Canada to influence these questions is limited, as the report points out, there are constructive actions that might be undertaken both unilaterally and, particularly, in concert with like-minded countries. Several of the research avenues suggested by the report are actively being pursued.

This study was commissioned under the Department's Verification Research Program to support bilateral and multilateral efforts by Canada to address aspects of the conventional arms issue as identified by the Minister of Foreign Affairs in his statement to the Forty-Ninth General Assembly of the United Nations and as outlined in the Government's foreign policy statement of 1995, "Canada in the World". It was prepared by a study team assembled through York University's Centre for International and Strategic Studies and under the skilful direction of Dr. Keith Krause. The study team completed its work in late 1995. The report is published as part of an on-going commitment to share selected independent research undertaken for the Department to promote a dialogue on important non-proliferation, arms control and disarmament issues.

The views contained in this report are those of the authors and do not necessarily reflect those of the Department of Foreign Affairs and International Trade or of the Government of Canada.

Acknowledgements and Authorial Note

This report is the product of a collaborative effort between four individuals who represent a wide range of viewpoints on the topic of conventional proliferation. Although no effort was made to produce a consensus document, as far as possible competing perspectives from industry, the non-governmental sector, and academia were presented and taken into consideration when framing conclusions or recommendations.

First drafts of chapters one and five were written by Keith Krause; Ken Epps drafted chapters two and six, and parts of chapter four. He also contributed material from his database on the Canadian defence industry and Canadian arms exports to chapter four. Bill Weston drafted chapters three and four and David Mutimer wrote the first draft of chapter seven and a part of chapter six. Keith Krause then revised the entire report, adding, moving and consolidating material for all of the chapters. The revisions were read by all contributors, and final changes were made to take account of their comments. In the end, it was not appropriate to put individuals' names on each chapter, since all of them contained significant input from the other project participants, reflecting well the collaborative nature of the report.

The report's authors had the opportunity to discuss the project and draft chapters at two workshops at Wilfrid Laurier University, and benefitted from the observations or comments of Kim Carter, Ron Cleminson, Alan Crawford, Marc Kilgour, Hal Klepak, Andrew Latham, Edward Laurance, Jim Macintosh and Jill Sinclair. Special thanks are due to Marc Kilgour, for the facilities he provided at the Laurier Centre for Military Strategic and Disarmament Studies, and to Alan Crawford of the Department of Foreign Affairs and International Trade, for his ongoing assistance, and willingness to provide comments, materials, and enormously helpful suggestions along the way.

Given the importance of technological issues in this report, it should also be noted that the authors live and work in four different cities, and that their sustained collaboration would have been impossible without the Internet. Files were transferred, drafts exchanged, and comments relayed, in a way that would have been unimaginable a few years ago. The final report was assembled at York University, in the Centre for International and Strategic Studies, where assistance with various aspects was provided by Heather Chestnutt, Rose Edgecombe, Wendy Kubasik and Andrew Latham.

The views presented in this report are those of the authors, and do not represent official policy of the Canadian government, or any other organization to which the authors may be affiliated. Responsibility for any errors of fact or judgement rest with the authors alone.

Summary and Recommendations

The Causes and Consequences of Conventional Proliferation

The global proliferation of conventional weapons has earned a prominent place in the post-Cold War foreign policy agenda. The human and material toll of the relatively unconstrained flow of conventional weapons is large: the vast majority of the 20 million war-related deaths since 1945 have been in conflicts fought exclusively with conventional weapons, and the thirty-nine major ongoing conflicts in 1994 have been fueled by arms, especially light weapons, that have been amassed in the world's arsenals. Conventional proliferation is perhaps the last remaining important issue on the arms control and non-proliferation agenda that has not been comprehensively addressed.

Several contradictory pressures make the issue of conventional proliferation uncommonly complex. These include:

- the right of states to self-defence, and to the weapons they deem necessary for security;
- the decline in the political and strategic considerations that fueled the arms trade;
- the increase in the economic pressures for arms producing states to export weapons;
- the impact of changing conceptions of security that highlight the internal and economic consequences of unconstrained proliferation.

At the same time, the end of the bloc-to-bloc confrontation has brought to the forefront international concern with the consequences of internal and regional conflicts, the threats to "human" or "societal" security created by protracted conflicts or authoritarian rule, and the impact on development of the economic resources devoted to armaments and armed forces. Other "non-military" threats to security have also risen in prominence in recent years, including such issues as resource depletion, environmental degradation and economic disparities, while at the same time, traditional military threats to security, although they may have waned, have not disappeared.

The problem of conventional proliferation can be defined as:

> *the diffusion of weapons, associated technologies or expertise that produces an adverse effect on local, regional or global security and stability.*

In light of a broader understanding of security, however, the "problem" of conventional proliferation is really three related clusters of problems, each of which has a different set of appropriate solutions (explored in chapter five). Unconstrained conventional proliferation can:

- fuel regional inter-state arms races and lead to increased conflict and even war;
- exacerbate internal conflicts, thwart progress towards democratization and good governance, and entrench authoritarian rule;
- as part of broader military expenditures, consume scarce resources that could be devoted to social and economic development.

Each of these three clusters of problems possesses a different set of solutions that can be advocated:

- The problem of interstate conflict must be tackled with measures that deal with major weapons systems and military technologies, and concentrate on arms control, transparency, and confidence-building;
- The problem of good governance and internal conflict must be tackled with measures that deal with light weapons, and concentrate on micro-disarmament, demilitarization, conflict resolution, and post-conflict peace-building.

• The problem of the impact of arms acquisitions and military spending on social and economic development must be tackled through international development assistance policies (bilateral and multilateral), and through strategies that build governmental capacities and promote civil society.

Of course, real-world problems do not come so neatly packaged, and these three clusters of problems and potential solutions are interrelated in complex ways in particular regional or global situations. Hence some effort needs to be devoted to developing comprehensive or "umbrella" multilateral frameworks within which the more specific problems of conventional proliferation can be addressed.

The Changing Global Economic Context

Paradoxically, increased attention to the problem of conventional proliferation coincides with a precipitous drop in the global arms trade. From a high of more than $70 billion a year (1993 $U.S. dollars) in the late 1980s, the annual arms trade is now worth about $22 billion. Similarly, global arms *production* has declined from more than $260 billion a year to less than $200 billion. Chapter three of the report discusses in detail the following issues:

• The six dominant suppliers (United States, France, Russia, Britain, Germany, China) accounted for *91 percent* of the world's arms exports. Five of these states are permanent members of the United Nations Security Council, and their role as custodians of "international peace and security" can and does conflict with their economic interests in arms exports.

• most major suppliers depend on exports *not* for their overall contribution to the economy (which is usually minimal), but because they sustain a high-technology defence industrial base in light of declining domestic arms procurement.

• Although only eight states can produce the entire range of advanced major weapons systems, more than 25 can produce and export some advanced systems or components. Up to 69 states (and 300 firms) can produce small arms and ammunition.

• the covert weapons trade is worth about $1-2 billion a year (five to ten percent of total transfers). Most of this is the light weapons and small arms used in local conflicts.

• the defence industry is restructuring and "globalizing"; this internationalization makes a multilateral approach to conventional proliferation indispensable.

• technological transformations are changing the relationship between military and civilian innovation (with *spin-offs* from defence being supplemented by *spin-ons* from civilian production), and increasing the desire of states for access to technology for civilian economic development.

Canada's Role in Global Arms Production and Trade

Canada is neither a major, nor an insignificant, player in global arms production or trade. Several facts and figures (presented in detail in chapter four) situate Canada's position:

Defence Production

• Canada produces more than $3 billion a year in military goods, placing it among the top ten producers of arms and products used for military purposes.

• the vast majority of its military production is components or dual-use goods with both civilian and military applications (such as aircraft landing gear, aircraft simulators, electronics, navigation and communications equipment). Few complete weapons systems are produced.
• the twenty largest defence firms in Canada account for more than 80 percent of defence production.
• the aerospace industry accounts for more than two-thirds of Canada's defence production, although 70 percent of its manufacturing is civilian, not military.
• defence production represents less than 0.7 percent of Canada's GNP, and employs about one percent of the workforce (between 60,000 and 80,000 persons).

Defence Exports

• more than one-third of Canada's defence production (about $1 billion a year) is exported.
• the defence industry is integrated with, and heavily dependent upon exports to, the United States - up to two-thirds of exports go to the U.S.
• the next most important destination for Canadian defence exports has been Europe, although exports to the Middle East and East Asia have increased in recent years.
• unlike most other major exporters, less than thirty percent of Canada's defence exports go to the Third World (the global average is seventy percent).
• most of the exports are dual-use goods or components, not complete weapons systems.

Canada's Interests and Participation in Constraint Efforts

Canada participates in virtually the entire range of global and (where appropriate) regional measures to constrain conventional proliferation. These include the Missile Technology Control Regime, the OSCE Principles Governing Conventional Arms Transfers, the UN Register of Conventional Arms, UN embargoes and various UN disarmament forums, the "New Forum" to control technology transfers, non-proliferation discussions in the ASEAN regional forum, the G-7 and the OAS, the "Core Group on Non-Proliferation," and the CFE Treaty. Canada also reports annually its military goods exports, and submits information on military holdings and procurement to the UN, in a belief that greater transparency and information-sharing is a crucial element of non-proliferation efforts.

This participation is driven by a range of political, military, economic, humanitarian and technological interests (summarized in Figure 4.1 of the report). These include a commitment:

• to building a stable international order, and to multilateral preventive, peacekeeping and peace-building operations, all of which can be made more difficult by easy weapons availability;
• to maintaining elements of a defence industrial base, the close control of military exports, and defence cooperation (including military exports and imports) with friends and allies;
• to promoting Canadian values, such as respect for human rights, democratic governance and the rule of law, which can be threatened by unconstrained conventional proliferation;
• to resolving the often-conflicting security and economic implications of civilian and military technology transfers.

Canada also brings certain strengths to efforts to constrain conventional proliferation. Its instinctive commitment to multilateralism, its membership in a range of multilateral organizations that span several

international divides, and its tradition as a conflict-resolver and problem-solver mean it could devote its efforts to ensuring:

- that participants in multilateral arrangements to constrain conventional proliferation (such as the OSCE or New Forum) do not work at cross purposes;
- that new partnerships and coalitions (such as in the Core Group or the MTCR) break down the barriers between suppliers and recipients of weapons technologies;
- that efforts to constrain conventional proliferation are conceived against the backdrop of a broader conception of security that takes account of its human as well as state-centered dimension.

Of course, Canada's position as a minor player in the global arms trade means that by itself, it cannot "solve" any of the problems of conventional proliferation. Further, its minor role means that high-profile or significant restraint initiatives that affect the interests of major suppliers much more than they affect Canada will not be considered credible within the international community.

Canada can pride itself on a relatively restrictive arms export control policy. It has not been amended since 1986, however, and many global changes and shifts in emphasis in Canadian foreign policy suggest that the policy could be updated and made consistent with the broad thrust of Canadian foreign policy. Measures that could be taken include:

- shifting the emphasis from *restricted* to *directed* trade, which could shift the "burden of proof" that a given sale would enhance security to proponents rather than opponents of a sale. This might require identifying those states to which Canada is willing to sell military goods (much like the Automatic Firearms Country Control List (AFCCL)), and perhaps also a sort of "impact assessment";
- amending the 1986 arms export guidelines to include respect for and protection of human rights without the existing conditional loophole ("unless it can be demonstrated that there is no reasonable risk that the goods might be used against the civilian population");
- adding criteria such as reporting to the UN Arms Register, participating in regional security forums, or having a democratic regime in which civilian institutions control the armed forces and military spending.

The potential costs and benefits of these possible changes are discussed in chapter seven.

Options for Constraining Conventional Proliferation

Many measures to constrain conventional proliferation are currently being pursued unilaterally and multilaterally, at the official and non-governmental level. These include changes to national export control systems, enhancement or creation of new multilateral supplier regimes, development of regional measures that address the demand-side of the equation, and global measures that concentrate on transparency and information-gathering issues. There are a number of weaknesses in existing measures in all of these areas that can and should be redressed.

Canada can contribute to these efforts by keeping the promotion of constraints on conventional proliferation a high-profile item on its foreign policy agenda, and by selectively pursuing specific initiatives that take advantage of Canada's international position and comparative advantages. In addition to unilateral changes to its arms export control policy, Canada could (either alone or in tandem with other like-minded states), pursue several or all of the following initiatives to constrain conventional proliferation. Each addresses an area in which existing measures are weak or non-existent, and focuses on

issues that are consonant with the general emphasis of Canadian foreign policy. These are discussed in chapter seven and summarized in Figure 7.3.

Multilateral Norm-Building Efforts

Effective international action to constrain conventional proliferation must rest upon a widely-shared understanding of the nature and limits of the legitimate trade in arms. Canada should contribute actively to the development of a consensual set of principles to outline the appropriate scope and limits to the arms trade. Canada has had an earlier success in devising and promoting a document on the "Principles of Verification," which was ultimately endorsed by the United Nations General Assembly. It could draw on that experience to advance an analogous set of principles through the United Nations Conference on Disarmament, or various multilateral forums. A draft set of principles, which incorporates the themes and emphasis of this report, is presented in Figure 7.2.

Harmonization of National Export Control Systems

Greater harmonization of national export control systems is important if already-stated goals of constraining conventional proliferation are to be realized. Four issues are central:

- harmonizing national (including Canadian) statistics and enhancing the statistics-gathering skills of developing states;
- encouraging wide membership in the New Forum to control technology transfers and focusing on the broad security consequences of technology transfers;
- exploring the development of a multilateral computerized data base, tracking, and early-warning system for dual-use exports;
- reinforcing national capacities for export control in emerging democracies.

Information-Sharing and Transparency Mechanisms

Increased transparency and better information-gathering mechanisms represent perhaps the most pressing short-term issues for constraining conventional proliferation. Outside of the trade in major weapons systems, the international community has a poor grasp of the nature and scope of the global arms trade. Canada should promote unilateral and multilateral measures to:

- resume tracking military goods exports to the United States (without which a credible Canadian case for greater transparency will be difficult to advance);
- explore with industry means by which greater information on existing exports could be made publicly available, without compromising issues of commercial confidentiality;
- continue to push for improvements to the UN Register of Conventional Arms, including the development of regional registers (where appropriate), the addition of new categories, the reporting of additional information, and the submission of details of national procurement and holdings;
- support official and NGO efforts to track the trade in light weapons and small arms;
- promote national transparency and reporting mechanisms.

Not all of these measures, however, have low direct and indirect costs, but some of them would not require the application of major new resources. In the current fiscal climate, attention should be paid to those measures that require only the redirection of time and effort within various government departments.

Demand-Side Issues

To date the demand side of the problem of conventional proliferation has been little addressed, although some efforts in the United Nations and other multilateral institutions have been started. Canada's long record of official development assistance and its concern with North-South issues make it well-placed to devote resources to exploring measures in four areas:

- development of regional transparency, confidence-building and information-sharing measures;
- development of restrictions on the acquisition of particularly destructive or destabilizing weapons;
- exploration of the linkage between military and armaments spending, the promotion of human rights, and social and economic development;
- promotion of practical early-warning and post-conflict disarmament measures.

The last two of these represent the most important medium and long-term issues to be addressed. With respect to the linkage between military and armaments spending and social and economic development, Canada should adopt a targeted approach that focuses on states with which it has long-standing partnerships, which are newly-democratizing, or which devote a disproportionate amount of resources to the armed forces. Canadian policies could work:

- to reduce the burden of the armed forces on society, via retraining or resettlement programs for former soldiers or the expansion of national service into civilian areas;
- to ensure that development assistance does not facilitate the diversion of resources into the military or armaments, and to ensure a proper balance of spending on the military and social and economic welfare;
- to develop government capacities for transparency and accountability in military and armaments spending, and to foster institutions and organizations within civil society to act as a check on arbitrary or secretive policies.

Some of these measures are being explored by multilateral financial or development institutions, which have underlined the importance of a cooperative rather than confrontational approach.

Finally, Canada could advocate a range of practical early-warning, micro-disarmament and post-conflict disarmament measures, including:

- the implementation of post-conflict micro-disarmament measures such as gun buy-back or weapons cantonment programs;
- the development of post-conflict disarmament mechanisms and procedures for United Nations peacekeeping or post-conflict peace-building forces;
- the exploration of "preventive micro-disarmament" measures, either through buy-back or weapons registration programs, or other measures to stem the licit and illicit trade in light weapons;
- the enhancement of measures to assist in mine clearance and rehabilitation efforts.

Future Research

Further research is needed on a wide range of issues connected with efforts to constrain conventional proliferation, as the linkages between arms production, conventional proliferation, conflict and insecurity

are often poorly understood. Many questions are noted in this report, but four are worthy of particular attention:

- exploration of ways to monitor and regulate the trade in light weapons, and the associated phenomenon of illicit weapons transfers;
- investigation of regional and comparative measures to identify states that devote disproportionate resources to armaments or military expenditures;
- analysis of the contribution Canada could make to building United Nations capacities for post-conflict or preventive disarmament efforts;
- examination of the role of defence production in the Canadian economy (in particular its high-technology sectors), with the goal of facilitating transition and restructuring efforts.

Conclusion

The problem of constraining conventional proliferation presents difficult dilemmas and complex issues to policy makers. The arms trade will remain a legitimate part of international politics, and the security concerns of states cannot be ignored or wished away. Likewise, the economic, political and technological dimensions of arms production and exports are perhaps unique in their complexity. Difficult policy trade-offs or choices must be made to balance conflicting goals or to follow a consistent foreign and domestic policy.

There are no short-term panaceas to conventional proliferation, but there are nevertheless many innovative and realistic initiatives that are explored in this report. As many of these as possible should be pursued by Canadian policy-makers, in order to address perhaps the most important issue on the current arms control and non-proliferation agenda, and to achieve greater security for states and peoples.

I The Causes and Consequences of Conventional Proliferation

The national and international security agenda in the post-Cold War world is crowded and confused. Policy makers are engaged in resolving ethnic conflicts, managing multilateral peace and security operations, negotiating arms control treaties, addressing new issues such as environmental change or human rights concerns, and aligning foreign policies with domestic economic interests and social concerns.

As the shape of the post-Cold War era has started to crystallize, most states have been forced to rethink many of the fundamental pillars of their national and international security policies. Concepts such as common, cooperative or human security provide some of the new architectural scaffolding for the foreign and security policies of Canada and its friends and allies.[1] Greater attention to the global, regional and internal dimensions of security supplement the traditional focus on national and inter-state relationships. The inter-dependent nature of security, and its link to democratization, good governance and respect for human rights, is now widely recognized.[2]

Concern with the global spread of conventional weapons has earned a spot on this crowded foreign policy agenda, and is an integral element of any post-Cold War peace and security policy. High-level interest in the subject was catalyzed by the 1990-91 Iraqi invasion of Kuwait, and the realization that the major arms suppliers had helped to create the arsenal they faced on the battlefield. Ways and means of constraining conventional proliferation are being explored in a multitude of forums, and it rises on the policy agenda whenever public attention is focused on such tragedies as the war in the former Yugoslavia (with its violations of the UN embargo), the massacres in Rwanda (which were fuelled by significant arms purchases in the preceding four years), the thwarting of democratization projects by the armed forces in places such as Haiti or Nigeria, the civil wars in Somalia and Angola, the difficulties of post-conflict peace-building in Cambodia and El Salvador, and a host of other conflicts and wars whose human toll mounts daily.[3]

Behind these issues lie a series of contradictory perceptions. On one hand, the end of the Cold War has meant that the perceived political, strategic and military value gained from supplying weapons to states in the developing world (broadly defined) has diminished. Insofar as political and strategic considerations were used to override more humanitarian concerns with regional and internal conflicts, this change has forced a reexamination of Western policies. The end of the East-West confrontation has also opened new opportunities for multilateral cooperation in peace and security issues (in the Organization for Security and Cooperation in Europe (OSCE), for example) and revitalized the role of the United Nations in this area.

On the other hand, under the United Nations Charter, every state possesses the right of self-defence, which has traditionally been interpreted to mean that they have the right to acquire appropriate means to achieve

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[1] On common security, see the Independent Commission on Disarmament and Security Issues (the Palme Commission), *Common Security: A Blueprint for Survival* (New York: Simon and Schuster, 1982); on cooperative security see Janne Nolan, ed., *Global Engagement: Cooperation and Security in the 21st Century* (Washington: Brookings Institution, 1994); Ashton Carter, William Perry and John Steinbrunner, *A New Concept of Cooperative Security* (Washington: The Brookings Institution, 1992); on human security see United Nations Development Program, *Human Development Report 1994* (New York: UNDP, 1994), 22-46. For an overview, see David Dewitt, "Common, Comprehensive and Cooperative Security," *The Pacific Review*, 7:1 (1994), 1-15.

[2] See Edward Mansfield and Jack Snyder, "Democratization and War," *Foreign Affairs* (Spring 1995), 79-97. President Clinton also asserted that "democracies don't attack each other" in his 1994 State of the Union address.

[3] See Stephen D. Goose and Frank Smyth, "Arming Genocide in Rwanda," *Foreign Affairs* (September/October 1994), 86-96; "Arms Trafficking to Bosnia Goes on Despite Embargo," *New York Times*, 5 November 1994.

security. In addition, the massive downsizing of military forces in the former Eastern and Western blocs has meant that arms industries throughout the world are struggling to survive, and that states are being forced to promote exports in order to maintain their defence industrial base. The rise in domestic welfare concerns in industrialized and industrializing states, and the long recession of the early 1990s has also meant that the economic and employment benefits from military exports cannot be overlooked. How to reconcile these two contradictory impulses, in both the short and long term, is a major theme of this report.

Canadian policy with respect to the trade in conventional weapons has been restrictive for many years. Canada is not a major player in the international arms trade (although it ranks among the top ten exporters), nor a large producer of weapons, and it occupies a unique position because of its close defence and security relationship with the United States (made concrete in the defence development and production sharing arrangements). The most recent statement of Canada's restrictive arms export policy (1986), denies military exports to:

- countries which pose a threat to Canada and its allies;
- countries involved in or under imminent threat of hostilities; and
- countries under United Nations Security Council sanctions; or
- countries whose governments have a persistent record of serious violations of the human rights of their citizens, unless it can be demonstrated that there is no reasonable risk that the goods might be used against the civilian population.[1]

In addition to a "blacklist" (the Area Control List) that bans all military exports to a specified countries, since the late 1980s most sales have been evaluated on a case-by-case basis that involves high level and often Ministerial review. Details of the Canadian export control system are given in chapter six. At a global level, Canada is a full participant in a range of multilateral instruments that address conventional weapons, most of which will be detailed below. Canada's general foreign policy goals also include a commitment to enhancing the effectiveness of the UN Register of Conventional Arms, and to exploring ways in which overseas development assistance can be used to encourage reductions in military and armaments spending.[2]

This report examines several aspects of the issue of *constraining conventional proliferation*, and provides some answers to the questions posed at the outset. It offers no panaceas, but is driven by a conviction that the contemporary international climate is ripe for some modest initiatives that could contribute to reducing the impact of the trade in conventional weapons on regional and internal conflicts, and on the pursuit of other social, political or economic goals that will guarantee greater security into the next century. Its concrete proposals and recommendations are detailed in chapter eight.

A Snapshot of Facts and Figures

Although a more detailed presentation will appear in subsequent chapters, it is useful to set the stage for the subsequent analysis with a brief overview of relevant facts and figures.

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[1] Canada, Department of External Affairs and International Trade, "Export Controls Policy," *Communiqué*, 10 September 1986.

[2] Government of Canada, *Canada in the World* (Ottawa: Government of Canada, 1995), 33; "Canada Planning Arms-Cut 'Reward'," *Toronto Star*, 18 April 1995.

In the past three decades, more than a trillion dollars worth of weapons have been bought and sold in the global arms market.[1] Perhaps four or five times that value have been procured for domestic forces from indigenous arms industries. In 1993, global military expenditures exceeded 800 billion dollars, of which more than 200 billion was spent in the developing world. This spending maintained more than 24 million soldiers under arms, with more than 17 million of these in the developing world. It also sustained a arsenal that today includes about 100,000 main battle tanks, 30,000 combat aircraft, 11,000 military helicopters and 140,000 armoured fighting vehicles.[2]

Virtually all of the international arms control and non-proliferation efforts (multilateral and bilateral) since 1945 have focused on weapons of mass destruction, culminating recently in the signing of the Chemical Weapons Convention and the decision to extend indefinitely the Nuclear Non-Proliferation Treaty. At the same time, all of the wars and violent conflicts since 1945 have been fought almost exclusively with conventional weapons, and most have taken place in the developing world. Many of these conflicts have been protracted and extremely resistant to resolution. Virtually all of the 20 to 40 million war-related deaths since 1945 have been from conventional weapons, and up to three-quarters of these deaths have been civilian.[3]

Paradoxically, increased attention to the proliferation of conventional weapons has coincided with a precipitous drop in the global arms trade. Twenty-five years of near-relentless increase peaked in 1987, when global arms transfers reached a total value of 74 billion dollars (1993 constant U.S. dollars). By 1993, however, the trade had dropped to no more than 22 billion dollars, although it may have levelled off near this point. These figures, however, measure only the annual *flows* of weapons; the *stocks* that have been built over the past thirty years have in many regions of the world not diminished appreciably. The most significant exception, of course, is Europe, where the Conventional Forces Europe (CFE) treaty has produced a dramatic decline in weapons arsenals.

The contemporary arms trade is highly stratified, and concentrated among a few major sellers and buyers.[4] In 1993, the United States sold 10.3 billion dollars worth of weapons, and captured 47 percent of the global market. Russia accounted for 12 percent (2.6 billion dollars), Germany, France and Britain together occupied 28 percent (6.1 billion dollars) and China 4 percent (950 million dollars). Together, these six suppliers accounted for 91 percent of the conventional arms market.

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[1] The figure for total spending on armament is in constant 1993 U.S. dollars, and has been compiled from successive issues of the United States Arms Control and Disarmament Agency publication, *World Military Expenditures and Arms Transfers* (Washington: Arms Control and Disarmament Agency, various years). Hereafter cited as ACDA, *WMEAT*. The ACDA definition of "developing world" includes all of Africa (except South Africa), Latin America, Asia (except Japan, Australia and New Zealand) and the Middle East (including Turkey and Greece). Except where indicated, other figures in this section are from the same source.

[2] Figures for the developing world compiled from the International Institute of Strategic Studies, *The Military Balance, 1992-93* (London: IISS, 1993), and for CFE states from 1 January 1993 holdings of treaty signatories, as reported in *The Military Balance, 1993-94*. The figures in 1995 are lower.

[3] The 20 million figure for war-related deaths is from Ken Booth, ed., *New Thinking about Strategy and International Security* (London: Harper-Collins, 1991), 355; the higher figure is from David Morrison, "Sounding a Call to Arms for the 1990s," *National Journal* (13 November 1993), 2728. A figure of 23 million can be found in Ruth Leger Sivard, *World Military and Social Expenditures 1993* (Washington, D.C.: World Priorities, 1993), 21. The 75 percent civilian casualties is cited in U.S. Congress, Bill S.326, "A Bill to Prohibit United States Military Assistance and Arms Transfers to Foreign Governments that are Undemocratic," 104th Congress, 1st session. This is Senator Mark Hatfield's "Code of Conduct" for arms transfers.

[4] Figures in this paragraph concern *deliveries*, not agreements, and are in U.S. dollars. ACDA, *WMEAT, 1993-1994*.

On the recipient side, the top ten importers accounted for 61 percent of the weapons. In this group one finds five Middle Eastern states, three NATO members, one Asian state, and one East European state. Overall, the Middle East, Western Europe and East Asia were the most important recipients of conventional weapons, receiving together more than three-quarters of the arms exported. A detailed breakdown of the market in 1993, and in the 1983-1993 period, is given in chapters three and five.

By themselves, however, these figures paint a misleading picture of the nature of the arms trade and the problem of conventional proliferation, since they mostly capture the inter-state trade in major weapons systems. Without additional information, one could conclude that constraining conventional proliferation was primarily a matter of gaining the agreement of the six largest arms suppliers, and placing restrictions on transfers to a small set of customers. But there are least four reasons why such a picture is misleading:

- it excludes the black and grey market trade in weapons. The covert weapons trade is worth between 1-2 billion dollars a year, or about 5-10 percent of the total.[1] Since this trade is most important in conflict zones that have been embargoed by the United Nations or other organizations, publicly available figures fail to demonstrate the close linkage between weapons and conflict.

- most of the data that is available excludes small arms and light weapons, the weapons that are widely used in the vast majority of current and recent wars. Again, although estimates are difficult to make, the trade in light weapons is probably in the range of 5-7 billion dollars a year.[2]

- aggregate data captures poorly the trade in military technology and know-how, licensed production, weapons components (such as upgrade kits or new weaponry for existing platforms) or dual-use systems that are subsequently modified for military purposes (such as electronics or data-processing). The move among most armed forces to procure off-the-shelf commercial technologies further erases the distinction between military and civilian technologies, and makes defining the parameters of the weapons trade even more difficult than before.

- it misses the fact that there are multiple sources for any one item, especially as one moves further down the ladder of technology, and almost always at least one "rogue" supplier (such as North Korea or Iraq) that can provide advanced technology and know-how, or can retransfer complete weapons systems.[3]

As Figure 1.1 illustrates, the conventional arms market can be pictured as a wide pyramid, with few suppliers of the most advanced systems, and literally dozens for small arms and low-tech light weapons. Although this diagram does not capture the various linkages across different "tiers" it does highlight the most important

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[1] This estimate is given in "The Covert Arms Trade," *The Economist*, 12 February 1994. See also Ed Laurance, "Political Implications of Illegal Arms Exports from the United States," *Political Science Quarterly*, 107:3 (1992), 109-140; R.T. Naylor, "The Structure and Operation of the Modern Arms Black Market," in Jeffrey Boutwell, et al, *Lethal Commerce* (Cambridge, Mass.: American Academy of Arts and Sciences, 1995), 44-60. Black market transactions are taken without the sanction of any government; grey market transactions are government-sanctioned but secret.

[2] Aaron Karp estimates that total consumption by sub-state forces in ethnic conflicts is between 2.5-3.5 billion dollars, making an estimate of the annual trade of double that figure a feasible one. Aaron Karp, "The Arms Trade Revolution: The Major Impact of Small Arms," *The Washington Quarterly* 17:4 (Autumn 1994), 73. The Secretary-General's *Supplement to An Agenda for Peace*, S/1995/1 (3 January 1995), paragraph 61, estimates that one third of the annual arms trade is light weapons, which would be at the high end of this estimate.

[3] Michael Klare, "Deadly Convergence: The Perils of the Arms Trade", *World Policy Journal*, 6:1 (Winter 1988-89), 141-168.

suppliers for different categories of weapons. If one is primarily concerned with the potentially destabilizing impact of advanced major weapons systems on particular regional conflicts, then the most important suppliers are the seven industrialized states of the second category. If, on the other hand, the concern is with the transfer of advanced military technologies to "rogue" states, then the eighteen states of the third category are important. If one is concerned with illegal transfers and the use of light weapons in internal or ethnic conflicts and wars, a much larger number of potential suppliers must be involved.

Terms and Definitions

In part because of these concerns, this report adopts a broad approach to defining conventional weapons. *Conventional arms* are defined to include all weapons and military technologies (including dual-use technologies whose primary application is military) that fall below the threshold of weapons of mass destruction (which are understood to encompass nuclear, chemical and biological weapons). At one end of the scale, delivery systems for weapons of mass destruction (such as ballistic missiles or combat aircraft) and major weapons platforms are included. At the other end, land mines, small arms, light weapons, and other non-lethal military equipment (transport vehicles, for example) are included.

Although we use a broad definition of conventional weapons, this does not, however, imply that all "conventional arms" are of equal importance, or that they should all be controlled. As later chapters in this report argue, broad initiatives that use expansive definitions of weapons and armaments, and whose main goal is to reduce or eliminate military-related trade, are impossible to achieve and rest upon a poor understanding of the nature of the problem being addressed. While perhaps an understandable reaction to the destructiveness of conventional wars, such approaches often mistake symptoms of conflict for causes, and over-simplify the complex relationships between armaments and conflict, or between armaments and social, political and economic development (which will be discussed in chapter five).

Instead, this report focuses on *conventional proliferation*, which is defined as:

> **the diffusion of weapons, associated technologies or expertise that produces an adverse effect on local, regional or global security and stability.**[1]

This definition has three main features. First, it distinguishes *proliferation* from the less controversial process of weapons diffusion that occurs as armed forces slowly modernize obsolete weapons that have reached the end of their life cycle, or adapt their forces to changing conditions (such as post-independence, post-civil war, or post-peace treaty changes). Second, by distinguishing between proliferation and diffusion, it allows one to highlight the hierarchical nature of the global military system. The process of weapons diffusion does not continue until "everyone has everything"; it is rather highly stratified according to the general distribution of military and economic power. One goal of a policy to constrain conventional proliferation will be to detect changes in this hierarchy, as states (such as Iraq) invest vast amounts of resources in indigenous weapons production that propel them well beyond the technological capabilities of the rest of their economy. Such investments are an "early warning" signal for potential future problem areas – in the Iraqi case, such

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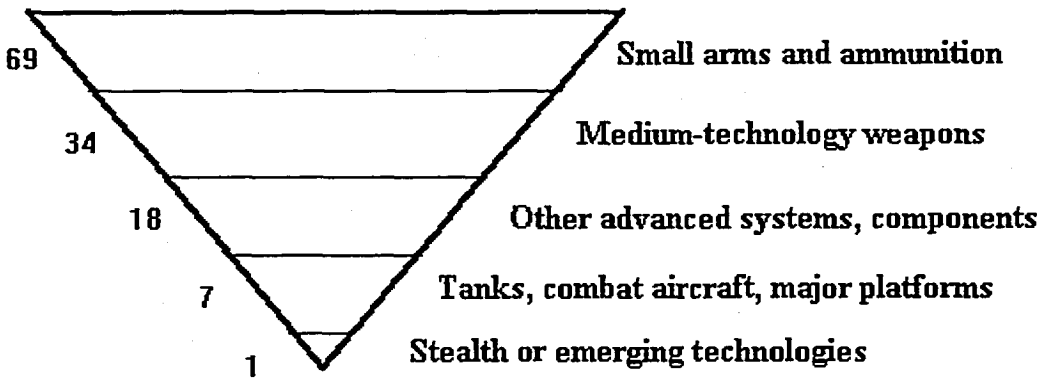
[1] See, for a discussion of this definition, David Mutimer, ed., *Control but Verify: Verification and the New Non-Proliferation Agenda* (Toronto: York Centre for International and Strategic Studies, 1994), 10.

FIGURE 1.1

The Shape of Global Arms Production



NOTES TO FIGURE 1.1

Numbers on the left correspond to the number of states capable of producing the weapons systems indicated.

The five tiers are divided as follows:

1) *Stealth and other emerging technologies*: United States (1)
2) *Sophisticated Main Battle Tanks, Combat Aircraft, or other major weapons platforms*: United States, Russia, Britain, France, Germany, Italy, Sweden. (7)
3) *Other advanced systems, components for advanced major weapons systems*: United States, Russia, Britain, France, Germany, Israel, Poland, Czech Republic, Italy, Spain, Switzerland, Sweden, Belgium, Japan, Canada, Netherlands, Ukraine, Slovakia. (18)
4) *Medium-technology weapons and components, light weapons*: the above list, plus: China, India, Serbia, Romania, Bulgaria, South Africa, Brazil, South Korea, Argentina, Taiwan, Turkey, Egypt, Pakistan, North Korea, Singapore, Greece. (34)
5) *Small arms and ammunition, obsolete weapons*: roughly 69 states.

Derived from: Theresa Hitchens and Barbara Opall, "Fighter Exports Will Leapfrog Domestic Buys," *Defense News*, 21 November 1994; Keith Krause, *Arms and the State* (Cambridge: Cambridge University Press, 1992); Christopher Louise, "The Social Impacts of Light Weapons Availability and Proliferation," United Nations Research Institute for Social Development, *Discussion paper 59*, March 1995.

investments were evident as long as a decade ago.[1] Finally, this definition highlights that proliferation is judged by its negative consequences. Transfers that may not have any destabilizing consequences in one regional context may be of great proliferation concern in another (for example, advanced fighters in Sub-Saharan Africa or Central America).

Proliferation thus occurs when the diffusion of weapons and weapons technologies accelerates to the point that it destabilizes conflicts, diverts increased quantities of scarce resources, or indicates a "breakout" from a previous stable regional or local balance of forces. The *policy goal* is often to slow the rate of diffusion of weapons, in order to allow conflict management and internal political processes to take effect, or to ameliorate the underlying conditions that give rise to conventional proliferation. Constraining proliferation hence does *not* dictate "freezing" existing military balances and weapons holdings: such a policy would be unacceptable to the military "have-nots" of the world.

Any "problem" whose scope is so broad that it includes Kalashnikov rifles and F-16 fighters is clearly not one, but many, problems. Again, for consistent usage, *conventional arms* can be divided into three categories: *major weapons systems*, *light weapons*, and *dual-use systems*. *Major weapons systems* encompass the seven categories of the United Nations Register of Conventional Arms: battle tanks, armoured combat vehicles, large calibre artillery, combat aircraft, attack helicopters, warships, and missiles and missile launchers.[2] *Light weapons* can be defined as "those weapons that can be transported by pack animals and light vehicles" and include, in addition to portable weapons such as machine guns and small arms, precisely those weapons (such as heavy machine guns, light artillery and some missile systems) "that seem to fall between the cracks of every analytic system but that cause a huge amount of battlefield destruction."[3] Such distinctions matter greatly when attempting to track the weapons trade: both the UN Register and the most widely available alternative data source (the Stockholm International Peace Research Institute *Yearbook*) use categories that exclude most light weapons and many dual-use systems.[4]

Some weapons systems are most significant because they have uniquely destabilizing effects on international and regional security. Examples would include intermediate or long-range missiles, weapons that target civilian populations, or weapons that are uniquely suited to terrorist or guerrilla usage (such as missiles that could be used to target civilian airliners). Some major weapons systems are particularly important because in some cases they can upset regional military balances by giving one state or "side" a decisive short-term military advantage. Examples might include precision-guided munitions and cruise missiles, or advanced artillery. Finally, light weapons can be important because they fuel civil wars and protracted social conflicts

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[1] For an excellent discussion of this in the context of weapons of mass destruction, see David Kay, "Denial and Deception Practices of WMD Proliferators: Iraq and Beyond," *Washington Quarterly*, 18:1 (Winter 1995), 85-105.

[2] More details on the specific categories, and on the register itself, can be found in: Edward Laurance, et al, *Arms Watch* (New York: Oxford University Press, 1993); Malcolm Chalmers, et al, eds., *Developing the UN Register of Conventional Arms* (Bradford: Bradford University, 1994).

[3] This definition is from Karp, "Arms Trade Revolution."

[4] The SIPRI *Yearbook* counts aircraft, armour and artillery, guidance and radar systems, missiles and warships, and excludes small arms and artillery under 100 mm. SIPRI, *Yearbook 1994*, 549. Data from the U.S. Arms Control and Disarmament Agency appears more inclusive (it includes "weapons of war, parts thereof, ammunition, support equipment, and other commodities designed for military use"), but is presented primarily in dollar terms. ACDA, *WMEAT 1993-1994*, 169. One source excludes light weapons, the other appears to systematically understate their value. For example, ACDA records no arms imports are recorded for Rwanda in 1990, 1991 or 1992, when we know from other sources that several million dollars of small arms were shipped to that country.

(including ethnic, religious, linguistic and other inter-group conflicts). These systems, which are arguably the most significant in the contemporary world, include the most basic and low-technology items in the world's arsenals: automatic weapons, man-portable missile launchers, and land mines.

The concept of *constraining* conventional proliferation also captures the analytic thrust of this report. The difference between conventional armaments and weapons of mass destruction is clear. There is a strong normative prohibition against either the possession or use of weapons of mass destruction, and political efforts to constrain them can take their elimination as the ultimate goal. Arms control and disarmament efforts in the nuclear, chemical and biological weapons field are often compared to the struggle to abolish slavery via legislation, and the development of strong global norms.

On the other hand, conventional weapons the trade in conventional weapons is different. It cannot, nor should not, be eliminated entirely; it cannot, nor should not, be uncontrolled. A policy of denial would, among other things, deny the legitimate right of self-defence to states and peoples (as witnessed in the debate over lifting the arms embargo to Bosnia), would push many more states to develop indigenous arms industries, and would entrench an international hierarchy of "haves" and "have nots" which appears highly self-serving to states outside of the Western industrial world. Unilateral and multilateral efforts to constrain conventional proliferation must be developed in a nuanced and complex policy environment. This does not mean that no constraints can be imagined (in fact many are in place), but rather that one goal of multilateral policies must be to build a consensus on the permissible limits of the conventional arms trade: what can be transferred, to whom, and under what circumstances?

Mandate and Scope of this Report

This report has seven broad goals:

1) to examine Canadian security and political (including humanitarian) interests with respect to conventional arms proliferation;
2) to examine global, regional and bilateral efforts to constrain conventional arms proliferation, and to assess the opportunities for, and limitations upon, such efforts;
3) to identify the impact on Canada of support for and participation in efforts to constrain conventional arms proliferation;
4) to identify Canadian strengths and limitations with respect to influencing Canadian efforts to constrain conventional arms proliferation;
5) to review the scope of Canada's production of and trade in arms;
6) to suggest options for Canadian efforts in support of conventional arms non-proliferation;
7) to identify areas for further research.

The chapters that follow are not organized directly along these lines, but each one supplies a particular piece of the conventional proliferation puzzle. Chapter two develops the rational for constraining conventional proliferation in light of the changed security environment, and changed thinking about international security. Chapter three outlines the global political, economic, industrial and technological context for arms production and trade, and sketches the key forces that give rise to arms exports, and which restrict the scope of possible constraint measures. Chapter four focuses directly on Canada's role in constraining conventional proliferation, and its place in the global defence production and trade system. Chapter five shifts the focus to the recipient states, by examining the different consequences of conventional proliferation on regional and internal security, or economic and social development. Chapter six reviews past and present efforts to constrain conventional proliferation. Finally, chapter seven presents a wide menu of options for constraining

conventional proliferation, and offers some specific conclusions and recommendations for possible initiatives that could be pursued in Canadian policies.

Causes and Consequences of Conventional Proliferation

What are the different forms that the "problem" of conventional proliferation can take? A clear set of answers to this question is an essential prerequisite to well designed policies to constrain proliferation; a misguided analysis of the problem could even exacerbate it.The different forms of the problem of conventional proliferation can be summarized by seven "hypotheses" or assertions that have been summarized in Figures 1.2 and 1.3. They have been grouped into contributing *causes* of conventional proliferation, and general *consequences*.

Acceptance of one or more of these hypotheses has been the foundation for many specific measures to constrain conventional proliferation, although in most cases, the evidence for or against the assertions has been sketchy at best. One task of this report is to clarify these assertions, and the nature of the evidence supporting them, in order to untangle the various factors contributing to the proliferation of conventional weapons, and to help design appropriate and well-targeted policy responses.

A discussion of the four dynamics of Figure 1.2 will form the outline for chapter three, while the three consequences of conventional proliferation will be scrutinized in detail in chapter five.

Two examples can serve, however, to illustrate how these factors can have an impact on shaping policies to constrain conventional proliferation. Proposals that rest on the first argument (that the arms trade is supply-driven) concentrate efforts to constraining proliferation in two areas: promoting conversion from military to civilian production in order to diminish the pressure to export, and encouraging the development of strong export

FIGURE 1.2

Causes or "Dynamics" Fuelling Conventional Proliferation

- The arms trade is supply-driven, largely propelled by the desire for economic gain on the part of arms producing firms and states
- The arms trade is technology-driven, via the rapid advances in weapons technologies during the Cold War, the militarization of basic scientific research, and the use of the defence sector as the leading edge for civilian industrial advance (spin-off)
- The arms trade is politically driven: during the Cold War arms transfers cemented alliance relationships or creating dependency relationships, and these foreign policy interests have vanished since its end
- The arms trade is demand-driven, by regional conflicts and the quest for international power and prestige

control systems underpinned by self-interest (maintaining "our" technological lead) or normative considerations (restricting sales to potential human rights abusers). If the arms trade is largely demand driven, however, such measures are unlikely to succeed, unless they are extremely comprehensive in scope.

On the other hand, arguments that rest upon the fourth hypothesis (that the arms trade is demand-driven) lie behind the momentum to develop and expand regional conflict resolution and confidence-building measures, in such forums as the regional arms control talks associated with the Middle East peace process, or the discussions surrounding a regional Register of Conventional Arms within the Organization of American States (OAS).

A similar analysis can be offered for the three consequences of Figure 1.3. If our only concern is with the inter-state dimension of security, then a stable balance that is achieved at higher levels of armaments is desirable. If, however, the resources devoted to achieving this stable balance thwart economic development or concentrate political power in the hands of the armed forces, then overall security of states and citizens may not be enhanced.

What should be underlined is that the causes and consequences of conventional proliferation (and their possible linkages) present a much more complicated challenge than the relatively straightforward goals of classical arms control.[1] The term "arms control" (as distinct from "disarmament") first came into wide use in the late 1950s, and its underlying purpose was the *regulation or stabilization* of the East-West conflict. Its goals were to reduce the risk of nuclear war, to reduce the destructiveness of war should it break out, or to redirect the resources devoted to armaments to other ends. In practice, East-West arms control concentrated on the first goal almost exclusively, especially since many argued that measures to reduce the destructiveness of nuclear war made "limited" nuclear war more possible.

Compared to the task of constraining conventional proliferation, reducing the risk of nuclear war can be seen as an easy task. Measures such as the superpower Hot-Line lowered the risk of

FIGURE 1.3

Three Possible Consequences of Conventional Proliferation

- Arms transfers fuel regional inter-state arms races and military expenditures, and lead to increased conflict and even war
- Arms transfers can exacerbate internal conflicts, thwart progress towards democratization and good governance, and entrench authoritarian rule
- Arms acquisitions and military expenditures consume scarce resources that could be devoted to social and economic development

[1] For classic statements of the goals of arms control see: Thomas Schelling and Morton Halperin, *Strategy and Arms Control* (New York: The Twentieth Century Fund, 1961), 2; Hedley Bull, *The Control of the Arms Race* (London: Weidenfeld and Nicolson, 1961); *Daedalus*, special issue on arms control, 89:4 (Fall 1960). See also Emmanuel Adler, "The Emergence of Cooperation: National Epistemic Communities and the International Evolution of the Idea of Nuclear Arms Control," *International Organization*, 46:1 (Winter 1992), 101-46.

misperception and crisis escalation, the SALT I and SALT II treaties capped certain elements of the strategic nuclear arms race, and in the area of conventional forces, the Confidence and Security-Building Measures (CSBMs) associated with the CSCE process served to build a basis of trust between East and West. Even so, the progress of East-West arms control was fitful: it was a prisoner of the political climate, it was often upset by technological developments (such as multiple warheads or strategic defences), and it required enormous intellectual and policy-making resources.

The problem of constraining conventional proliferation is an even more complex one, with no simple or easy solutions. Depending on which aspect of the problem one chooses to address, it requires an understanding of the internal and regional security context in various states and regions, it implicates a wide range of economic interests and political actors, it is inescapably multilateral, and it deals with a broad range of technologies and weapons systems. The goal of this report is to present a "road map" that will chart the most auspicious routes to constraining conventional proliferation, and that breaks down the problem into manageable aspects and stages.

II Why Constrain Conventional Weapons Proliferation?

A response to the question "why constrain conventional weapons proliferation?" would be incomplete if it isolated non-proliferation concerns from a larger security discussion. The issues surrounding conventional weapons constraint are embedded in wider security interests that in turn have greatly evolved as a result of the end of the Cold War. The dismantling of the Berlin Wall brought the collapse of the East-West security regime of containment and deterrence, and raised a very different set of security challenges, including greater attention to the global proliferation of conventional weapons.

At the broadest level, security interests are being shaped by two main factors. The first, and most obvious, factor in light of the dramatic political, economic and strategic changes that arose from the end of the bipolar superpower confrontation, is the improved military security environment, in which the threat of global war has dramatically receded. The second factor is an emerging concept of security that broadens security interests from narrow military-strategic concerns to a more inclusive view that is intended to address the global military and non-military concerns of a changed world.

Both factors are acknowledged in the most recent Canadian government foreign policy statement, *Canada in the World*, which notes that "the dangerous but predictable post-war system is gone" and lists in detail the circumstances and components of an "evolving context for foreign policy." The security component is defined as "freedom from a wide array of challenges," particularly "non-traditional" threats that transcend political borders. *Canada in the World* identifies protection of Canadian security within a stable global environment as one of three key policy objectives. In elucidating the methods by which Canada will move toward this security objective, the document also states that "Canada will be at the forefront of those helping to shape a broader framework that responds to the demands of a changing security environment."

This chapter tackles the question "why constrain conventional weapons proliferation?" first by describing the factors shaping contemporary global security interests - the new security environment and a broadening view of security - and then placing conventional non-proliferation concerns in this larger context. In the first section we note that efforts to develop new security regimes and architectures have taken on increased urgency since the end of the Cold War. Dozens of current and potential regional conflicts overlie advancing international problems such as environmental degradation and poverty. This is the difficult international environment in which Canada and other nations must define their security policies. It is also the environment in which the United Nations and other multilateral institutions have become central vehicles to achieve security goals, including measures to address conventional non-proliferation.

At the same time new understandings of security are still in flux. As described in the second section below, these understandings have been defined in a number of ways, and by different terms, including "common security," "cooperative security," and "human security," among others. Whatever the term adopted, the view that security encompasses much more than narrow military/strategic interests is gaining wider support, as aptly demonstrated in the process and outcome of Canada's recent foreign policy review.

In a concluding section we note that the adoption of a broader understanding of security implies that policy-makers need to take into account a wider range of possible areas where unrestrained conventional weapons transfers may have an impact and suggests that many of these offer strong rationales for promoting constraint.

A New Security Environment

For more than four decades the Cold War "security dilemma" shaped security theory and practice. States pursued security in a zero-sum game where an attempt by one state to achieve security through expanded

military capabilities or alliances almost inevitably increased the insecurity of other states.[1] The "national" or state-based conception of security fostered an unprecedented accumulation of weapons, both nuclear and conventional, and provided the rationale for treating national military expenditures as distinct from (and enjoying priority over) other domestic spending, and for emphasizing the rights of the state above the rights of its citizens. The state needed to be "secured" before other societal goals could be pursued. At the same time, the decolonization of much of the Third World provided an expanded forum for the East-West rivalry, and more than 20 million people died in regional conflicts that often assumed the character of proxy wars for the superpowers.

The end of the Cold War did not eliminate the problems of the old security system. The more cooperative climate engendered a number of peace settlements, notably in Central America, the Middle East and Southern Africa, but many conflicts have continued from the Cold War to the post-Cold War era. From Figure 2.1, we can see that there were 39 major conflicts worldwide in 1994, including 25 that began before the fall of the Berlin Wall.[2] Many of these conflicts are fed by weapons, especially small arms, that were stockpiled by superpower client states during the Cold War, or that entered circulation from surplus stocks created by treaties to end the Cold War.

There are additional security challenges that have emerged or heightened in the post-Cold War world. The interstate conflicts that dominated Cold War security concerns has given way to internal conflicts affecting most continents. While the 1990 invasion of Kuwait by Iraq is an indication that the new strategic environment is unlikely to be free from interstate conflict, it is apparent that trans-border (but not inter-state)or civil wars are likely to represent the foremost security challenge. Because these wars have dramatic, even genocidal, effects on populations without necessarily posing a threat to neighbouring states, new measures to maintain international peace and security are called for. As the Commission on Global Governance noted:

> in many countries the security of people has been violated on a horrendous scale without any external aggression or external threat to territorial integrity or state sovereignty. To confine the concept of security exclusively to the protection of states is to ignore the interests of people who form the citizens of a state and in whose name sovereignty is exercised.[3]

Ethnic, religious or political rivalries fuel current conflicts but they typically have roots in poor or declining social, economic and political conditions that are gaining recognition as part of the security agenda. With many developing nations facing deteriorating living standards, a North-South fault line may replace the East-West divide unless these conditions are more adequately addressed. The government statement, *Canada in the World*, summarized these new security challenges as follows:

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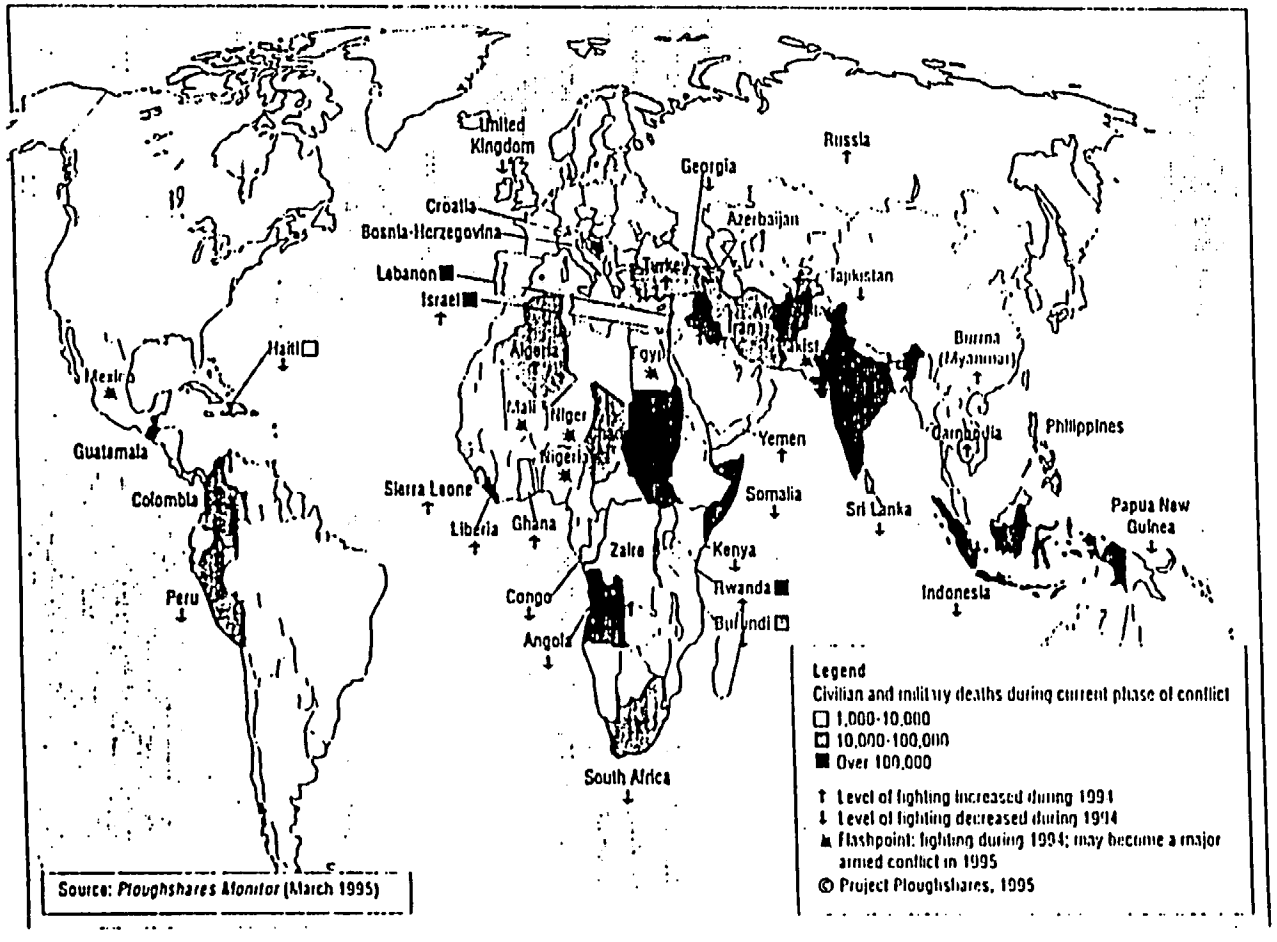
[1] See Robert Jervis, "Cooperation under the Security Dilemma," *World Politics*, 30:2 (January 1978), 167-214.

[2] Project Ploughshares, *Ploughshares Monitor* (March 1995). See also Project Ploughshares, *Armed Conflicts Report 1995* (Waterloo), June 1995. See also "Major Armed Conflicts in 1993," in Stockholm International Peace Research, *Yearbook 1994* (Oxford: Oxford University Press, 1994), 86-96.

[3] Report of the Commission on Global Governance, *Our Global Neighbourhood* (Oxford: Oxford University Press, 1995), 81.

FIGURE 2.1

Armed Conflicts, 1994



Source: *Ploughshares Monitor* (March 1995).

> The threats to security now are more complex than before. A whole range of issues that transcend borders - including mass migration, crime, disease, environment, overpopulation, and underdevelopment - have peace and security implications at the local, regional and, in many cases, the global level.[1]

Indeed, because the growth of the world economy and its advancing integration has been accompanied by a growth in the number of the world's poorest peoples - 1.3 billion in 1993 according to the World Bank - there are now conditions world-wide that are breeding grounds for instability and revolt. Population growth, environmental degradation, resource depletion, widening disparities between the richest and poorest (both among nations and within them) individually pose significant challenges to state, regional and global security. In combination they can appear insurmountable.

In many instances where worsening conditions have led, or contributed, to insurrection, militaries have seized control of the state and imposed regimes that have become threats to internal populations through repression and to neighbouring states through the accumulation of weapons. The 1993 report on *World Military and Social Expenditures* notes that of the 112 developing nations covered by the report, more than half of them (61) were controlled by the military. Of these only three were *not* involved in some level of official violence against domestic populations.[2] In other cases, such as Somalia or Liberia, the state has disintegrated, leaving the civilian population hostage to several warring factions.

To meet the security challenges of the post-Cold War era, new mechanisms are beginning to emerge and old ones are being modified. Many of these have been introduced or expanded through a revitalized United Nations, and there has been a dramatic increase in multilateral UN measures such as embargoes, peacekeeping missions, and election monitoring. The emerging security regime includes initiatives by the international community to intervene in the affairs of states for humanitarian purposes. Recent UN operations have attempted humanitarian assistance by providing safe havens in Northern Iraq or the former Yugoslavia, for example, or by ensuring the delivery of food in Somalia or the Sudan. Often conducted by military peacekeepers, these humanitarian assistance missions have stimulated debate not only about the effective use of military force, but also about international obligations to intervene on behalf of civilians caught in conflict.[3]

The emergence of the UN Security Council as "a central instrument for the prevention and resolution of conflicts and for the preservation of peace" has led the UN Secretary-General to seek a broader mission for UN-initiated security measures.[4] In his 1992 document, *An Agenda for Peace*, Boutros Boutros-Ghali argued for a spectrum of UN measures to build peace. These included measures such as preventive diplomacy, confidence-building, and early warning, designed to prevent tensions from escalating to conflict. At the opposite end of the spectrum, the Secretary-General called for post-conflict peace-building that "will tend to

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[1] Government of Canada, *Canada in the World* (Ottawa: Government of Canada, 1995), 10.

[2] Ruth Leger Sivard, *World Military and Social Expenditures 1993* (Washington: World Priorities, 1993), 22.

[3] On the Kurdish operation see Adam Roberts, "Humanitarian War: Military Intervention and Human Rights," *International Affairs* 69:3 (July 1993), 436-439; on Sudan see Thomas G. Weiss and Larry Minear, "Do International Ethics Matter? Humanitarian Politics in the Sudan," *Ethics and International Affairs* 5 (1991), on humanitarian intervention in general, see Nigel Rodley, ed., *To Loose the Bands of Wickedness: International Intervention in Defence of Human Rights* (London: Brassey's, 1992).

[4] Boutros Boutros-Ghali, *An Agenda for Peace* (New York: United Nations, 1992), 7.

consolidate peace and advance a sense of confidence and well-being among people."[1] The measures arise from an understanding that peace does not emerge automatically when war is not present, that it must be built, and that, in the largest sense, a security regime must "address the deepest causes of conflict: economic despair, social injustice and political oppression."[2]

Specific measures to address the role of weapons proliferation in these conflicts have also been proposed, by the UN Secretary-General and others. In his 1995 supplement to *An Agenda for Peace*, Boutros Boutros-Ghali drew attention to "micro-disarmament," which he defined as:

> "practical disarmament in the context of the conflicts the United Nations is actually dealing with and of the weapons, most of them light weapons, that are actually killing people in the hundreds of thousands."[3]

Micro-disarmament, he argues, must respond to the enormous proliferation of light weapons noted in the introduction. Two categories of light weapons, small arms and anti-personnel landmines, have also merited special attention by the international community, but micro-disarmament in general can be seen as part of peace-keeping operations, peace settlements, and post-conflict peace-building. Specific measures that Canada might pursue will be detailed in chapters seven and eight.

The Canadian government has identified the United Nations as central to efforts to build security in the post-Cold War environment. Under "Instruments for Building Security" in *Canada in the World*, it stated:

> The UN continues to be the key vehicle for pursuing Canada's global security objectives. Canada can best move forward in its global security priorities by working with other member states. The success of the UN is fundamental, therefore, to Canada's future security.[4]

In addition to calling for UN reforms, including a review of UN economic and social activities to reflect a broader definition of global security, the foreign policy statement committed the Canadian government to efforts to improve UN conventional non-proliferation measures, notably the UN convention related to landmines and the UN Register of Conventional Arms.

The uncertainties of the post-Cold War period pose many new or altered security challenges to the international community. They also present new opportunities for response, especially through reformed and revitalized multilateral institutions. However, these opportunities may be lost if they are not framed by an expanded definition of security that will define non-proliferation measures within a larger context. As the Secretary-General put it in another recent report on *New Dimensions of Arms Regulation and Disarmament in the Post-Cold War World*, "the time has come for the practical integration of disarmament and arms regulation issues into the broader structure of the international peace and security agenda."[5]

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[1] *Ibid.*, 32.

[2] *Ibid.*, 8.

[3] Boutros Boutros-Ghali, *Supplement to An Agenda for Peace: Position Paper of the Secretary-General on the Occasion of the Fiftieth Anniversary of the United Nations*, S/1995/1 (3 January 1995), 14.

[4] *Canada in the World*, 27.

[5] Boutros Boutros-Ghali, *New Dimensions of Arms Regulation and Disarmament in the Post-Cold War Era*, report of the Secretary-General (New York: United Nations, 1994), 4.

A Broader Concept of Security

In the first parliamentary review of Canadian foreign policy since the end of the Cold War, the Special Joint Committee Reviewing Canadian Foreign Policy reflected on the growing complexity of security: "It is clear that rapidly emerging global problems such as population, poverty, pollution and weapons proliferation constitute growing threats to Canada's security," the committee stated in its November 1994 report, "And these problems are interrelated."[1] Noting that the Cold War focus on military power and risk of war has given way to an understanding of security in keeping with globalization, the committee called for "a broader concept of security." The recommendation was endorsed by the government in its response to the committee three months later. "The Government agrees on the need to adopt a broader concept of security," the document echoed, adding that:

> In addition to taking into account traditional military threats, security policy must include recognition of threats to stability, democracy and sustainable development as well as the threats posed by such factors as environmental degradation, overpopulation, involuntary population movements and organized international crime.[2]

As an indication of its commitment to a new security approach, the government established, within the Department of Foreign Affairs and International Trade, a senior level office for global issues reporting to an assistant deputy minister. The government further developed the concept of *shared human security* and noted that sustainable development was a precondition of, and preventing conflict and peacebuilding were essential goals for, any new security regime.[3]

These statements demonstrate the degree to which the need for a new security framework has come to be accepted in public thinking and official rhetoric. They acknowledge that the preeminence of "protecting the state" that reached a zenith in Cold War security regimes will often have little meaning today for people threatened by environmental or economic disaster or by military dictatorship. Together with the growing influence of economic globalization, the new security challenges require new, often multilateral, measures. As *Canada in the World* notes, "All of this demands a broadening of the focus of security policy from its narrow orientation of managing state-to-state relationships, to one that recognizes the importance of the individual and society for our shared security."[4]

The growing policy consensus on a wider definition of security has taken shape against a broader backdrop that has introduced several terms that represent variations on a broader view of security. An early term, introduced by the Palme Commission in 1982, was *common security*, which was based on the understanding that lasting security must be shared by all and built by co-operation. Common security was formulated during one of the darkest periods of the Cold War, when it was advocated by the Palme Commission's 1982 report as an alternative to the mutual hostage relationship of nuclear deterrence that represented the core of East-West security relations. Although the focus of the time was on the heightened threat of a nuclear exchange, the Commission's words remain meaningful:

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[1] Report of the Special Joint Committee of the Senate and the House of Commons Reviewing Canadian Foreign Policy, *Canada's Foreign Policy: Principles and Priorities for the Future* (November 1994), 11.

[2] "Government Response to the Recommendations of the Special Joint Parliamentary Committee Reviewing Canadian Foreign Policy" (February 1995), 8.

[3] *Canada in the World*, 25.

[4] *Ibid.*

> In their quest for security, nations must strive for objectives more ambitious than stability, the goal of the present system in which security is based on armaments. For stability based on armaments cannot be sustained indefinitely. There is always the danger that the fragile stability of an international system based on armaments will suddenly crumble, and that nuclear confrontation will take its place. A more effective way to ensure security is to create positive processes that can lead to peace and disarmament.[1]

The idea of common security gained legitimacy with the significant success of the Conference on Security and Cooperation in Europe (CSCE), which "represented the operationalisation of the core principles of common security."[2] The significant strides of the CSCE (now OSCE) in reducing tensions and armament levels in Europe has led to calls for similar approaches in other regions.

Concepts similar to common security have been embraced by other international commissions, by peace researchers and security policy analysts and by many non-governmental organizations. Project Ploughshares, a disarmament NGO that is a project of the Canadian Council of Churches, defined "the different threads of common security...as `mutual,' `collective,' and `holistic'" and proposed government measures to advance a common security regime.[3] Concepts of *collective security* that argue that the security of individual states is the business of all states and should be pursued through international institutions and the rule of law have also been revitalized.[4] The 1992 report of the "Citizen's Inquiry into Peace and Security" demonstrated that a similar understanding of security had become widely accepted throughout the Canadian development, environmental and disarmament NGO community.[5] More recently, the 1994 "Canada 21" report, *Canada and Common Security in the Twenty-First Century*, stated that "it is urgent that we reorder our priorities and reallocate our resources so that we can better defend our sovereignty and contribute to common security."[6] The report of the "Canada 21 Council," a group of prominent Canadian academics, journalists, former politicians, public servants and business people, proposed more than 30 foreign policy recommendations based on four principles of common security.

Other similar security concepts have also received wide attention. *Cooperative security* was at the heart of the Pacific regional initiative launched by former External Affairs Minister Joe Clark at the September 1990 meeting of the UN General Assembly.[7] Cooperative security shares much with common security, differing only perhaps in its greater flexibility and pragmatism. The Commission on Global Governance notes that

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[1] The Independent Commission on Disarmament and Security Issues, *Common Security: A Blueprint for Survival,* (New York: Simon and Schuster, 1982), 7.

[2] David Dewitt, "Common, Comprehensive, and Cooperative Security in Asia-Pacific," *CANCAPS Paper Number 3* (March 1994), 9.

[3] *Common Security: New Light for the Planet* (study manual), Project Ploughshares, 1990, III-1.

[4] Andrew Hurrell, "Collective Security and International Order Revisited," *International Relations*, 11:1 (1992), 37-55.

[5] See *Transformation Moment: A Canadian Vision of Common Security* (Citizen's Inquiry into Peace and Security, 1992).

[6] Canada 21 Council, *Canada 21: Canada and Common Security in the Twenty-First Century,* (Toronto: Centre for International Studies, 1994), 12.

[7] Dewitt, 14.

human security has emerged recently to define "safety from chronic threats such as hunger, disease, and repression, as well as protection from sudden and harmful disruptions in the pattern of daily life."[1]

Of course, not all perspectives take such a sanguine view of the future. The 1995 *Strategic Forecast* of the Canadian Institute for Strategic Studies notes that there are a wide range of possible future conflicts and threats to security that must be acknowledged, and that existing institutional mechanisms for coping with them (such as within the UN system) are not really adequate to the challenges they face.[2] Others emphasize that while the Cold War is over, and the defence and security policies that waged it are obsolete, traditional concerns of world politics such as conflict and war have not vanished.[3] All observers, however, agree on the need to reconsider traditional defence and security policies in light of the new international conditions.

Acknowledging that there are a number of concepts available, the Canadian Special Joint Committee noted that it would not be helpful "to argue about security labels such as collective, cooperative and common security". The committee recognized that although there were differences, all the terms could provide a new security formulation from their substantial common features. For, as York University Professor David Dewitt notes:

> a common objective runs through most of the proposals over the past five to seven years. The intent has been to replace the cold war security structure...with a multilateral process and framework with the following attributes: it must be geared toward reassurance, rather than deterrence; it must at best replace or at least co-exist with bilateral alliances; and it must promote both military and non-military security.[4]

Whether the broader definition of security is based on a single concept or on a combination of several, it is clear that there is growing consensus on the content of a broader understanding. The Canadian government has acknowledged this in its latest foreign policy statement:

> There is consensus that such a broader orientation can best be achieved - at least cost, and to best effect - through approaches that broaden the response to security issues beyond military options and focus on promoting international cooperation, building stability and on preventing conflict. The Government will advance this objective through a more integrated approach, marshalling all our foreign policy instruments.[5]

Among those instruments are revitalized and expanded measures to constrain conventional weapons proliferation.

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[1] *Our Global Neighbourhood*, 80. See also the United Nations Development Program, *Human Development Report 1994* (New York: United Nations, 1994).

[2] Alex Morrison and Susan McNish, ed., *Canadian Strategic Forecast 1995: The Canadian Defence Policy Review* (Toronto: Canadian Institute of Strategic Studies, 1994).

[3] Such arguments have been advanced in Canada by the submissions of the Royal Canadian Airforce Association and the Conference of Defence Associations to the Special Joint Committee on Canada's Defence Policy (June 1994). See also Colin Gray, "Canadians in a Dangerous World," a report prepared for the Atlantic Council of Canada that was also submitted to the committee. See "Need a 'Rainy Day' Policy for Defence Capabilities," *Financial Post*, 1 November 1994.

[4] Dewitt, 2.

[5] *Canada in the World*, 25.

Constraining Conventional Proliferation and a Broader Definition of Security

The most important incentives for constraining the spread of conventional weapons arise from this reframed post-Cold War security agenda. In particular, because unrestrained weapons transfers influence, and potentially amplify, both the threat and impact of conflict - problems that have become more acute since the fall of the Berlin Wall - calls for controls on weapons exports are mounting. The concentrated diplomatic activity following the 1991 Persian Gulf War may have faded, but attention to the international arms trade continues through other, often non-governmental, avenues, especially as evidence accumulates of the "human security" impact of weapons supplied to conflict zones. Much of the impact stems from light weapons. As noted above, the UN Secretary-General has drawn attention to the proliferation of light weapons and has called on the international community to deliver parallel non-proliferation progress to that of weapons of mass destruction.

In Canada, the recent review of foreign policy included public and parliamentary discussion of weapons proliferation. Several individuals and non-governmental organizations appearing before the parliamentary committee reviewing foreign policy called for greater Canadian and multilateral efforts to control arms exports.[1] In its report in the fall of 1994, the committee discussed "weapons proliferation" and called for improvements to the UN Register of Conventional Arms as well as controls on landmines. More recently, the Canadian government endorsed the strengthening of controls on conventional weapons transfers. *Canada in the World* identifies the "excessive accumulation of conventional armaments by many states" as a "pressing problem." In keeping with a broader security definition, the Canadian foreign policy statement also linked "arms and development" and vowed to use all means to promote "the least diversion for armaments of the world's human and economic resources."[2]

These concerns have been raised directly by the Minister of Foreign Affairs on several recent occasions. At the forty-ninth session of the UN General Assembly, André Ouellet noted that in addition to the problem of nuclear proliferation, "the ongoing use of conventional weapons is an equally dangerous and very real threat to peace and security," and urged control of conventional arms as one of two priority objectives.[3] At a recent conference on UN reform, he focused on the abuse of land mines, and "the continued imbalance in much of the developing world between military expenditures and spending on human development."[4] More recently, he drew attention to the fact that most conventional weapons sales went to the developing world, and that the largest exporters of conventional weapons were the Permanent Five members of the Security Council.[5]

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[1] For example, at the Toronto hearings of the parliamentary committee, the briefs of the Canadian Religious Society of Friends (Quakers) and Project Ploughshares both focused on arms exports and controls. The Winnipeg brief of Project Peacemakers addressed the problem of landmines.

[2] *Canada in the World*, 33.

[3] Statement by the Honourable André Ouellet, Minister of Foreign Affairs, to the 49th General Assembly of the United Nations, 29 September 1994.

[4] Statement by the Honourable André Ouellet, Minister of Foreign Affairs, at the First Canadian Conference on UN Reform, Montreal, 24 March 1995.

[5] Statement by the Honourable André Ouellet, Minister of Foreign Affairs, to a colloquium organized by l'Institut International d'Études Administratives and l'École Nationale d'Administration Publique, Montreal, 13 June 1995.

It is important to note how these concerns operate within a broader understanding of security, and tie directly into the *causes* and *consequences* of conventional proliferation identified in the introduction. The focus on threats to peace and security draws attention to the traditional inter-state and regional dimensions of conventional proliferation. A focus on the land mines and other light weapons, however, draws attention to the internal dimensions of conflict (mostly in the developing world), and the increasingly glaring contradiction between the expansion of UN peacekeeping and post-conflict peace-building operations and the unrestricted trade in conventional weapons. Indeed, as intra-state conflicts crowd the post-Cold War security agenda, greater attention needs to be paid to international obligations in areas once viewed as the sole responsibility of the state, as well as to national obligations to participate in multilateral security measures. This is especially true of the state's asserted right to acquire weapons, and suggests that important avenues of constraint could arise from attempts to balance the relative weights of humanitarian concerns and the rights of state security. This issue is central to the debate over a proposed global ban on landmines, with advocates of a ban arguing that given the current use of mines in (almost exclusively) internal conflicts, their destructive humanitarian impact outweighs their utility to the armed forces of states.

The focus on the relationship between military spending and social welfare also follows this logic, by highlighting the societal aspects of security and the way in which unconstrained conventional proliferation can consume scarce resources that could be devoted to social and economic development. These latter two issues will be addressed directly in chapter five. Finally, the focus on the major suppliers acknowledges that the arms trade may be in part supply-driven, as arms producing states feel compelled to promote exports to maintain their shrinking defence industrial base (this will be explored more fully in the next chapter). It thus draws attention to the linkages between the suppliers and recipients, and the need to consider restraint measures on the supplier side as well.

Chapter four of this report focuses more directly on Canadian interests and involvement in constraining proliferation of conventional weapons. These interests, although based on an expanded definition of security, are not unique to Canada. Most could translate readily into multilateral interests. Indeed, the interests of weapons suppliers, trading nations, and countries with peacekeeping troops - to name a few examples - are likely to overlap with Canadian interests in each category. Thus, by framing the question of "why constrain conventional weapons proliferation?" in a broader security context, not only can one place the issue within the post-Cold War environment but one can argue for its urgency across a range of multilateral interests.

Meeting some Obvious Objections

Critics of efforts to constrain conventional proliferation have traditionally rested their arguments on four related objections:

- states have a legitimate right to build arsenals for self-defense, and to determine their composition;
- dominant powers in the system are also major weapons exporters and have a strong economic interest in maintaining export;
- the high-level political attention required to build non-proliferation regimes is absent;
- multilateral mechanisms to constrain conventional proliferation are too difficult to conceptualize and implement.[1]

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[1] Adapted from Keith Krause, *The Maturing Conventional Arms Transfer and Production System*, report for the Non-Proliferation, Arms Control and Disarmament Division, Department of Foreign Affairs and International Trade Canada (September 1994), 23-28.

Even without detailing the arguments on the other side (most of which have been touched upon above) it should be noted that none of these arguments provide any reason to conclude that all forms of control of conventional proliferation are impossible. Rather, they suggest that the problem must be disaggregated, that constraints must operate where economic interests are not strong (or are outweighed by other considerations), where political will can be generated, and where practical (albeit complex) mechanisms can be put in place. The existence of a supplier interest in exporting weapons technology has not, for example, precluded arrangements such as the Missile Technology Control Regime (MTCR) to deal with particular technologies and weapons systems; nor has the complexity of the issue halted the development of a Chemical Weapons Convention (CWC).

Perhaps the most important objection, however, is the first. Proposals to constrain conventional proliferation run into a considerable hurdle because of the perceived "legitimacy" of conventional weapons. There is widespread agreement that weapons of mass destruction are fundamentally illegitimate, and hence it is possible to impose severe restrictions on their production and use. Despite their destructive capacity, and the substantial threat to international peace and security that they pose in certain cases, the same is not true for conventional weapons.

Both Article 51 of the UN Charter and Article 3 of the resolution establishing the Register of Conventional Arms recognize the right of states to self defence, "which implies that States also have the right to acquire arms with which to defend themselves."[1] There are, however, some limitations to this right that reduce its blanket objection to measures that would constrain the free flow of armaments. First, the injunction against "excessive and destabilizing arms buildups" that has been incorporated into several UN resolutions (however difficult it may be to implement in practice) has given the international community an occasional *droit de regard* over the way in which states defend themselves. In addition, nothing in the right of self-defence implies that states have an obligation or duty to *supply* weapons to states that request them. While states have a right to develop an arms industry for their own needs, they do not thereby acquire an unencumbered right to export weapons to other states without scrutiny by the international community (as testified by numerious UN embargoes). In fact, one of the forces behind many of the current efforts to constrain conventional proliferation is the attempt to develop multilateral norms that would govern supplier policies, and that would provide a means for the international community to exercise some oversight. Obviously, this can raise many difficult dilemmas, as the current objections of the Bosnian government to the arms embargo against the former Yugoslavia illustrates.

Indeed, much of the momentum behind broader ideas such as cooperative security comes from the belief that it is only in concert that states can achieve greater security, when their national security discussions are transparent, and subject to multilateral discussion. Such an approach is provided, for example, by Ashton Carter, William Perry and John Steinbrunner's discussion of *A New Concept of Cooperative Security*.[2] Their suggested underlying principle for new multilateral security policies in the field of proliferation is "a commitment to regulate the size, technical composition, investment patterns, and operational practices of all

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[1] Article 3 of General Assembly Resolution 46/36L, 9 December 1991.

[2] (Washington: The Brookings Institution, 1992). William Perry is the Secretary of Defense in the Clinton Administration; Ashton Carter is the Assistant Secretary of Defence for Nuclear Security and Counter-Proliferation. It should be noted that this is not identical with the concept of "cooperative security" that was elaborated and promoted by the Canadian government.

military forces by mutual consent for mutual benefit."[3] The implication is that efforts to constrain conventional proliferation must be embedded in a broader process, which is based on "a change in the principle mechanisms of control from denial of access to cooperatively induced restraint," and which "involv[es] extensive agreed-on constraints on military preparations [that] would have to require all parties to accept a level of intrusive monitoring of their defense programs."[2] This latter point highlights the importance of verification and compliance monitoring mechanisms.

Conclusion

Constraints on conventional proliferation can be defended on humanitarian, developmental and self-interested grounds. Efforts to stem proliferation of weapons of mass destruction cannot be advanced without some attention also being paid to the conventional side of the equation, since in some regional contexts (especially the Middle East), the proliferation of conventional and unconventional weapons is inextricable linked. It is also possible that measures to control weapons of mass destruction may have increased the desire of states to obtain sophisticated conventional weapons, creating a "balloon syndrome" whereby restraint in one area merely creates a bulge in another. The vast quantities of resources consumed by conventional arms acquisitions in the developing world also highlight that a non-proliferation agenda that stops at conventional weapons fails to address the real security concerns of most of the world's population.

Given the increased involvement of multilateral (United Nations) and Canadian forces in peace and security operations in a range of regional conflict environments, the direct implications of a failure to address this emerging problem are clear. Multilateral forces may face (as the French did in the Persian Gulf) their own weapons on the battlefield. Even if they do not, the proliferation of more sophisticated weapons systems (precision-guided missiles, for example) could drastically alter the threat environment in which these forces would operate. Finally, the vast effort and expense that the international community has put and will put into peace-building operations in various conflict-riven regions and states will be wasted, if they are not coupled with efforts to constrain the weapons that fuel these conflicts.

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[1] *Ibid.*, 6.

[2] *Ibid.*, 36, 38-39.

III Constraining Conventional Arms Proliferation: The Global Context

Introduction: The Global Political Context

As noted in the introductory chapter, the emphasis of this report is on *constraining* conventional arms proliferation, rather than on eliminating or completely restricting all aspects of the trade in conventional weapons. The reasons for this emphasis will become more clear throughout this chapter, which discusses in turn the political, economic/industrial, and technological dimensions of the production and trade in conventional weapons. Together, this discussion will illuminate some of the "supply and demand" considerations that make the trade in conventional weapons one of the more complex issues on the international security agenda.

Four general considerations (summarized in Figure 3.1) set the political context for efforts to constrain conventional proliferation. The first is the self-help imperative of states operating under the "security dilemma." In addition, under the United Nations Charter, every state not only possesses the right to defend itself, but is formally under obligation to contribute to the maintenance of international peace and security, and to make available to the Security Council the necessary armed forces and facilities. In a self-help world, the "security dilemma" (the inability to distinguish between offensive and defensive capabilities and intentions of possible opponents) and the resulting worst-case planning often makes cooperation to reduce conventional proliferation extremely difficult. This is especially problematic given that states acquire military equipment not just to meet national defence needs and UN obligations, but also for reasons of internal security, bureaucratic competition, or national culture.

Perceptions of defence requirements vary between nations, and have traditionally been among the most jealously guarded of sovereign prerogatives. And nations obviously see their security threats from differing perspectives. Canada enjoys relative security, because it is surrounded by three oceans and has had friendly relations and a long-standing and effective defence relationship with its large ally to the south for more than 150 years. Russia and the former Soviet Union, on the other hand, have been repeatedly invaded, and to a large degree, the massive build-up of Soviet military might was based on an almost-paranoiac fear of invasion of the homeland. Some of these security risks are real, some imaginary, and perhaps, in some cases, some are concocted so as to maintain internal control. For whatever reasons, the fundamental belief in the necessity to maintain defence forces is a characteristic of international relations in a system of sovereign states.

Several factors determine the size of, nature of, and tasks assigned to, defence forces. Different states are faced with radically different constellations of threats to their security and economic well-being; these represent the primary determinants of national policies towards defence, and in turn, towards how the armed forces will be equipped. Nations at high risk (real or perceived), devote considerable financial, industrial and personnel resources to their military forces. Israel is a good example: in the past it has believed that its security was under constant threat from its Arab neighbours, or from terrorist groups operating from neighbouring states. As a consequence, it maintains a high level of combat capability and has fought several wars to ensure its security and survival as a nation state. In so doing, it has successfully developed an indigenous defence industrial base, although at great expense to its national treasury and its principal ally, the United States.[1] On the other hand, a nation which perceives it faces few external security risks may

[1] In 1993, Israel spent 9.1 percent of its GNP on the armed forces (13th in the world), mobilized 36.8 soldiers per thousand population (second in the world). In the 1980s, defence production accounted for more than 25 percent (and perhaps closer

(continued...)

provide few or no resources to the military, but instead rely on its police forces for internal security, Costa Rica being one such example. In either case, while the type and nature of arms required will vary considerably from nation to nation, as will the roles in which these arms are employed, there continues to be a demand for conventional weapons to meet these self-defined security needs. It is within this context that this chapter and the next examine the global and Canadian arms trade.

As noted in chapter two, changes in the global security context since the end of the Cold War have led policy-makers into uncharted waters. The Cold War ideological and political divide provided a clear rationale for national defence efforts. The superpowers extended their hegemony to those areas where their national interests were considered to be at risk or challenged. The alignment of other nations with one or other superpower camps provided a *de facto* stability: smaller nations received protection, but were constrained by superpower goals and objectives to shape their defence policies to a variety of joint defence arrangements.

With the demise of the Cold War and the reduced risk of global conventional or nuclear war, the former superpowers have turned their attention to dealing with more pressing domestic concerns. One consequence, however, is that many smaller nations previously protected by their respective superpower umbrella now find themselves confronting old enemies or former adversaries on their own, and are adjusting their defence and security policies to these changes. Recent changes in security policies in East Asia provide one example of this. Hence the rethinking and redefining of security that is under way does not always transcend the logic of self-help, and indeed, the security situations of many states have become more fragile.

FIGURE 3.1

The Political Context for Efforts to Constrain Conventional Proliferation

- the self-help imperative drives states to acquire defence capabilities; the security dilemma of worst-case planning leads to suspicion and renders cooperation difficult
- many states pursue autonomy and self-sufficiency in defence production, which creates pressures to export and/or stockpile weapons
- the achievement of significant reductions in nuclear arsenals and the increased significance of regional conflicts has pushed conventional weapons higher on the foreign policy agenda of many states
- the shift from mainly unilateral or informal multilateral constraint efforts to formal multilateral measures has dramatically complicated efforts to constrain conventional proliferation

The second general consideration, which gives practical content to the self-help imperative, is the drive for autonomy and self-sufficiency that conditions many states' participation in the global arms market. Many

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[1](...continued)
to 50 percent) of its industrial output. Figures from United States, Arms Control and Disarmament Agency, *World Military Expenditures and Arms Transfers, 1993-1994* (Washington: ACDA, 1995), 33-35 (hereafter cited as ACDA, *WMEAT*); Keith Krause, *Arms and the State* (Cambridge: Cambridge University Press, 1992), 164.

suppliers export arms for foreign policy influence, to maintain military alliance relationships, to maintain domestic skills, expertise and production lines which they believe fundamental to their ability to produce arms for their own defence, or to develop new technologies which may have spin-off benefits for other industries.[1] Many importing states, especially those which are in frequent conflict, or which have special geo-strategic vulnerabilities, place great emphasis on assured sources of supply or on internal stockpiles of arms. Initial stocks provide time for acquisition or resupply from allies - which may be essential for survival. At the same time attempts are made to increase or establish domestic production for essential items. Israel, with its geographical vulnerability, has combined indigenous production (and an ability to modify imported arms), with a reliance on American weapons, to ensure that it has domestic capability to meet its defence needs. The French approach to preserving their defence industrial base involves strong export promotion.

The third consideration affecting the global political context is the changed foreign policy context for the "problem" of conventional proliferation. With the end of the East-West confrontation, and the achievement of significant reductions in nuclear arsenals, conventional weapons have moved higher on the agenda of foreign policy concerns. At the level of public opinion, issues such as the land mines crisis that has appeared after the ending of wars in Afghanistan, Cambodia, Angola and elsewhere has mobilized several non-governmental and governmental efforts.[2] A related issue, which has been implicated in conflict resolution and post-conflict peace-building efforts, is the question of controlling the trade in light weapons and small arms. Here research and action projects have been sponsored by NGOs as diverse as the Federation of American Scientists, the Ford Foundation, Human Rights Watch, International Alert, and the United Nations Institute for Disarmament Research (UNIDIR).[3] Concern with major weapons exports and military expenditures inform some of the work of the Institute for Defense and Disarmament Studies (IDDS), the British-American Security Information Council (BASIC), the Stockholm International Peace Research Institute (SIPRI), the Monterey Institute, the Center for Defense Information (CDI), the European Network Against the Arms Trade, and the Saferworld Foundation. In Canada, lobbying efforts have mostly come from Project Ploughshares and the Coalition to Oppose the Arms Trade (COAT).

There are obviously many reasons for this changed public salience of conventional weapons. One is the increased public profile of United Nations operations in conflict zones, which has regularly put regional wars on the nightly news. A second is the experience of the Iraqi invasion of Kuwait, which catalyzed a range of efforts in this domain, as a result of the perception that the major Western industrialized states had contributed to creating the threat that Iraq posed to its neighbours.[4] Finally, the weakening of the foreign policy justifications for arms exports (gaining influence in the East-West struggle) has meant that considerations such as respect for human rights have moved towards the forefront.

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[1] Keith Krause, "Military Statecraft: Power and Influence in Soviet and American Arms Transfer Relationships," *International Studies Quarterly*, 35:3 (September 1991), 313-336.

[2] The umbrella International Campaign to Ban Landmines includes such groups as the Physicians for Human Rights, Human Rights Watch, Handicap International, Medico International and the Vietnam Veterans of America Foundation. See also *Hidden Killers: The Global Landmine Crisis*, Bureau of Political-Military Affairs, United States Department of State (1994 report to Congress).

[3] Most of these projects, in particular the Ford Foundation's and Human Rights Watch, are devoted to improving our knowledge base in this area.

[4] Keith Krause, "Arms Transfers and International Security: The Evolution of Canadian Policy," in Fen Hampson and Christopher Maule, editors, *Canada among Nations 1992-93: A New World Order?* (Ottawa: Carleton University Press, 1992), 283-301.

These changes in the domestic political context for discussions of conventional proliferation have been paralleled by a change in the international control context. With a few notable exceptions (such as the COCOM), conventional proliferation was constrained mainly through unilateral or informal multilateral efforts. Today, however, discussions to constrain conventional proliferation have themselves "proliferated," in such forums as the Organization for Security and Cooperation in Europe, the Organization of American States, the Permanent Five members of the Security Council, or the European Union. The development of specific practical measures to constrain conventional proliferation is, however, proving difficult.

Current initiatives will be discussed fully in chapter six, but it is worth noting here the two major conceptual difficulties faced by multilateral efforts: the *free-rider* and *lowest common denominator* problems. With respect to the problem of *free riders* who take advantage of more restricted policies to increase their export opportunities, the depolitization of the arms trade and intense commercial competition mean that "efforts by an individual country to implement new and more effective regulations will be strongly resisted by that country's private sector...unless these regulations are reciprocated by other countries."[1] On the other hand, when multilateral agreements can be reached, they can often be forced to the level of the *lowest common denominator*, which might even result in overall less restrictive policies than before policy coordination and harmonization occurs. Both of these pose serious problems for efforts to constrain conventional proliferation that will be discussed in more detail below.

Perhaps most importantly, the radical drop in the arms trade, combined with the changing nature of global defence production, has sharpened the economic trade-offs many states must make when balancing their policies for constraining conventional proliferation against other factors, such as possessing a defence industrial base, an advanced high-technology sector, or preserving employment. The rest of this chapter sketches how some of these concerns are manifest, by exploring the global economic and industrial context of the arms trade.

The Global Economic and Industrial Context: Demand and Supply Factors

States can obtain the means of their self-defence either through domestic arms production, or by acquiring weapons abroad. There are, however, only a handful of nations that could in principle meet all of their military equipment requirements through domestic manufacture, and even fewer that can do so in quantities that make economic sense. During and since the Cold War, only the United States and the Soviet Union came close to military "self-sufficiency." For most industrialized states, including Canada, arms are acquired through a combination of domestic production and imports (often of crucial items). Sweden, for example, which produces an advanced fighter (the JAS-39), depends on more 12 foreign subcontractors for critical components and technologies, making it particularly sensitive to any supply restrictions.[2] Hence supply-side policies to constrain conventional proliferation that have an impact on a nation's survival become complex and difficult to apply, which mitigates against overly-simplistic approaches to arms control. Finally, the vast

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[1] Wolfgang Reinieke, "Cooperative Security and the Political Economy of Nonproliferation," in Janne Nolan, ed., *Global Engagement*, (Washington: The Brookings Institution, 1994), 180.

[2] Richard A. Bitzinger, "The Globalization of the Arms Industry: The Next Proliferation Challenge," *International Security*, 19:2 (Fall 1994), 184. One obvious solution to this is the transfer of technical drawings and specifications so that the critical components can be manufactured by domestic suppliers should the need arise. This raises a host of other issues concerning licensing, proprietary rights, the transfer of sensitive technology and competitiveness that are not dealt with easily.

majority of states with little capability to produce (or who choose not to produce) military goods, must import them from exporting nations.

Military or paramilitary (police) forces require a myriad of products to support them whether these products are manufactured domestically or acquired off-shore. The list of equipment requirements ranges from major weapons platforms such as ships, planes, tanks and the associated panoply of weaponry, ammunition and telecommunications, to basic goods for maintenance and sustenance of troops such as food, housing, uniforms, and medical support. All of this requires a logistical support system, whether crude or sophisticated, to provide these items in a timely and effective manner to military forces. Following the broad definition adopted in the introduction, the focus of this chapter will be on the "hardware" items required by the military, save for basic necessities such as food, housing, and uniforms.

The Scope of the Global Arms Trade

The estimated total trade in major conventional arms weapons in 1993 was approximately $21.9 billion U.S. (about $Cdn 30.2 billion). As Figure 3.2 suggests, this represents a steady and huge decline from the 1989 figure of $58 billion. Deliveries in recent years also include significant quantities of second-hand equipment, as well as deliveries of major conventional weapons from American inventories to coalition forces in the 1991 Persian Gulf War, and so these figures mask the even greater decline in deliveries of new weapons.[1] The 15 largest exporters are listed in Figure 3.2. It is clear from this table that the United States is the largest exporter of arms, capturing 46 percent of all deliveries in 1993, and 33 percent of deliveries for 1989-93.

That the United States is the leading exporter should not come as a surprise. During the Cold War, it shared top billing with the Soviet Union; between them these two states controlled at least 60 percent (and at times as much as 80 percent) of the global arms trade. With the collapse of the Soviet Union, the actual *amount* of American deliveries has not increased, but its share of the market has. Russian arms exports have dropped to about *ten percent* of their previous value. Even accounting for significant errors in the way in which Russian exports were valued, this is a near-total collapse of market share. SIPRI data give the Russians a higher share of the market in 1993 (21 percent), but this was largely due to transfers that were meant to offset inherited Soviet debts, and for which no hard currency actually changed hands.[2]

In general terms, Figure 3.2 demonstrates that the arms export market is highly concentrated among five or six major suppliers, followed by a second tier of roughly ten states. Together, these suppliers accounted for almost 98 percent of recorded transfers in 1993, and almost 96 percent in the 1989-93 period. Hence the remaining suppliers are, in global terms, nearly insignificant. Focusing on various institutional groupings: the Permanent Five members of the UN Security Council accounted for 84 percent of arms exports (1989-93); NATO states accounted for about 61 percent, the European Union supplied 27 percent (with Germany, France and the United Kingdom responsible for 86 percent of this); and the OSCE states about 90 percent. While this provides some indication of the appropriate arenas for constraint efforts, on the other hand (and as noted in the introduction), it conceals the importance of particular suppliers in the market for particular weapons systems, or the fact that there is almost always one major or several "medium" suppliers excluded in each of

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[1] Stockholm International Peace Research Institute, *Yearbook 1994* (Oxford: Oxford University Press, 1994), 456. Hereafter cited as SIPRI, *Yearbook*. Interestingly, the SIPRI figure for *major weapons* deliveries for 1993, which is arrived at by a completely different method than the ACDA figures, was $21,975 billion - extremely close to the ACDA figure.

[2] *Ibid.* On valuation problems for exports from the former Soviet Union, see ACDA, *WMEAT, 1993-94*, 166-167.

FIGURE 3.2

Leading Exporters of Conventional Weapons, 1989-1993 (million constant 1993 U.S. dollars)

Rank 1993	Country	1989	1990	1991	1992	1993	1989-93
1	United States	15440	14690	11390	10360	10300	62180
2	United Kingdom	5604	4932	4957	4511	4300	24304
3	USSR/Russia	22640	16770	6960	2358	2600	51328
4	Germany*	1487	1973	2531	1128	1100	8219
5	China	2745	1644	1582	897	950	7818
6	France	2630	5261	1687	1435	675	11688
7	Italy	309	219	316	338	400	1582
8	Netherlands	263	219	105	164	240	991
9	Canada	549	630	517	1025	200	2921
10	Israel	972	362	422	205	200	2366
11	Spain	217	384	105	164	150	1020
12	South Africa	57	55	0	72	140	324
13	Czechoslovakia**	1001	406	243	144	130	1924
14	Switzerland	126	88	95	410	60	779
15	Belgium	57	197	74	400	50	778
	Others	3973	1690	806	1099	465	8033
	TOTAL	**58070**	**49520**	**31790**	**24710**	**21960**	**186050**

* Before 1991 the figures refer to West Germany only

** For 1993 the data refer to the Czech Republic only. ACDA recorded no arms sales for Slovakia in 1993, although other sources recorded deliveries of tanks to Syria.

Source: United States, Arms Control and Disarmament Agency, *World Military Expenditures and Arms Transfers, 1993-1994* (Washington: ACDA, 1995).

these groups. These excluded suppliers (which include such states as Israel, China, South Korea, or Brazil) can potentially upset supplier arrangements in all except the most sophisticated categories of weapons systems.

The Changing Nature of Defence Production and Trade

The arms *trade*, however, is only one small part of global arms production. This simple fact is often neglected in discussions of constraining conventional proliferation, yet by analogy, one could hardly discuss the international automobile market by focusing exclusively on the cars that were traded between states, while ignoring the vast bulk of vehicles that are built and sold domestically. Of the roughly $200 billion in annual global arms production, only $22 billion, or about 10 percent, are exported, with the vast bulk being absorbed by domestic procurement, mainly in the industrialized states. This *structure* of global defence production plays a major role in limiting the possible scope of constraint measures, and it gives added support to the argument that an exclusive focus on the arms *trade* is discriminatory.

Modern weapons vary in complexity. All things being equal, the more sophisticated or technologically complex the weapon, the greater will be the reliance on external sources of supply for components. Why is this so? As noted in Figure 1.1, the most basic weapons (small arms, pistols, assault rifles, medium and heavy machine guns mortars and mines) can be manufactured domestically and with relative ease in a large number of states that possess at least a moderate industrial capability. Machining gun barrels, for example, requires considerable technical skill, but once a basic production facility has been established, individual units can be produced easily and in great quantities.

However, the production of sophisticated weapons systems requires a well developed industrial base with the capacity to produce a large number of precision quality components. Also, greater sophistication involves increased cost, extensive product development and testing and a highly skilled work force capable of producing the end product. As a corollary, the degree of sophistication in any weapon system is directly related to the knowledge, training, intellectual capital of its people, and to the economic strength of the nation. A national infrastructure to support scientific and technical development is fundamental to the process.

In more formal economic terms, sustained production of sophisticated weapons or components requires strong "backwards" and "forwards" linkages with the rest of the economy, which allow defence production to have easy (or low cost) access to skilled personnel, to local markets for defence or civilian goods, to reliable suppliers of components, and to sufficient infrastructure support. It is possible to build an defence production base in the absence of one or more of these factors, but it then is nothing more than an enclave industry, with few benefits or spin-offs for the local economy. Perhaps the best examples of this were provided by Brazil and Iraq; the Brazilian example is discussed in Figure 3.3.

The global arms industry, which for decades was nurtured by the Cold War, is in an period of unprecedented contraction. Neither proponents of the industry nor proponents of disarmament predict that the industry will ever return to previous highs in the market place. Rather, both anticipate that the decline which started in 1988 will continue for the foreseeable future.[1] The primary reasons for this change are decreased defence budgets as nations adjust their defence requirements to meet the new global security situation and the reduced possibilities for arms exports. Despite the fact that declining domestic procurement pushes states to launch

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[1] Herbert Wulf, ed., *Arms Industry Limited* (Oxford: Oxford University Press, 1993), 3.

export efforts, expanding arms exports is not perceived as a viable alternative for most states.[2] But within this context there are a number of factors which are driving the change.

The United States Department of Defense, in its forecast and analysis of the global conventional arms trade, cites five other factors in addition to the changing security situation and the reduction in defence budgets that are changing the nature of the arms industry. Financing constraints have reduced the attractiveness of several customers, who may not be able to pay for the weapons they buy. Intense competition has increased buyer leverage, forcing suppliers to provide concessions that previously might have been avoided. Drastic reductions in grant aid from the United States and USSR/Russia to foreign clients has reduced the funding available for those states to acquire new weapons systems. A growing emphasis on upgrades of existing weapons platforms, as many nations turn to mid-life refits, is also diminishing demand for new weapons. Finally, there is an increased demand for advanced munitions and electronics as nations realize the importance of electronic warfare, smart weapons, command, control, communications and intelligence (C^3I), surveillance, missiles and fire control systems to their operations.[2]

Shrinking defence markets and a differing demand for defence products have been particularly hard on the arms industry, because within overall reductions in defence spending, arms procurement budgets were the hardest hit. As the United States Arms Control and Disarmament Agency notes, "the world arms trade continued its sharp decline in 1992 and 1993 when it fell to $22 billion...the lowest level since the 1970's and...a 70 percent drop from the near record peak in 1987 of $74 billion."[3] The ACDA also reports that the arms *imports* of both the developing and developed world have also declined rapidly in recent years at an average rate

FIGURE 3.3

The Brazilian Experience

In the 1980s, Brazil built a large, export-oriented, defence industry, based primarily on sales to Iran and Iraq during their decade-long war. Armoured vehicles, missiles, and training aircraft were the main products, and up to three-quarters of Brazil's arms production was exported.

Brazil also attempted to use its defence industry as an engine of economic growth, by launching more ambitious, technologically-advanced, projects with industrialized partners such as Italy. But sophisticated arms production could no longer rely on linkages with the local economy, and the import content (engines, airframes, etc.) of its weapons increased dramatically. The import content of planes built by Embraer, *the national aircraft firm, was 61 percent, hardly an "indigenous product."*

When the Iran-Iraq war ended and Brazil faced increased competition for sales, its exports collapsed, from an average of $678 million a year (constant 1993 dollars) between 1984 and 1988, to an average of only $108 million between 1989 and 1993. Its local market was tiny, its firms verged on bankruptcy, and it receded to the status of a niche supplier.

Sources: Patrice Franko-Jones, The Brazilian Defense Industry *(Boulder: Westview Press, 1992); Renato Dagnino,* A indústria de armamentos brasileira: uma tentativa de avaliação, *unpublished doctoral thesis, University de Campinas, Brazil (1989).*

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[1] *Ibid.*, 4.

[2] United States Department of Defense, *World-Wide Conventional Arms Trade (1994-2000)* (Washington: DoD, 1994), iv.

[3] *WMEAT, 1993-1994*, 9. See also *World-Wide Conventional Arms Trade (1994-2000)*, 5.

of 23 percent and 25 percent respectively, although the rates of decline slackened in 1993 to ten and 14 percent. Figures 3.4 and 3.5 illustrate these trends in numerical and graphic terms, using two different sources, and Figure 3.4 provides a forecast to the year 2000. According to U.S. Department of Defense estimates, the global arms trade could be as low as $10 billion annually by the year 2000.

The changing nature of the industry is also well illustrated in terms of the overall market share and growth of imports and exports. The data shown in Figures 3.6, 3.7 and 3.8 illustrate these points. Figure 3.6 shows that the American and European producers still dominate the global arms trade with some 93 percent of total arms production (excluding Russian production). It is interesting to note that some states have managed to increase their market share in 1992 versus 1991, although whether this is a short- or long-term development is unclear. Figures 3.7 and 3.8, on the other hand, are more telling, as they show the real growth rate in imports and exports (in percentage terms) for the decade 1983-1993. In all years throughout the decade there was negative real growth.

Aside from the overall declines, the most dramatic reductions in imports appeared in Eastern Europe, Africa (Northern and Sub-Saharan), South Asia, and Central America. This reflected the collapse of the Warsaw Pact and the termination of regional wars in Afghanistan, Nicaragua, Angola, Mozambique and Ethiopia. The most dramatic declines in exports (ignoring the statistical artifact of low exporting areas) occurred in Eastern Europe (and in particular in the exports of Russia), with Western Europe also losing market share to American exports.

The reduction in military grant aid has also had a significant effect on arms exports. Throughout the Cold War, grant aid was used extensively to fund the purchase of military equipment. Russia, because of extreme economic pressures has almost terminated its grant military assistance program. The United States has also curtailed its military grant aid: total discretionary aid dropped from a high of $3.2 billion in 1984 to less than $34 million in FY 1993, roughly 10 percent of the 1984 level. These trends are illustrated in Figure 3.9.

Perhaps the most important conclusion to draw from these figures concerns whether or not the arms trade is demand or supply-driven. If one judged the market on media accounts alone, one would conclude that a massive export drive might create conditions for a resurgence in the arms trade. Virtually every major, and most lesser, suppliers have redoubled their export efforts, and increased government support for these efforts, in the past few years.[1] But the dramatic declines in the global arms trade detailed above suggest that the market is demand, not supply-driven, since there is no shortage of willing suppliers, and even "bargain basement" deals. In the absence of eager customers, generated by a dramatic worsening of the global or regional security environment, the arms trade will continue to stagnate or decline.

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[1] Examples of such efforts can be found in the Ukraine, Russia, France, India, Turkey, North Korea, Italy, South Africa, Great Britain and Canada. See "Ukraine Rolls into the Arms Market," *Economic Review*, 13 March 1995); "U.K. to Push Arms Exports; Government Strategy will Boost Weapons Sales Support," *Defense News*, 20 March 1995; "French Industry Chiefs Warn Against More Budget Cuts; Urge Government to Boost Support for Arms Exports," *Defense News*, 27 March 1994; "Russia's Arms Exports have Nearly Doubled," *RusData DiaLine -BizEkon News*, 22 September 1994; "Kim will Likely Expand Arms Sales," *Defense News*, 24 July 1994; "[Turkish] Defense Industry Boosts Emphasis on Exports," *Defense News*, 31 July 1994; "India Eyes Su-30, MiG-29 as World Market Entree," *Defense News*, 9 October 1994; "New Italian Leaders to Lift Defense, Exports," *Defense News*, 26 June 1994; "South Africa Nears Record Exports," *Defense News*, 4 December 1994; "Canadian Firms Want Defense Fund Revived," *Defense News*, 12 June 1995.

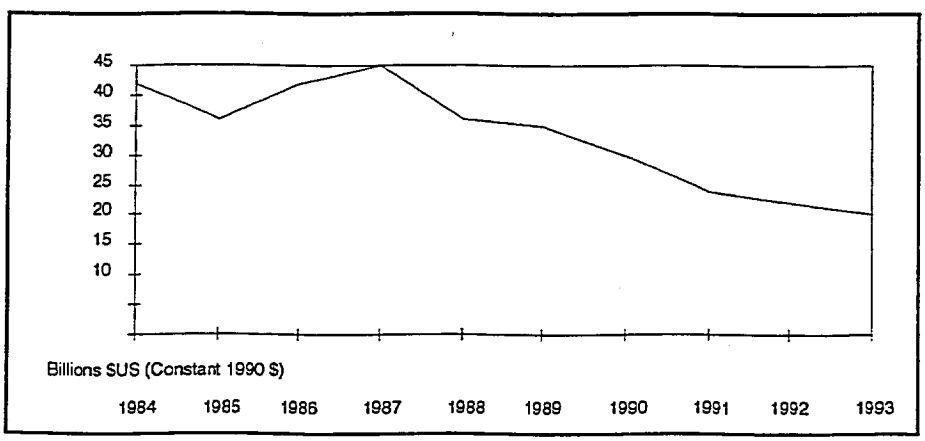
FIGURE 3.4

The Decline in Global Arms Deliveries (1991 constant U.S. dollars)

	1981-1988	1989-1991	1992-1993	1994-2000 (forecast)
Global Arms Deliveries (annual average)	$66 billion	$40 billion	$21 billion	$12 billion

Source: United States Department of Defense, *World-Wide Conventional Arms Trade (1994-2000)* (Washington: DoD, 1994), v, A-8.
Note: The forecast was based on ACDA figures, and an econometric model that assumed post-Cold War conditions and a global one percent annual reduction in real military expenditures (which is a lower decline than in recent years).

FIGURE 3.5
Aggregate Value of Deliveries of Major Weapons Systems: 1984-93



Source: SIPRI, *Yearbook 1994*.

Note: SIPRI trend data indicate average trends in the physical deliveries of major conventional weapons and do not reflect purchase prices. These cannot be compared directly with other sources. The methods used for the valuation of SIPRI arms trade statistics are described in Appendix 13D of the Yearbook.

FIGURE 3.6

Regional/National Shares of Arms Sales (top 100 arms producing companies) 1991 and 1992

		Share of total arms sales %		
Number of Companies 1992	Region/Country	1991	1992	Arms Sales 1992 ($b)
46	USA	61.3	59.6	99.9
40	**West European (OECD)**	32.3	33.7	56.6
14	France	12.0	13.1	22.0
11	UK	9.9	9.8	16.5
7	FRG	4.8	5.0	8.4
3	Italy	3.0	3.2	5.3
2	Sweden	0.8	1.0	1.7
2	Switzerland	1.1	1.0	1.6
1	Spain	0.8	0.7	1.1
8	**Other OECD**	4.0	4.3	7.1
6	Japan	3.4	3.8	6.3
2	Canada	0.7	0.5	0.8
6	**Developing Countries**	2.4	2.4	4.1
3	Israel	1.2	1.3	2.2
2	India	0.7	0.7	1.2
1	South Africa	0.4	0.4	0.7
100	**Total**	100	100	167.7

Source: SIPRI, *Yearbook 1994*, 466. Derived from data in Appendix 13A.

FIGURE 3.7

World Arms Imports: Shares and Growth (in percent)

	World Share		Real Growth Rate*	
	1983	1993	1983-93	1989-93
World	100.0	100.0	-11.4	-23.3
Developing	78.9	78.3	-11.5	-22.8
Developed	21.0	21.9	-10.8	-24.7
Region				
Middle East	40.4	47.4	-11.1	-14.6
Western Europe	9.7	17.7	-4.1	-23.5
East Asia	9.6	13.8	-8.3	-21.5
North America	3.0	8.2	-2.9	-6.8
Eastern Europe	12.2	5.5	-34.7	-53.7
South Asia	4.7	2.3	-13.1	-54.3
Oceania	0.6	1.8	-9.7	-18.4
Sub-saharan Africa	7.4	1.2	-27.1	-48.7
South America	3.7	1.1	-18.2	-33.1
Central America & Caribbean	3.4	0.8	-25.1	-52.8
North Africa	6.8	0.2	-33.0	-62.4
Central Asia & Caucasus	---	0	---	---
Europe, all	20.0	23.1	-11.5	-26.5
Africa, all	14.2	1.4	-28.7	-53.0
Organization/Reference Group				
OECD	14.7	26.4	-4.5	-20.9
OPEC	31.2	33.8	-11.3	-16.8
NATO, all	11.3	21.2	-3.4	-19.9
Warsaw Pact (former)	9.7	4.9	-34.5	-53.4
NATO Europe	8.4	13.9	-3.7	-24.5
Latin America	7.2	1.8	-21.3	-42.9
CIS	---	0	---	---

Source: United States Arms Control and Disarmament Agency, *World Military Expenditures and Arms Trade, 1993-1994* (Washington: ACDA, 1995).

* These figures represent the average annual rate, calculated as a compound rate curve fitted to all points. For details refer to the statistical notes of the report.

FIGURE 3.8

World Arms Exports: Shares and Growth (in percent)

	World Share		Real Growth Rate*	
	1983	1993	1983-1993	1989-1993
World	100.0	100.0	-11.4	-23.3
Developed	91.1	92.1	-11.1	-22.9
Developing	8.9	7.9	-14.1	-26.7
Region				
North America	22.6	47.9	-3.3	-10.6
Western Europe	23.5	32.2	-8.6	-13.3
Eastern Europe	46.9	12.8	-22.4	-46.6
East Asia	5.2	5.0	-10.6	-26.2
Middle East	0.7	1.0	-12.5	-36.7
South America	0.4	0.3	-19.5	-25.5
Oceania	0.1	0.2	-8.5	-19.4
Central America & Caribbean	0.1	0	-18.4	-2.4
Central Asia & Caucasus	---	0	---	---
North Africa	0.2	0	-29.0	-61.3
South Asia	0.6	0	-23.4	-27.5
Sub-saharan Africa	0	0	-6.8	-54.2
Europe, all	70.5	45.1	-15.3	-30.4
Africa, all	0.2	0.6	-5.7	-3.5
Organization/Reference Group				
OECD	46.8	80.3	-6.1	-12.0
OPEC	0.2	0.1	-14.4	-36.1
NATO, all	44.0	79.7	-5.7	-11.4
Warsaw Pact (former)	46.0	12.8	-22.2	-46.4
NATO Europe	21.5	31.9	-8.2	-12.3
Latin America	0.5	0.4	-18.1	-20.6
CIS	---	12.1	---	---

Source: United States Arms Control and Disarmament Agency, *World Military Expenditures and Arms Trade, 1993-1994* (Washington: ACDA, 1995), 14.

* These figures represent the average annual rate, calculated as a compound rate curve fitted to all points. For details refer to the statistical notes of the report.

FIGURE 3.9

The Decline in Military Grant Aid

Soviet/Russian Grant Aid Arms Deliveries
(million current dollars)

1988	1989	1990	1991	1992	1993
$8,700	$9,200	$7,700	$2,400	$100	$100

United States Grant Military Aid FY 1989 and FY 1993
(thousands current year dollars)

	FY 1989*	FY 1993
Africa	24,700	15,000
American Republics	153,600	63,095
East Asia and Pacific	148,000	15,000
Europe and Canada	540,000	250
Near East and South Asia	3,423,000	3,152,500
Non Regional Grant Aid	39,970	26,456
Total	4,329,270	3,272,301

* FY 1989 includes Grant Military Assistance and Forgiven Military Sales Debts

Source: United States Department of Defense, *World-Wide Conventional Arms Trade (1994-2000)* (Washington: DoD, 1994), 7-8.

Declining Domestic Procurement, Declining Employment

The preceding figures demonstrate clearly that decreasing defence budgets are having a wide-ranging impact on arms procurement and ultimately the global defence industry. In addition, the *nature* of this procurement is also shifting away from nuclear-capable strategic systems, with the decrease in the numbers of strategic bombers, surface and subsurface naval platforms and ballistic missile systems.[1] Part of this is due to a change in requirement (the number of platforms and missiles needed to maintain a nuclear-capable force); part is due to nuclear force reductions resulting from arms control agreements; part is the result of improved missile guidance technology and delivery systems which allow greater accuracy of weapons equipped with conventional warheads, thus obviating the need for nuclear warheads. Nevertheless, continued development on nuclear-capable systems proceeds, albeit at a somewhat slower pace.

While this decrease in demand and development of strategic systems continues, there is a concomitant shift in the requirements of conventional arms, especially outside of Europe. In East Asia, for example, growing economies have allowed governments to increase their investments in state-of-the-art military capabilities. These countries are increasing military spending and developing arms industries, with particular attention being paid to the import of technology.[2]

But in general, reduced arms procurement and production have also led to drastic reductions in employment within the industry as companies downsize to reduce their production capacities to levels commensurate with market conditions, or to their improve competitiveness. Globally, industry employment in the 1980s fluctuated between 15-16 million employees, but started to decline in the latter half of the decade. An employment drop of about 6 percent occurred between the mid-1980s and the early 1990s - most of which was concentrated in Western Europe and the United States.[3] Exact comparisons of employment data are not possible because of various factors to do with the mix of civil versus military jobs in large firms, the composition of the change, and a reluctance by some nations to release such data, but there are some figures available that characterize changes affecting national work forces. These changes inevitably give rise to societal and welfare considerations for governments as they deal with the impact of job disruption and an over-supply of skilled workers in an employment market that is already strained by the global recession and poor economic conditions. One must also remember that in addition to the job losses in the arms industry, most states are facing additional job losses from the declining strength of the various armed forces.

Since the defence budgets of NATO's European members have decreased $10 billion over the past five years and continue to decline, some specific examples of the linkage between defence budgets and employment in the arms industry in the largest European producers are also noteworthy.

France, historically Europe's largest arms producer, appears to be maintaining defence procurement at about the same levels in 1993-1994 as in previous years. The 1993 budget of 102.9 billion francs (SU.S. 19.7

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[1] "Strategic" in this context refers to nuclear-capable systems (including delivery platforms and missile systems). It does not include those platforms used in conventional operations such as strategic airlift, air-to-air refuelling, or sea transport used in troop transport and logistic support.

[2] For an excellent overview, see Shannon Selin, *Asia Pacific Arms Buildups* parts one ("Scope, Causes and Problems") and two ("Prospects for Control"), working papers 6 and 7 (Vancouver: Institute of International Relations, UBC, 1994). See also Desmond Ball, "Arms and Affluence: Military Acquisitions in the Asia-Pacific Region," *International Security*, 18:3 (Winter 1993/94), 78-112; Michael Klare, "The Next Great Arms Race," *Foreign Affairs*, 72:3 (Summer 1993), 136-152.

[3] SIPRI, *Yearbook 1993*, 429, 430. See also Wulf, 12-15.

billion) was subjected to cuts of 9 billion francs, but this has been reinstated to 103 billion francs with priority on procurement. This restoration was largely prompted by concern about the impact of defence cuts on the arms industry, which is 80 percent state-owned or controlled.[1] In 1993, 18,000 jobs were cut from the French arms industry with another 40,000 job losses expected between January 1993 and December 1995. This is significant in an industry that involved some 230,000 direct and 100,000 indirect jobs, which represented about 5 percent of France's total industrial employment.[2]

British military spending peaked in 1984 and has declined by over 20 percent since. In 1993/94 the defence budget was reduced from £24.52 billion to £23.52 billion with only 15.7 percent of that (about £3.7 billion) being allocated to procurement. With the exception of 1991 (the year of the Persian Gulf War), British defence spending decreased an average of 11.18 percent per year from 1986 to 1993.[3] This has had a corresponding impact on employment. Britain, which had the second-largest arms industry employment in Europe, had an estimated work force of 560,000 at the start of the 1980s. A decade later, the work force was down to 400,000.[4] Over the past 10 years, British Aerospace Defence alone has reduced its work force from 66,000 to 31,000.[5]

Germany's procurement budget decreased U.S. $2.3 billion from 1987 to 1995 with additional cuts anticipated as the government further reduces its spending. After a steady increase in the 1970s, defence spending remained relatively constant in the 1980s, but decreased rapidly in the early 1990s. Spending in 1993 was 20 percent lower than in 1990. Work forces are being reduced accordingly. As an example, since 1990 Daimler-Benz Aerospace (Germany's biggest arms producer) has reduced from 16 sites to eight and cut its work force from 16,000 to 10,000.[6] From a total of 350,000 employees in West and East Germany in the mid-1980s, at the start of the 1990s employment has fallen to below 250,000.[7]

Europe was not alone in its shrinking defence procurement budgets. The United States is trimming its defence procurement substantially as well. The budget for arms procurement decreased from $97 billion (FY 85) to $46 billion in FY 1994, a decrease of 63.4 percent since FY 1985. Even greater reductions are planned over the next five years. This is taking its toll on the work force: from a high point of 3.36 million arms industry jobs in 1987, in 1992 employment was down to 2.75 million.[8] The U.S. Office of Technology Assessment

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[1] *Ibid.*, 474-475. For an overview of French arms production and exports, see Edward Kolodziej, *Making and Marketing Arms: The French Experience and Its Implications for the International System* (Princeton: Princeton University Press, 1987); Jean-Paul Hébert, *Production d'armement: mutation du système français* (Paris: La documentation française, 1995).

[2] *Ibid.*

[3] SIPRI, *Yearbook 1994*, 401. Calculations based on constant price figures, 1980-1993.

[4] Wulf, 145.

[5] *The Economist*, 8-14 April 1995.

[6] SIPRI, *Yearbook 1994*, 418; *The Economist*, 8-14 April 1995.

[7] Wulf, 146. For a further breakdown in employment figures for other European producers see Wulf, 147-157.

[8] *Ibid.*, 52.

predicts a further reduction of 500,000 to 900,000 positions by 1995.[9] Companies such as Lockheed Martin (the world's largest defence contractor after the merger of Lockheed and Martin Marietta) have recently announced some of these cuts, reducing its workforce by 19,000 (about 15 percent) in 1994-95 alone, on top of previous cuts between 1988 and 1991 **(see Figure 3.10)**[2]

Since 1987, Russia's arms industry has also been in steady decline. As it undergoes massive restructuring of its economy, Russia has adjusted its defence procurement accordingly. Procurement expenditure and defence spending has been severely slashed. Arms production has been cut by some 50-60 percent: between 1990 and 1992 alone, tank production was reduced by 50 percent, armoured vehicle production by more than two-thirds, strategic missile production by more than two-thirds and military aircraft by almost three-quarters![3] Soviet/Russian arms exports fell from more than $20 billion in 1987 to less than $3 billion in 1993. In 1992 the government reduced its orders by 65-68 percent and by the end of 1994, 70 percent of the production lines in the defence sector were idle.[4]

Accurate employment figures are even more difficult to obtain than in the West. Further, they are unreliable because in the somewhat chaotic process of forced conversion, some less efficient civil industries are being taken over by more efficient military industries and the differentiation between the two is obscure. As one indicator of conversion, however, "the share of civilian goods rose from 42.6 per cent in 1988...to 54 per cent at the end of 1991."[5] Figure 3.10 summarizes some of these trends with data that reflects the changing employment trends in the arms industry amongst the top 36 companies who reported more than half their revenues related to arms sales in 1988. The increases in employment figures for eight of the 36 were mainly due to restructuring and mergers. Hardest hit industries were in aerospace and missile industries.

The declining defence market and excess production capacity is compounded by large quantities of surplus military equipment and perhaps less stringent control, in some instances, of the distribution of that equipment. While downsizing the inventory of strategic nuclear weapons forces is under way, a redistribution of conventional weapons and systems is in progress, in part via a "cascading" of weapons systems downwards from allies to allies as the major holders reduce their holdings of older, but still quite effective, equipment. This provides an opportunity for recipients to upgrade their force capability at modest cost. The important aspect of cascading, however, is that it artificially inflates arms trade statistics. Such transfers are not new production and the sales they generate do not change the reality that the arms trade is in decline.

One result of downsizing in the defence industry has been that some companies have abandoned the arena in pursuit of new products, while others have added to existing lines of business. For example, General Dynamics sold its F-16 fighter production division to Lockheed Corporation which produces the United

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[1] Cited in SIPRI, *Yearbook 1994*, 406, 431.

[2] *International Herald Tribune*, 27 June 1995.

[3] From testimony by William Grundman, Director of the Defense Intelligence Agency, to the Joint Economic Committee of Congress, 11 June 1993, reported in *Air Force Magazine* (August 1993), 10. The figures for tank production were 1,300 (1990) and 675 (1992); armoured vehicles, 3,600-3,900 (1990) and 1,100 (1992); fighters and bombers, 610 (1990) and 170 (1992); strategic ballistic missiles, 190-205 (1990) and 45-75 (1992).

[4] Wulf, 406. Export figures from ACDA, *WMEAT, 1993-1994*. See also Igor Khripunov, "Russia's Arms Trade in the Post-Cold War Period," *The Washington Quarterly*, 17:4 (1994), 79-94.

[5] Wulf, 111.

States newest fighter, the F-22. Lockheed is, therefore, in a position to offer fighter aircraft with capabilities that cover the full spectrum. On the other hand, while General Dynamics has shucked its involvement in fighters, it still maintains its Electric Boat Division which produces submarines. The extremely active merger and acquisition market makes consistent tracking of defence production more complicated, a point addressed below.

The overall picture of the global defence industry that results is a sobering one, and explains in large part the economic imperative to export that is felt in many states. The economic benefits from arms exports cannot be summarized in terms of export earnings and trade balances, but rather in terms of maintaining employment in high-tech industries, and the ability to sustain a domestic defence industrial base that can satisfy national requirements at reasonable cost. For most producers, this means reliance on exports. In the late 1980s, for example, the French aircraft producer Dassault estimated that it needed to produce 40 planes a year to maintain its production teams; this meant (given French government orders) that at least 25 percent of production needs to be exported. Sweden originally estimated that one-third of the production of its new generation *Gripen* fighter needed to be exported, and cost estimates for the French *Rafale* assumed that one-half of production would be exported.[1] But in the early 1990s France was able to export only 10 percent of its arms production, Sweden two percent, Britain 33 percent, Italy 3 percent and Germany 25 percent.[2] Obviously, Canada, like most other industrialized states, also has a relatively small domestic procurement demand, and unless export markets are sought, the unit cost of domestic arms production could be prohibitively high.

Reflecting on the economic impact of defence expenditures, Serge Caron of the Canadian Forces noted that:

> The world spends about $1 trillion a year on military defence, or about five percent of the world's economy. About 75 percent of the research in the United States is military-related. About 25,500,000 people are in active military service around the world. Plus another 50,000,000 in related jobs which means that, if peace were to break out tomorrow, alternative employment would have to be found for at least 75,000,000 people.[3]

Although these figures are rough estimates, they do provide at least a rough order of magnitude of the total economic impact of *defence spending* (which should not be confused with *arms procurement*). They also indicate the enormity of the challenges to multilateral efforts to constrain conventional proliferation, given the personal and financial aspects involved.

Regardless of the global location, the downturn in the defence industry is having serious repercussions on employment. While some nations will be able to adjust, others may not. It remains to be seen whether there will be certain levels of production below which nations are not be prepared to go lest they lose expertise and capacity to meet national security needs.

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[1] *Aviation Week and Space Technology*, 9 January 1989; Andrew Moravcsik, "The European Arms Industry at the Crossroads," *Survival*, 32:1 (January/February 1990), 82n.

[2] Figures from Keith Krause, *The Maturing Conventional Arms Transfer and Production System*, report for the Non-Proliferation, Arms Control and Disarmament Division, Department of Foreign Affairs and International Trade Canada (September 1994), 10.

[3] Serge Caron, *The Economic Impact of Canadian Defence Expenditures*, Occasional Paper 2-94, Centre for National Security Studies, (Kingston: National Defence College, June 1994). The quote is from Dan Hoornweg's *Green Soldiers: A New Direction for the Military Machine*, cited in Caron.

FIGURE 3.10

Employment Changes in the Largest Arms Producing Companies, OECD and Developing States

Name	Country	Product Sector	Arms Sales as %	Employment 1988	Employment 1991	Change
Armscor	South Africa	L	90	26,000	16,000	-38
Israel Military Industries	Israel	L	98	12,150	8,500	-30
Grumman	US	A	82	32,000	23,600	-26
General Dynamics	US	A	84	102,800	80,600	-22
Hollandse Signaalapparaten	Netherlands	E	90	5,300	4,265	-20
Lockheed	US	A	79	86,800	71,300	-18
Dassault Electronique	France	E	76	4,100	3,416	-17
EN Bazan	Spain	S	81	10,908	9,149	-16
VSEL Consortium	UK	S	100	15,520	13,028	-16
Dassault	France	A	70	13,818	11,914	-14
Northrop	US	A	90	42,000	36,200	-14
CASA	Spain	A	72	10,372	9,338	-10
Martin Marietta	US	A	75	67,500	60,500	-10
McDonnell Douglas	US	A	60	121,000	109,123	-10
Thiokol	US	A	54	12,600	11,500	-9
Eidgen. Ruestungsbetriebe	Switzerland	L	92	4,900	4,495	-8
Hindustan Aeronautics	India	A	97	43,663	40,336	-8
Oto Melara	Italy	L	98	2,329	2,149	-8
Hughes Electronics	US	A	61	100,000	93,000	-7
British Aerospace	UK	A	55	131,300	123,200	-6
Litton Industries	US	E	60	55,000	52,300	-5
Raytheon	US	A	67	75,000	71,600	-5
Dornier	FRG	A	52	9,800	9,527	-3
Ordnance Factories	India	L	99	177,863	173,000	-3
Krause Maffei	FRG	L	52	5,100	5,004	-2
FIAT Aviazone	Italy	A	82	4,749	4,719	-1
MTU	FRG	A	52	17,200	17,052	-1
Westland Group	UK	A	70	9,163	9,060	-1
Israel Aircraft Industries	Israel	A	75	16,500	17,100	+4
DCN	France	S	100	28,000	30,000	+7
Hunting	UK	L	62	6,834	7,302	+7
Saab	Sweden	A	57	6,490	6,909	+7
Thomson-CSF	France	A	77	41,400	44,500	+8
GIAT	France	L	100	14,740	17,00	+15
Loral	US	E	88	14,000	22,000	+57
Agusta	Italy	A	72	4,285	8,426	+97

* Legend: A= Aerospace; E= Electronics; L= Land systems/infantry weapons; S= Shipbuilding

Source: SIPRI arms industry data base, SIPRI, *Yearbook 1993*, 431.

Globalization of the Defence Industry and Trade

While the declining industry may be welcome news in arms control quarters, there is one complicating factor that makes constraining proliferation a difficult long-term proposition: the globalization of the arms industry. Although it can take many forms, in general, globalization marks a significant shift away from single-nation weapons development and production, towards international cooperation and collaboration. As Richard Bitzinger, the author of a major study on globalization, points out:

> multinational armaments production is increasingly supplementing indigenous or autonomous weapons production or arms imports. The emergence of an increasingly transnational defense technology and industrial base is fundamentally affecting the shape and content of much of the global arms trade. This changing defense market, in turn, will have a profound impact on a number of national security issues concerning the Western industrialised nations."[1]

Implicit in this is the recognition that declining defence budgets and the rising unit cost of weapon systems are forcing the arms industry to share the costs and risks of developing and manufacturing new systems, as well as attempting to preserve jobs and increase their market share. Indeed, the globalization process has become a critical corporate as well as government strategy to preserve the economic viability of national defence industrial bases. Recent trends in the Canadian defence industrial sector illustrate this well.

Some evidence of this is given in Figure 3.11, which demonstrates the rapid upsurge in three dimensions of the globalization process. The globalization of arms production has been increasingly dominated in recent years by transnational agreements between defence firms, which generally take the form of strategic alliances, the formation of joint venture companies and cross border mergers or acquisitions (including cross share-holding between companies). Globalization can also take the form of licensed production and co-production agreements, informal consortia, and government-led initiatives. More specifically, these agreements usually involve collaborative programs that include subcontracting, offsets, data transfer, licensing, dual-use technologies and basic research. The production of components and sub components based on dual-use technologies, computers and electronic chips are another form of hidden globalization.[2] All of these trends have been in full force since the mid-1980s, and early efforts which concentrated on licensed production and government-led initiatives have given way to more dramatic private-led restructurings of the industry. Most industry observers expect this trend to continue.[3]

The process of globalization appears to be taking on slightly different forms in North America and in Western Europe. The momentum in North America is towards mergers, acquisitions and rationalizations of defence companies. Certain companies are consolidating their positions in the industry by acquiring defence firms which expand their product lines capabilities and increase market share. The Lockheed example previously mentioned is a case in point, and there are numerous examples of this trend. Martin Marietta Corporation acquired Lockheed (after Lockheed had bought General Dynamics' F-16 assets) and the aeroplane engine

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[1] Richard A. Bitzinger, "The Globalization of the Arms Industry: The Next Proliferation Challenge," *International Security*, 19:2 (Fall 1994), 170; Richard A. Bitzinger, *The Globalization of Arms Production: Defense Markets in Transition* (Washington: Defense Budget Project, December 1993).

[2] *Ibid.*, 183.

[3] "Merger Wave to Continue," *Financial Times*, 8 June 1993; "The European Armaments Market - An Industrialist's Concern," *Military Technology* (October 1993), 40-45.

FIGURE 3.11

The Globalization of the Defence Industry, 1961 - 1993

	Joint Ventures	Strategic Alliances	Mergers & Acquisitions
1961-1965	--	--	--
1966-1970	--	--	1
1971-1975	2	--	1
1976-1980	1	--	--
1981-1985	1	--	1
1986-1990	11	7	55
1991-1993	16	16	23

Source: Richard A. Bitzinger, *The Globalization of Arms Production: Defense Markets in Transition* (Washington: Defense Budget Project, December 1993), Globalization Database.

divisions of General Electric. Northrop Corporation bought Grumman Aircraft Corporation. Loral acquired the defence divisions of Unisys (which included Unisys GSG Canada Inc.) and Raytheon has acquired E-Systems. This has led to the creation of a number of mega-defence firms which are among the largest in the world.

Western Europe, on the other hand, appears to be developing a regionalized arms production network.[1] The constraint of national boundaries and (in some cases) unwillingness to follow the American route, have left European defence companies at a major disadvantage relative to their North American counterparts. There are, however, some attempts to rationalize duplication in production lines and plant facilities and the division of shrinking markets. The pooling of helicopter business by DASA and Aérospatiale into Eurocopter and the fusion of the anti-aircraft units of Short Brothers (Bombardier) in Northern Ireland and Thomson-CSF of France are examples. BAe plans to combine the guns and munitions units of its Royal Ordnance subsidiary with Giat of France and SNPE, another French firm. BAe has also acquired the German small arms firm, Heckler and Koch. But the scope for these transformations is somewhat limited and resisted in part by those who provide strong arguments for maintaining self-sufficiency in defence.[2] Apart from company survival, this extensive refocussing of the remaining defence firms is based on the premise that there will always be some demand for defence-related goods, and that the current downturn in the defence market may in part be cyclical. The 32 percent increase in world arms sales *agreements* in 1993 suggests a possible upturn in deliveries in the next few years.[3] Current and future market trends, however, may provide little or no alternative to greater rationalization of the industry.[4]

Much has been said about the changing nature of the defence industry as it restructures itself to meet contemporary challenges. Less often noted is that the nature of the arms trade itself is also undergoing a similar transformation. As Bitzinger points out, the:

> diffusion of advanced military technologies and the establishment of new centers of armaments production will naturally have important implications for efforts to prevent, delay, or counter the proliferation of conventional weapons.[5]

The move towards globalization is a catalyst to a new way of doing business. This transformation raises major issues concerning the spread of military technology:

- a possible increase in the number of exporters who have acquired new technology through licensed transfers or co-production agreements;
- the possible erosion of the technical advantage of the West;
- the application of dual-use technology and equipment to the development of weapons of mass destruction;

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[1] Bitzinger, 182-183; Elisabeth Sköns, "Western Europe: Internationalization of the Arms Industry," in Wulf, 160-190; Michael Brzoska and Peter Lock, *Restructuring of Arms Production in Western Europe* (Oxford: Oxford University Press, 1992).

[2] *Economist*, 8-14 April 1995, 18, 53.

[3] ACDA, *WMEAT, 1993-1994*. The report notes, however, that agreements tend to be less reliable and more erratic than actual deliveries, with many either cancelled or stretched out over long terms.

[4] Martyn Bittleston, *Co-operation or Competition? Defence Procurement Options for the 1990s*, Adelphi Paper 250 (London: International Institute for Strategic Studies, 1990).

[5] Bitzinger, 171.

- the effects of technology transfers on military balances and overall economic development and competitiveness.

International agreements intended to limit arms production may have little impact if the diffusion of technology (technology transfers) is such that nations of proliferation concern may produce or modify existing equipment to meet their own needs. This may indeed be the biggest challenge the international community faces as technology and the means to spread it continues, whether intentionally or unintentionally. The development of transnational arms industries will blur the identification of indigenous capabilities as nations and corporations seek ways to minimize cost, maintain minimum R&D defence industrial base and production capabilities to meet national security needs.[1]

As an aside, it is interesting to note how Bitzinger's comments reflect what has happened to the Canadian defence industrial base since the 1960s. The process of globalization that he describes is at least in essential part precisely what the Canadian defence industry has done: internationalized and integrated its defence firms and sought collaborative partners for the development of defence products, mainly but not exclusively with American firms.

Global Technological Transformations

The inter-relationships between defence and technology, and between civilian and military high-technology, are inescapable. New technologies - microelectronics, computer-aided design, computer-aided manufacturing, artificial intelligence and robotics and specialized materials - are today at the forefront of economic growth in advanced economies. Military security has also grown to rely on pioneering technologies for defence systems.[2] Since 1945 sophistication in military production has spilled or leaked into civilian industry and provided a focus to harness skills, money and energy to manufacture products. America's technology explosion, for example, was largely driven by military space programs requirements. Indeed, the major impetus to the American space program was concern about Soviet space advancements, typified in the launch of Sputnik. The Apollo manned moon missions were pushed by American concern that the Soviet Union would establish a base on the moon which was perceived at the time to have dire consequences for Western security. Aside from the many lesser results of this competition, the development of civilian aircraft and aircraft products manufacturing, and space systems involving telecommunications and surveillance or earth observation systems, received major boosts from their close relationship to military production and requirements.

While not the primary purpose, it is not surprising that defence manufacturing in the western world, particularly amongst the G-7 nations, has had a profound impact on various aspects of modern industry. Sophisticated military technology, particularly in the aerospace sector, generates a high value-added component to industry and the benefits derived are direct, indirect and induced. It has also been argued, in some cases, that the defence industry has been used as an industrial engine. While this may be debatable, it is incontrovertible that the development and production of military hardware/software has had a significant impact on the development of technology during the Cold War.

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[1] *Ibid.*, 189.

[2] *The Race for the New Frontier, International Competition in Advanced Technology*, Panel on Advanced Technology Competition, Office of International Affairs, National Research Council (New York: National Academy Press/Simon & Schuster, 1984), 26.

But the dynamic aspects of technology mean that old relationships can change. Four important issues are implicated by the technological dimension of conventional weapons production and exports: the military-technological revolution (MTR), the spin-off/spin-on relationship of military and civilian production; the move towards "off-the-shelf" military procurement and the shifting nature of military research and development (R&D). These have been summarized in Figure 3.12.

FIGURE 3.12

The Technological Dimension of Defence Production and Exports: Four Issues

- The "military-technological revolution increases the desirability of future-oriented constraint measures
- the changing relationship between defence and civilian production requires a re-examination of the spin-off benefits (if any) from defence production
- the move towards "off-the-shelf" military procurement increases the complexity of constraining the proliferation of defence technologies
- the shifting nature of military R&D and the increasing unit costs of weapons will alter the rate of military technological innovation

The Military-Technological Revolution

It is apparent that the world is in the midst of a technology information explosion. Perhaps nowhere is this more than evident than in the revolution that is occurring in warfare technology. The collection, processing, assessment and fusion of battlefield information distributed at lightning speed over complex communications systems that link satellites, observation aircraft, planners, commanders, tanks, bombers, ships to troops that are well armed, well trained and motivated has changed the face of combat forever. The Persian Gulf War, sometimes referred to as the first "space war" because of the extensive and intensive use of space assets is illustrative. And the pace at which this revolution is occurring is accelerating is mind-boggling.

The "military-technological revolution" (MTR) refers to the incorporation of revolutionary advances in electronics, artificial intelligence and computing, command and control systems, and materials technologies into modern weapons systems.[1] Some of the weapons being planned or discussed include: smart conventional weapons (high single-shot kill ratio, intelligent guidance), stealthy platforms, extended range delivery systems, electronic warfare systems, or intelligent C^3I systems. In its most radical formulation, the MTR would require a complete reorganization of the modern armed forces, into decentralized and autonomous high-tech forces with a cobweb command and control structure.

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[1] Dan Gouré, "Is there a Military-Technical Revolution in America's Future?" *The Washington Quarterly*, 16:4 (1993), 175-192; Seth Carus, "Military Technology and the Arms Trade: Changes and their Impact," *The Annals of the American Academy of Political and Social Science*, (forthcoming, September 1994); Manuel de Landa, *War in the Age of Intelligent Machines* (New York: Zone Books, 1991).

Obviously, this is of little immediate interest for controlling conventional proliferation, and such futuristic weapons stretch the meaning of "conventional" beyond all recognition. There are two issues that are important, however. First, if one acknowledges that the proliferation of these weapons innovations could or would be destabilizing or dangerous, this would justify at least some current effort to create conventional non-proliferation regimes robust enough to form the basis for future efforts. Many early arms control agreements in the nuclear era (the Seabed and Outer Space treaties, in particular), were designed exactly in this fashion: to meet future anticipated threats. Second, many of the technologies of the MTR (such as computer hardware and software for avionics, missile guidance systems, battlefield command and control systems, or electronic warfare measures and counter-measures) can be treated as *components* of existing weapons platforms, and the transfer of these technologies themselves could pose a proliferation threat if used to dramatically improve the battlefield performance of aircraft or missiles.

Technology Spin-off/Spin-on

The spin-off benefits of defence technology innovations to civilian production in the past cannot be easily counted or discounted. These benefits have not only been in the obvious economic impact, but in the tremendous benefits some of these technologies have brought to humankind. Perhaps the most recent example of this is the application of the Global Positioning Satellite System (GPS) a global navigation system in wide use by the United States military and other military and civil users. Initially developed for military purposes, this 24-satellite constellation is now used worldwide in a broad range of civil applications from hunting and fishing through to improved flight safety and more efficient airline operation. It includes applications in geographical information system mapping, precision survey, vehicle tracking, automotive and ship navigation and general aviation. The GPS market has grown from $100 million to $600 million in 1994 and it is estimated by the year 2000 that there will be 100,000 Americans alone working in what is expected to be a $5 billion Industry.[1] But there are other areas as well. The American intelligence community is opening previously highly classified technology for civilian use, in medicine, education, law enforcement and other areas. One of the earliest applications of this technology is in the use of artificial intelligence techniques to combat cancer. The intelligence community expects to continue funding R&D of dual-use technologies that may promise dramatic improvement in the early detection and diagnosis of breast cancer, for example.[2]

A related dimension of technology spin-off concerns the "technology pull" of arms recipient nations, which see technology transfers (military, and especially dual-use) as important means by which to build civilian or defence industrial bases. India, China and Israel represent prominent examples of states that have been very conscious of such benefits.[3] This desire, which will only increase as the level of economic and industrial development of states in the Third World increases, poses particular problems for constraining proliferation, especially in the realm of dual-use products, where controls are seen as conflicting with the broader development assistance goals of industrialized states.

While the benefits of spin-offs from military technologies are undeniable, there are three economic questions that need to be posed. First, are the spin-off benefits from military technological innovations greater than

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[1] United States Space Foundation, 10th National Space Symposium, "Space Commerce '94," *Proceedings Report*, Colorado Springs, April 1994, 17.

[2] *SIGNAL*, the Armed Forces Communications and Electronics Association (AFCEA) Journal (June 1995), 66.

[3] On India see Gary Milhollin "India's Missiles - With a Little Help from our Friends," *Bulletin of the Atomic Scientists*, 45:9 (November 1989), 31-35; on Israel see Aaron Klieman, *Israel's Global Reach* (London: Pergamon-Brassey's, 1985).

could be realized by direct investments in other areas? To take the medical example above: would funds invested directly in developing techniques to combat cancer be more or less cost-effective than relying on spin-off benefits? Obviously, in the past, when the investments in military technology could be justified in security terms alone, the spin-off benefits were "additional," but today, as the security justification may be reduced, the spin-offs assume greater importance.

Second, does the shifting relationship between civilian and defence production change the spin-off benefits that can be realized? It is interesting to note, for example, that in the 1986-1988 period, the average defence-related total output of the aerospace sectors of the United States, European Economic Community (EEC) and Japan was between 63 and 66 percent, with the remainder being civilian production. Canada's defence-related aerospace output for the same period was approximately 30 percent. Figure 3.13 illustrates this significant linkage between high technology development and defence production, and how it has changed over time.

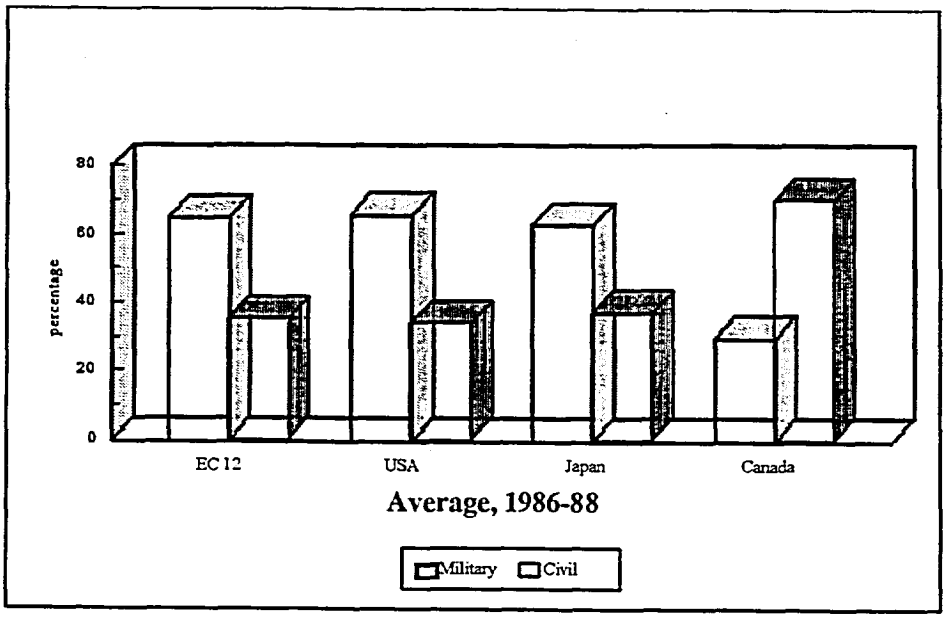
The 1989-1993 period indicates that defence-related aerospace production for the United States, EEC and Japan had dropped to the 50-56 percent range, while it remained the same in Canada (30 percent defence, 70 percent civil). This can be attributed to a number of factors: the end of the Cold War (which created excess manufacturing capacity worldwide); the onset of the global recession which reduced discretionary spending for the travelling public; the Persian Gulf War which raised airline fuel costs and introduced public concern about terrorist attacks on airliners; and the resultant downsizing and restructuring of the airline industry as companies adjusted to decreased passenger traffic by slowing delivery of new aircraft and deferring or cancelling options on others. It is anticipated that trend towards lower figures for defence output in 1995 will continue in all cases. The impact this will have on the realization of spin-off benefits, however, has not yet been quantified.

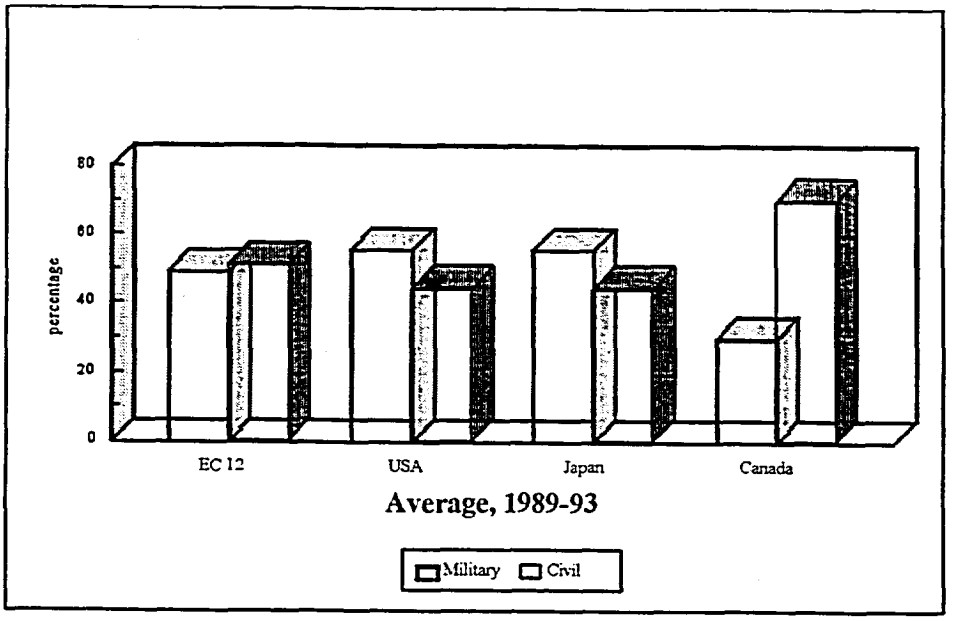
Third, and most provocatively, has the relationship between military and civilian technology changed so that innovations are now *spun-on* from civilian to military applications? This would describe the shift from an environment in which military R&D was the driving engine of research in an advanced industrial economy, which "spun-off" civilian innovations ranging from computers and micro-electronics, to composite materials, to an economy in which civilian innovation represents the leading edge, and military innovation is "spun-on" from such things as developments in computer software or electronics. Only anecdotal evidence for this is available, but it strongly confirms this argument, as national procurement programs are increasingly adopting "civilian" standards for production (in part to lower costs), and the vast array of research that the military subsidizes is being reduced. The implication of this is that investments in military R&D will increasingly be seen by governments in the advanced industrialized states as being "unproductive," unless they address immediate and pressing security threats or contribute directly to national competitiveness and economic security. On the other hand, military R&D may remain an attractive means of spurring industrial development in the less-industrialized world.

None of these questions can be answered without detailed study, and one would expect that results may differ from sector to sector, or among technologies, or between states. The general thrust of the questions is clear, however: industrialized states are moving into a period when the spin-off benefits from military R&D (if any) assume a greater importance in justifying military R&D expenditures, since the security justifications have been dramatically reduced.

FIGURE 3.13

Aerospace Output by Destination, Civil-Military, 1986-1988 and 1989-1993





Source: Aerospace Industries Association of Canada. Used with permission.

Off-the-shelf Procurement

As noted above, as the cost of military systems rises with complexity, greater attention is being paid to what is termed "off-the-shelf" procurement. The term "off-the-shelf" is somewhat misleading, because it implies the ready availability and suitability of components to meet specific military requirements. Ready availability and suitability may not always be the case, depending on required delivery time frames and suitability to meet mission requirements. Nevertheless, there is a noticeable trend towards using commercial products in defence applications with as little modification as possible.

In the United States, for example, both industry and the Department of Defense have shown enthusiasm towards opening statutory doors to wider commercial product use. A recent Office of Technology Assessment (OTA) study, the "boldest" of the studies in determining possible savings based on commercial-military integration, agrees that use of commercial products will benefit defence. However, the estimated savings range from zero to 20 percent. The process is expected to be slow and could mean the eventual dismantling of a specialized American government industrial base. One contention of the report is that the most important contribution of such a move may not be cost savings, but the preservation of a capability to support future national security objectives.[1] The study also points out that some hardware can move easily between commercial and military applications, while some cannot at all. Defence hardware that can be integrated includes helicopters, jam-proof radios and radar, and test equipment. At the other end, products that will continue to be segregated include fighter aircraft, missiles and nuclear weapons.[2] The OTA study also notes that the People's Republic of China and Japan have achieved significant levels of integration between the military and the civil sector, which suggests that integration is easier at technology's most fundamental stage and manufacturing integration is more easily attainable at the component or sub-component level.[3]

However it manifests itself, the trend towards commercial-military integration has broad implications for constraining conventional proliferation, because of the increasing difficulty in differentiating between commercial and defence items. From an arms control perspective, the application of dual-use technologies will make the problem of arms control that much more complicated, since it will be difficult to determine the legitimacy of exports to an importing nation because of the awkwardness in differentiating between legitimate civil use and possible military applications. This highlights the need to develop more sophisticated end-use verification mechanisms.

One example of the difficulties this will entail would be American attempts to monitor the end-use of a Cray supercomputer exported to India: the official purpose of the computer was for national meterological modelling and weather forecasting, and an American embassy official was charged with checking on this. It does not take a sophisticated knowledge of computing processes to realize, however, that it is virtually impossible to verify the "end-use" of supercomputing power without actually operating the computer and

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[1] This is an interesting perspective when considering the Canadian defence industrial base, which will be treated fully in chapter four.

[2] *SIGNAL* (May 1995), 49-50. See chapter four for further comments on the application of "off-the-shelf" procurement in the Canadian context.

[3] *SIGNAL* (June 1995), 9.

controlling all access to it. Another example is the alleged similarity between the Indian space launch and military missile programs, which suggest that technologies have been "leaking" from one realm to the other.[4]

Military R&D

As defence budgets decrease, the amount of money available to military R&D also comes under pressure. The importance of military R&D, however, has not diminished and in some cases, reallocations within defence budgets are occurring as states attempt to maintain a technologically competent industrial base that can meet some national needs. And although procurement budgets have in most countries been slashed dramatically (to ten percent of 1990 levels in the case of Russia!), the share of R&D in total military spending has actually increased in many states.

Worldwide annual military R&D spending in the mid-1980s was between 110 and 130 billion U.S. dollars, or about 10-15 percent of global military spending. But although military spending has declined in real terms since the end of the Cold War (roughly 25 percent since 1989, mostly in 1992 and 1993), R&D budgets have been relatively insulated from these cuts. The United States, for example, has introduced a new technology plan which shifts the ratio between civil and military R&D from 40:60 in 1993 to a civilian share in excess of 50 percent by 1998. At the same time, military R&D will actually increase (for FY 1994 by one percent to $42 billion).[2] France has shifted to an intensive R&D procurement program, and the government plans to increase government expenditures from a current level of 33 billion francs (one-third of total government R&D) to maintain technical competence in strategic sectors such as communications and space.[3] In Germany, the Bundeswehrplan 1993 identifies a concentration on fewer defence research projects, but of high priority, and in Sweden, more than 20 percent of Swedish R&D is accounted for by the military.[4]

These figures suggest that most advanced arms producers are attempting to maintain their place in the global military hierarchy, and are fully cognizant of the decisive advantages that advanced military technology can often bring. This is consistent with the argument noted above for a "military technology revolution," in which the application of innovative technologies and tactics will have an ever-increasing role to play, particularly in the gathering and processing of information. The development of advanced computer technology, multiple processors, high-speed data transmission, enhanced sensor capability, and data reduction coupled with improved methods of manufacturing and enhanced reliability will have profound impacts on the development of future military systems.

Much of the impetus for this comes from the 1991 Persian Gulf War, which clearly demonstrated that sophistication on the battlefield was essential to successful operations, particularly in the use of space-based assets used in warning, navigation, surveillance and reconnaissance (C^3I), as well as precision guided munitions. Air forces are seeking stand-off precision guided munitions as a way to reduce combat loses, while improving combat effectiveness. C^3I for the conduct of operations, electronic warfare to disrupt the enemy's use of the electromagnetic spectrum, and sensors for airborne platforms (manned and unmanned), are expected to play an increasing role. All of these systems are based on rapidly changing electronics and

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[1] The supercomputer example is from Brad Roberts. On India's missiles program see Milhollin.

[2] SIPRI, *Yearbook 1994*, 480.

[3] *Ibid.*, 475.

[4] *Ibid.*, 418; Wulf, 147.

information technology, the basis of which will come from a mixture of military and civil R&D. Although few nations can afford the development of stealth technology, for example, improvements for the military information processor are available from civil markets virtually free of R&D costs.[1]

At the same time, however, the unit cost of weapons has continued to increase relentlessly, with one estimate placing it at about five percent per year in real terms.[2] The price tag on the American B-2 bomber, for example, has now reached *$750 million*, and only 20 will be procured.[3] As costs of new systems mounts, greater emphasis will be made on finding ways to provide capability.[4] While there are few nations that have or could develop extensive space based assets, the recognition of what access to such assets means in modern warfare is undeniable. The growth of communication satellites is occurring because of new applications and because of a proliferation of new users throughout the world.[5] Hence even if R&D budgets remain constant, the rate of innovation will be slowed, or will increasingly be concentrated in the dominant technology producers - the United States, Japan and Western Europe.

The Question of Defence Industrial Conversion

Decreased demand, excess capacity, a surplus of skilled persons and daunting economic pressures have led to a heightened need by government and industry alike to "convert" excess capacity to non-military roles. The term "conversion," however, conjures up different meanings to different people and it is better, perhaps, to consider it a subset of a broader process of industrial transformation. In this context then, there are a number of approaches to be considered:

- the conversion of defence industries to civil uses whereby companies manufacturing defence products would convert their factories into making "benign products";
- the merger of defence production with larger units that concentrate mostly on civilian goods;
- the closure of plants; and
- laissez faire.

Conversion (in the first sense) has for the most part not had widespread success, for a number of reasons. Perhaps the biggest single factor arguing against conversion is that it presumes that a defence company can change its whole focus to producing civil products at competitive prices in a market place which already has well established competing manufacturers. This is a difficult process at best and quite often impossible in practical terms, since the barriers to entry for new civilian production are often high. The development of a product is usually the result of extensive market research, followed by intensive research and development,

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[1] *Economist*, 10-16 June 1995, 5,15.

[2] Jacques Gansler, *The Defense Industry* (Cambridge, Mass.: MIT Press, 1980), 83. This rate of increase doubles the cost of a weapons system in 13 years. See also Norman Augustine and Kenneth Adelman, *The Defense Revolution* (San Francisco: Institute for Contemporary Studies, 1990), which places the doubling time at ten years.

[3] The original order was for 132 planes at $500 million each. Some reports put the per-plane cost at more than $2 billion. See Joseph Romm, "Laid Waste by Weapons Lust," *Bulletin of the Atomic Scientists*, 48:8 (1992), 15-23.

[4] "A Survey of Defence Technology," *Economist*, 10-16 June 1995, 6-20.

[5] United States Space Foundation, 10th National Space Symposium, "Space Commerce '94," *Proceedings Report*, Colorado Springs, April 1994, 127.

engineering and design, production set-up, and extensive and intensive testing and product improvement. Moreover, once production has started, efforts to secure a profitable market share are expensive, time consuming and frequently face fierce international competition. All of this requires high investment by the companies involved over lengthy periods of time. To paraphrase the chairman of Martin Marietta Corporation, conversion is like trying to recreate a pig by pushing the sausage back through the meat grinder!

Second, defence and civil production "cultures" are different, making integration of defence and civilian production an often difficult task. Defence work is focused on seeking high performance and reliability in the end product, not necessarily at the lowest cost, and is therefore, less commercially-oriented. More importantly, military products are often built to tougher and more exacting specifications and quality control. To illustrate with a hypothetical example, if workers are moved from the civil product line to the defence product line in a plant producing commercial vehicle axles and gun barrels, it is extremely difficult to maintain production integrity on the defence line, because of differing standards employed by the work forces on the two lines. While it can be done, there is increased cost involved in supervision and cross-training, increased rejection rates during the learning process, reworking of sub-standard pieces, associated extra person-hours, as well as other delays. When movement is in the other direction, it is difficult to achieve cost competitiveness if the defence production culture is "imported" to the civilian production line.

A third factor is security. Frequently defence manufacturing involves security classifications; the more sensitive the work, the higher the classification. This mitigates against the easy mixing of work forces, because of requirements for security clearances of personnel working on the product, and all that obtaining and maintaining security clearances entails.

This is not to say that commercial products do not enter the defence arena. In areas where technology has a dual-use application, companies are exploiting those attributes. Moreover, defence procurement agencies are leaning, where possible and practical, to using civil versus military specifications to lower the costs of production and improve logistics support. However, it is the market need and the quest for increased savings to make a product more cost competitive in the market place that is driving this trend, and not the principle or need to convert from defence production. Shareholders of defence companies are primarily interested in a return on their investment and not necessarily in philosophical good will.

Conversion in Russia deserves separate mention, in part because it has by and large not been successful. In 1990 the Soviet government established a national conversion program which was to produce a sharp increase in civilian production by military ministries. Each ministry was assigned one of 12 priority items for conversion to meet pressing civilian requirements. Regrettably, through poor preparation and planning, the conversion plans have not worked well. Conversion has produced more problems for the defence industry than it has solved. As an illustration, the Mikoyan and Tupolev aircraft design bureaus, which lost 20 percent and 50 percent of their aircraft orders, had to compensate by designing spaghetti machines and tomato-canning equipment. Most military enterprises suffered financial loss through the conversion plan, primarily because of lower rates of return and the high cost of the work force. This experience helped to confirm that "new civilian products, even those in high demand, can rarely be produced by a converted factory at an acceptably low cost."[1]

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[1] Alexi Izyumov, "The Soviet Union: Arms Control and Conversion - Plan and Reality", in Wulf, 111-112; *Le désarmement et la conversion de l'industrie militaire en Russie*, Research paper 24, United Nations Institute for Disarmament Research (New York: UNIDIR, 1993); Steven Gallant, "The Failure of Russia's Defence Conversion," *Jane's Intelligence Review*, 1 July 1994.

On the other hand, the merger of defence production into larger units to concentrate on civilian products, obviously has had appeal and some limited success. The merger of Daimler-Benz with four large aerospace companies to form Deutsche Aerospace (DASA) is perhaps the best example. This merger created the largest arms company in Germany and the third largest in Europe. Its size permitted a downsizing in defence because of the length and breadth of its product lines. A new matrix organization created five divisions: aircraft, propulsion, space, defence and medical. But the process has had mixed results, both in terms of production and impact on employees. Krauss Maffei, on the other hand, appears to have had better success, in part because in its integration plan defence and civil production were separated. In 1989 the company had converted to module factories to be used in different systems involving flexible manufacturing and materials processing. It now concentrates on plastics, process engineering and transportation engineering. Most importantly, despite the transition, it was able to do so with hardly any loss of jobs.[1]

The third option, the closure of defence plants, needs little explanation. In static economic terms, it is not a preferred solution if there are other suitable options. Apart from the direct impact on the corporations involved, plant closures lead to the displacement of workers and the loss of valuable work force teams which are costly and difficult in terms of time and training to reassemble should the need arise. Canada's own case of the AVRO Arrow cancellation (discussed in chapter four), is a good case in point. On the other hand, if one considers the problem in dynamic economic terms (assuming that the resources freed up are eventually used for other ends), plant closures, while painful in the short term, are often the least expensive form of conversion. According to this argument, the market ensures that the eventual reallocation of capital and the labour force to other productive uses takes place most efficiently and with the least economic distortion (through direct and indirect subsidies to civilian production, or the maintenance of inefficient military product lines). One study conducted in the 1980s in the United States estimated that a $10 billion cut in American procurement would, if the money were invested in sectors that were capital-poor (at the time), such as solar energy, railroad equipment or fishing vessel construction, result in a *net increase* in employment of 34,000 - about 10 percent of the total jobs created![2]

This is of course closely linked to the final process, the "laissez-faire" approach which lets defence firms seek their own solutions to adapt to market pressures. The application of its proprietary military technology to the development of civil products plays an important role in determining which firms find successful market niches. This has largely been the case in Canada where the aerospace industry, for example, has made the transition to selling dual-use or civilian products from its originally defence-oriented base. This example illustrates that "conversion" can be successful, although in this case it was assisted by government support (the Defence Industry Productivity Program, which will be discussed in the next chapter), and a rapidly-growing market in commuter air travel. Again, however, the government is confronted with the question of what level of defence industrial base or high-technology production it wishes to maintain, to meet minimal national and economic security needs.

Conclusions

The picture of the global political, economic and technological context within which attempts to constrain conventional proliferation must be undertaken can be summarized in three propositions. First, there are strong and valid reasons for the conventional arms trade, which are tied to the self-help nature of international

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[1] NATO Advanced Research Workshop, Hecla, Manitoba, 22 May 1992.

[2] Marion Anderson, *Converting the Work Force*, report by Employment Research Associates (Michigan, 1983).

politics and the inability of most nations to produce the means for their own defence and security. Although the demise of the Cold War reduced the threat of global nuclear or conventional war (and the demand for weapons), the former superpowers no longer perceive the need to exert the same degree of effort to maintain security in their spheres of influence. Hence some states and regions previously aligned with the one of the superpowers now find themselves left to their own means to provide for defence against former enemies or potentially hostile states, and are increasing their emphasis on acquiring better or more defence equipment.

Second, although the arms trade is in a period of precipitous decline, with major restructuring occurring within the arms industry, it still has a significant economic impact on nations, both positive and negative. The perceived benefits from defence production and arms exports are not just in their contribution to the balance of trade (which is minimal), but in their contribution to employment in high-technology sectors, and in the ability of states to maintain an autonomous defence industrial base in the face of declining defence budgets and national procurement. Many major producers are already very close to the margin of economically viable production.

Third, the transformations in military technology mean that although rapid advances and "staying ahead" may be of somewhat less importance, the technological imperative remains operative, especially in the major arms producing and exporting states. Some of these transformations, especially the blurring of the line between civilian and military production, and the globalization of the arms industry, immensely complicate the task of constraining conventional proliferation. The rapid growth of knowledge and the diffusion of information technology around the world means that innovative approaches will have to be developed to curtail undesirable trends.

The implications of these developments for efforts to constrain conventional proliferation, and some of the innovative responses that can be adopted, will be developed in later chapters. Chapter four turns now to Canada's role and place in the conventional arms system, and its interests in constraining conventional proliferation.

IV Canada's Role In Constraining Conventional Proliferation

Introduction

The previous chapter set the global political, economic and technological context within which attempts to constrain conventional proliferation must unfold. This chapter will focus directly on the Canadian dimension, in three main parts. The first section will set the stage with a discussion of Canada's arms export policy, and discuss in more detail Canada's interests in constraining conventional proliferation. This will also allow a tentative evaluation of Canada's capacity to advance unilateral or multilateral measures for constraining conventional proliferation. The second section will sketch more fully Canada's defence production, by focusing on the scope and nature of Canada's military production, the economic impact of the industry, its high-technology nature, and the role of government support. The third section will detail Canada's arms export experience, and elaborate how this meshes with Canada's defence production profile, and how it has evolved in recent years. Some of the implications of the policy choices facing decision-makers will be raised at the end.

Canadian Interests in Constraining Conventional Proliferation

As this report has argued in chapter two, a broader conception of security reflected in Canadian government policy statements has widened the scope of Canadian security interests, including those related to constraining conventional proliferation. Although political, military and strategic incentives for constraint remain, the expanded security regime has introduced additional interests based on economic, humanitarian, and other motives. Outlined in Figure 4.1, these interests can be summarized as follows:

Political Interests

First, Canada's promotion of conventional weapons constraint is rooted in the sustained conviction that Canadian security depends on a stable international order. The 1985 foreign policy statement, *Competitiveness and Security*, stated that "a system based on international law and support for the United Nations remains the preferred Canadian approach to international peace and security," a position that has been held by governments before and since.[1] This has led to an active political role for Canada in promoting initiatives responding to identifiable threats to international security such as weapons proliferation.

More recently, in his address to the UN General Assembly in 1994, former Foreign Affairs Minister André Ouellet declared, "although the threat of nuclear weapons is of prime concern, the ongoing use of conventional weapons is an equally dangerous and very real threat to peace and security."[2] Earlier, speaking about the Middle East during the 1991 Persian Gulf War, former External Affairs Minister Joe Clark said, "if there is one priority - one lesson - which the world must learn from this war, it is that an unrestricted arms trade in this region is no longer acceptable and constitutes a threat to the security of all Members of the

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[1] *Competitiveness and Security: Directions for Canada's International Relations*, (Ottawa: Department of External Affairs, 1985), 15.

[2] Statement by the Honourable André Ouellet, Minister of Foreign Affairs, to the 49th General Assembly of the United Nations, 29 September 1994.

United Nations."[3] The two statements illustrate the ongoing Canadian political interest in the security threat posed by unconstrained proliferation of conventional weapons, an interest that not only has endured changes in government but also has produced several unilateral and multilateral initiatives (discussed in chapter six).

Second, Canadians are committed to the preventive and other measures identified in the UN Secretary-General's *Agenda for Peace*, especially peacekeeping. "Canada's International Assistance programs are dedicated, in significant measure, to forestalling...threats to global security," states *Canada in the World*, but "where stability does break down, and armed conflict looms, the international community must use all measures at its disposal, including a graduated set of diplomatic and military steps, broadly conceived and cooperatively executed, to prevent a slide into war."[2] To the extent that the significance of access to weapons rises with a breakdown in stability, preventive measures must include attention to conventional weapons proliferation.

At the same time, the Canadian commitment to UN peacekeeping has been tested by the increasingly complex circumstances of recent UN missions, including the ready availability of weapons in conflict-zones. The heavily-armed region of the former Yugoslavia, for example, has led to public and government concern for the safety of Canadian peacekeepers. Landmines have presented a particular threat to Canadians, whether they are non-governmental workers involved in humanitarian assistance or peacekeeping troops. As the Canadian Ambassador for Disarmament has noted, "Close to 8,000 Canadian soldiers have risked their lives clearing mines in such countries as Kuwait, Afghanistan, and Nicaragua. Five Canadians have been killed or injured. Our soldiers are today clearing mines in Cambodia, Croatia, Bosnia, and Rwanda."[3]

Military Security Interests

As outlined later in this chapter, it has been Canadian government policy to maintain a domestic defence industrial base. Because the volume of Canadian defence procurement is insufficient to support this base, the government encourages and provides assistance for the export of Canadian military goods subject to national export controls. A decline in defence spending since the end of the Cold War has contracted the traditional NATO markets for Canadian defence products, especially the American market, which for decades has been Canada's largest export customer. As a result, the Canadian military industry, with the support of the government, is seeking customers in emerging Third World markets, notably in the Asia-Pacific and Middle East regions.[4] Canada is thus in the camp of states with interests both in the domestic benefits of weapons trading and in constraining conventional non-proliferation.

Canadian defence links and geopolitical relationships have also reinforced concern about weapons transfers to states that may pose a strategic threat. During the East-West polarization of the Cold War, such links shaped many elements of Canadian export controls, primarily through CoCom (the Coordinating Committee for Multilateral Export Controls). These included strict controls in complex areas like technology transfer and dual-use technology. In the post-Cold War environment, equivalent controls have been directed at the

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[1] Speech of the Honourable Joe Clark, Minister of External Affairs, 24 January 1991.

[2] Government of Canada, *Canada in the World* (Ottawa: Government of Canada, 1995), 26.

[3] Statement by Ambassador Christopher Westdal, Ambassador of Canada for Disarmament, to the Forty-Ninth Session of the United Nations General Assembly, "Item 22: Assistance in Mine Clearance", 25 October 1994.

[4] See "Canada's Export Strategy: The International Trade Business Plan, 1995/96 - Section 11, Defence Products", Supply and Services Canada, 1995.

Figure 4.1

Canadian Interests in Constraining Conventional Weapons Proliferation

POLITICAL

- From the conviction that its security depends on a stable international order, Canada promotes conventional weapons constraint in the political arena.
- Canadians are committed to preventive and peacekeeping measures, measures which can be made more difficult by easy weapons availability.

MILITARY SECURITY

- To maintain a defence industrial base, Canada exports military goods subject to national export controls.
- Canadian defence ties underlie concern about "rogue" state weapons proliferation.
- Canada imports military equipment that may be affected by constraint measures.

ECONOMIC

- As a trading nation, Canada is affected by disruption that may arise from war.
- Canada derives commercial and employment benefits from the export of military goods.

HUMANITARIAN AND CULTURAL

- Links to the Third World have fostered Canadian awareness of the impact of militarism and weapons accumulation on development.
- Canadian-sponsored development projects are disrupted by conflict and particular weapon systems, notably landmines.
- The government foreign policy objective of projecting Canadian values and culture faces obstacles in war-torn or militarized societies.
- Canadian values such as respect for human rights may conflict with commercial interests in several weapons markets.

TECHNOLOGICAL

- Canada has a particular interest in the security implications of technology transfers.

"pariah" states defined by the United States (Iran, Iraq, Libya and North Korea).[1] If they remain confined to these states however, controls imposed by the "New Forum" (the successor to CoCom) risk having a very narrow impact.[2]

Citing UN Charter provisions, Canada also maintains the right to import conventional military equipment to fulfil prescribed security requirements that cannot be met domestically. In so far as certain control measures or proposals may have an impact on Canada's ability to meet these requirements, Canada has an interest in particular constraint initiatives. This is the case, for example, with proposals to ban all exports of anti-personnel landmines: Canada announced in January 1996 that it would no longer produce, export or use land mines, and that it would support ongoing efforts to secure a global ban on them.[3]

Economic Interests

As a trading nation (with trade accounting for one-quarter of our GNP), Canada is sensitive to trade disruptions from conflicts that are fed by readily-available conventional weapons. A broader vision of security suggests that threats to trade and the Canadian economy constitute threats to security as a whole, and that economic self-interest is an important incentive to promoting international peace and stability. Again, as noted by *Canada in the World*, "Canadians appreciate that...protecting and enhancing their security and prosperity requires a security policy that promotes peace in every part of the world with which Canada has close economic and political links."[4]

On the other hand, Canada also derives economic and employment benefits from military trade. Thousands of Canadian jobs are dependent on military production and exports (see figures below), and Canadian military exports comprise a significant, although not a major, part of Canadian trade. Canada has an economic interest in preserving this trade and, faced with shrinking domestic and Western export markets, Canada's non-proliferation resolve will be run up against pressure to sell military goods, perhaps even to regions most likely to be prone to human rights violations or disrupted by conflict.

Humanitarian and Cultural Interests

Canada's political, cultural and development assistance links with much of the Third World have drawn official attention to the opportunity costs of Third World military spending, as noted by the Canadian NGO

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[1] See "Iran Arms Sales Pact Clears Export Hurdle", *Defense News*, 12 June 1995, I-2.

[2] On the framework for the New Forum, see "Challenges Await Meeting of New Export Control Forum," *JEI Report* (Japan Economic Institute of America), 15 December 1995; "Military Export Controls to be Loosened," *International Herald Tribune*, 21 September 1995. Also see the testimony by Thomas E. McNamara, Assistant Secretary for Political-Military Affairs, to the Senate Banking, Housing and Urban Affairs Committee, 21 September 1995, published as a Department of State Dispatch, 16 October 1995.

[3] This marked a shift in Canada's position, which was originally to support revisions to the Convention on Certain Conventional Weapons (CCW) that would provide a more directed ban on mine exports to states that violate the terms of the Convention or that are non-participants. *Agence France Presse*, 17 January 1996. Lexis-Nexis, File World/Curnws.

[4] *Canada in the World*, 24.

community among others.[5] Speaking to the UN General Assembly in 1994, the Minister of Foreign Affairs signalled a revised government attitude to Third World partners with high levels of arms spending:

> The task of controlling conventional weapons is the responsibility of every government. Huge sums are being spent each year purchasing such weapons, often to the detriment of services essential to the public, such as education and health care. Those who are more concerned about the size of their military arsenal than about the welfare of their people cannot expect to receive international aid without conditions.[2]

In encouraging a regional approach to building security in the Third World, Canada has also identified weapons proliferation and conflict as particular problems in the Middle East, Asia-Pacific and Africa.[3] To date, Canada has looked to the experience and mechanisms of the Organization for Security and Cooperation in Europe (OSCE), such as confidence and security-building measures or arms control treaties, to provide lessons that might assist in shaping other regional measures. Some of these measures and agreements would address conventional arms proliferation.

Official and non-governmental Canadian development efforts with Third World partners have been disrupted by conflict and by certain conventional weapon systems, especially landmines, even after peace settlements have been achieved. In addition, the post-conflict availability of weapons for use elsewhere or in a possible resumption of fighting has fostered a growing recognition that disarmament must closely follow the cessation of hostilities. As one recent conference on the African experience reported, "the disarmament element of demobilization must go beyond disarming individual soldiers and units, to national and regional disarmament and appropriate ways of dealing with surplus weapons."[4] In general, the impact of the proliferation of light weapons (including landmines) on Third World peoples and development projects have raised humanitarian, developmental and environmental concerns, some of which are addressed more fully in chapter five.

The government has identified the projection of Canadian values and culture as a key objective of current foreign policy. "Application of values - respect for democracy, the rule of law, human rights and the environment - will be critical to the struggle for international security in the face of new threats to stability."[5] The projection of such values in war-torn or militarized societies is a formidable task made more difficult by the presence of weapons. In several countries this will require the construction or reconstruction of civil society and attention to transparent "governance." This should include a vibrant civil (or NGO) sector with the capacity and freedom to monitor government activity, and a greater openness to debate on such issues as weapons acquisitions or defence and security policies.

Many countries where the promotion of basic Canadian values is the most problematic are also countries where conventional weapons proliferation is of particular concern, and where military use of and access to weapons are important components of an oppressive apparatus. Yet such countries may be significant arms

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[1] See, for example, Esther Epp-Tiessen, "Missiles and Malnutrition: The Links Between Militarization and Underdevelopment," *Ploughshares Working Paper 87-2* (July 1987).

[2] Statement by the Honourable André Ouellet, Minister of Foreign Affairs, to the 49th General Assembly of the United Nations, 29 September 1994.

[3] *Canada in the World*, 30-31.

[4] International Resource Group on Disarmament and Security in the Horn of Africa (IRG), "Report of the IRG Workshop on Demobilization in the Horn of Africa: Lessons from Experiences in Sub-Saharan Africa," Addis Ababa, 4-7 December 1994, 4.

[5] *Canada in the World*, 11.

recipients at a time when defence export markets in less controversial or problematic areas are in decline. As a consequence, the promotion of Canadian values such as respect for human rights may come into conflict with interests in exporting Canadian military goods.

Technological

It has long been recognized that technological progress, and access to advanced technology, is a crucial component of economic and social development. Technology transfer policies have hence been of particular interest to the developing world. The Canadian government has also indicated a particular interest in technology transfers, notably of dual-use technology. Canadian Ambassador for Disarmament Christopher Westdal has stated, "the function of science and technology in the context of international security has long been an issue of special interest to Canada." According to Westdal, the solution to the problem of transfer of dual-use technology "must recognize the need for states to have access to the technology needed for their development and at the same time provide assurances that such technology will be used for peaceful purposes only."[1] Such issues have been extensively discussed in various multilateral forums, and concerns have been raised in the developing world about the possible impact of a new supply-side multilateral export control systems (the New Forum).[2] The control issues raised by this concern, particularly in light of the transformations of the global defence industry detailed in the previous chapter, are particularly thorny.

Canadian pursuit of conventional weapons controls now originates in a range of interests that reflect the expanded security context of Canadian foreign policy. The political and strategic concerns that dominated Canadian approaches to weapons production and trade in an earlier era have given way to a wider set of interests that acknowledge the impact of proliferation on "shared human security." This larger set of interests offers opportunities for a larger set of unilateral and multilateral initiatives too, as will be demonstrated in the final chapter of this report. To advance these measures Canada brings a number of strengths to the international table, while in other areas it has less to offer.

Canada's Defence Production in Context

At the outset, it should be noted that this section does *not* examine Canada's overall defence policy, nor does it evaluate Canadian defence expenditures. Its focus is on arms production and arms exports in Canada, and the implications that this has for the global arms trade.

Historical Record

Canada's defence industry has been critically shaped by developments in this century: a century in which Canada has fought in four wars (World Wars I and II, Korea, and the Persian Gulf), and in which Canadian Forces have performed numerous military missions associated with membership in NATO and UN peacekeeping operations.

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[1] Opening Statement by Ambassador Christopher Westdal, Ambassador for Disarmament, to the First Committee of the 49th Session of the United Nations General Assembly, New York, 18 October 1994.

[2] In particular, there were extensive discussions in the Disarmament Commission on "The Role of Science and Technology in the Context of International Security," in 1993 and 1994. See Peggy Mason, "Balancing the Requirements for Non-Proliferation and Access to Dual-Use Technology: The Way Ahead," unpublished paper, December 1994; "Non-Aligned Nations Accuse Rich Nations of Protectionism," *Reuter European Business Report*, 3 June 1994.

During World War I (WWI) the expansion of Canada's defence production capacity was slow and expensive, primarily because there was no extensive defence production base. Nevertheless, defence manufacturing in WWI was impressive, albeit limited in scope. Canada's defence production in WWI included: 65 million shells, 49 million cartridge cases, 30 million fuses, 12 million pounds of explosives, 2900 airplanes, and 88 ships.[1] Canada produced between one-quarter and one-third of the ammunition used by the British during that war.[2] World War II (WWII) was even more impressive, considering that Canada started once again from a limited defence industrial base. Defence production in WWII included 487 escort ships, approximately 17,000 aircraft, 38,000 tanks, 816,000 military wheeled vehicles, plus large quantities of small arms, artillery pieces, ammunition and countless other items for the war effort.[3]

Defence industry mobilization in both World Wars showed that there were significant preparedness problems. Troops at the beginning of the major conflicts were poorly equipped and trained. Sending troops into harm's way without proper training and equipment can exact an unnecessary toll in human sacrifice, apart from the greater economic impact on the nation as a whole, or the political consequences that this entails.

Canada's Defence Production Profile

Defence production in Canada represents an approximately $3 billion a year industry, which places Canada among the top ten global arms producers.[4] Unfortunately, a more precise estimate of its scope is difficult to obtain, for three mainly technical reasons:

- with few exceptions Canada's defence industry does not produce primary or major weapons platforms, and manufacturing is primarily concentrated in the component or sub-component areas.
- most production takes place in firms which have a majority of their production in the civilian sector, and whose defence production is often dual-use items that cannot easily be classified as defence items.
- the Canadian defence industrial base is more or less fully integrated into the American defence sector (and exports to the U.S. do not require export permits), meaning that it is difficult to track exports. The standard classification systems in use also do not easily permit defence goods to be separated out from other industrial production.

These points will be expanded upon below. Already, however, it is clear that caution needs to be exercised in the use of terms, since "the implication generally taken from the word [arms] is one of offensive weaponry...[but] in the Canadian context...exporting defence equipment [is] frequently in the form of

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[1] Industrial Preparedness Task Force, *Defence Industrial Preparedness: A Foundation for Defence*, Executive Version of the Final Report, Department of National Defence (November 1987).

[2] R.T. Naylor, *The Canadian State, the Accumulation of Capital and the Great War* (Montreal: McGill University Press, 1978), 17; cited in Ernie Regehr, *Arms Canada* (Toronto: James Lorimer, 1987), 32.

[3] *Ibid.* See also the Aerospace Industries Association of Canada and the Canadian Institute of Strategic Studies, *The Aerospace Industry and the Canadian Air Force: Partners for the Future* (Toronto, 1993).

[4] This figure is taken from *The Future of Canadian Military Goods Production and Export*, report of the Standing Committee on External Affairs and International Trade, sub-committee on arms export, (Ottawa, October 1992), 7. Other sources offer similar figures. See "Duelling for Defence Dollars," *Financial Post*, 24 June 1995; "Making the Switch to Civilian Markets," *Toronto Star*, 5 September 1993.

components."[5] This view was echoed by a parliamentary report examining Canadian defence production and trade, which noted that:

> Canadian defence products do not fit the traditional image of what "arms" exporting is all about. Canada does not export tanks, artillery guns, fighter aircraft, bombs, missiles, or most of the things that are brought to mind by the word "arms".[2]

But since as chapter three indicated, there are an increasing number of sub-systems and components traded globally that become subsumed under the term "arms," this raises an issue of complexity for constraining conventional proliferation (particularly in the area of dual-use exports), that is not easily managed.

The aerospace industry is the most important element of the Canadian defence industrial base, and accounts for more than two-thirds of defence production in Canada. Its total sales (civilian and defence), are expected to be roughly $10.3 billion in 1995; following the 70:30 proportions noted in Figure 3.11, this gives a defence production component of roughly $3 billion. The industry (civilian and defence) is the sixth largest in the world, and one of Canada's most important high-technology sectors. Fully *70 percent* of its production is exported.

The sector has evolved from being primarily defence-dominated (with 80 percent of output in the 1950s being defence-related) to depending on military production for less than 30 percent of sales in the 1990s. At the same time, industry sales have grown consistently and are expected to reach $13.4 billion in 1998.[3] Production is concentrated (80 percent) in Ontario and Quebec, and divided more or less evenly between them. Other pockets of concentration can be found in Nova Scotia, Manitoba, Alberta and British Columbia. Aerospace as a whole generates some 50,000

FIGURE 4.2

Difficulties in Calculating Defence Production

Statistics Canada does not collect data on the defence industry as a whole. The aerospace industry, for example, is categorized (as are other industries) in a number of Standard Industrial Classification codes. The Aircraft and Aircraft Parts Industry (SIC 321) - the largest classification - includes establishments primarily engaged in manufacturing aircraft, aircraft assemblies, engines, equipment and parts, as well as the repair of aircraft, engines and parts.

Avionics (electronic navigation equipment) production falls into "Other Electronic Equipment Industries (SIC 3359). Some aeronautical instruments are produced by companies in "Other Instruments and Related Products (SIC 3912). Of course, not all of the companies in SIC 3359 and SIC 3912 are in the defence industry.

The aerospace industry is an amalgam of companies that appear in a variety of industries as defined by the SIC system. This means the voluminous data collected by national agencies cannot be easily used to track production or performance in the aerospace industry.

From Canada's Aircraft Industry (SIC 321): A Sector Competitiveness Framework, unpublished draft (March 1995).

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[1] From the Aerospace Industries Association of Canada/Canadian Exporters Association presentation to the Sub Committee on Arms Exports of the Standing Committee on External Affairs, 27 February, 1992.

[2] *The Future of Canadian Military Goods Production and Export*, 8.

[3] Aerospace Industries Association of Canada, *The AIAC Guide to Canada's Aerospace Industry* (Ottawa, 1995).

direct and another 20,000-25,000 indirect jobs.

The naval shipbuilding industry is concentrated in Quebec, New Brunswick and Nova Scotia. Though the hulls for the new Canadian Patrol Frigates (CPF) were produced in New Brunswick and Quebec, most of the combat systems are of foreign design and are either imported or built under licence. The same is true of the Maritime Coastal Defence Vessels being built in Nova Scotia. Unlike the aerospace industry, however, the shipbuilding sector today relies upon defence procurement for about 70 percent of its sales.[1]

Defence manufacturing for army requirements is concentrated in the vehicle and telecommunications sectors. Light armoured vehicles built by the General Motors of Canada, Diesel Division have been produced under licence with some Canadian design modifications and exported to the United States, Saudi Arabia and Australia. Support vehicles have been built under licence in Quebec, Ontario, and British Columbia. Canada also produces a low-level air defence/anti-tank system, and small arms for the Canadian Forces (which are also exported in limited quantities to allies), are produced by Diemaco in Kitchener, Ontario (again under licence). Most of the ammunition, "dumb" rockets, or military pyrotechnics produced in Canada are for consumption by the Canadian forces, although there has been some collaboration under the North American Defence Industrial Base Organization to produce certain artillery rounds.[2]

As noted above, with the exception of the light armoured vehicles and air-defence/anti-tank system noted above, most of this production is components or sub-components. In the aerospace industry, for example, the last interceptor aircraft designed and flown in Canada was the CF105 (AVRO Arrow); the last fighter/bomber aircraft built under licence in Canada was the Lockheed CF 104G Starfighter. The aircraft current in use with Canadian Forces, the CF-18 Hornets, were bought directly from the American firm McDonnell Douglas, with corresponding industrial offsets for Canadian industry.

Canada does though, manufacture some other primary platforms which have military utility. The broad range of transport aircraft produced by Bombardier/Canadair include water bombers, small executive jets, turbo prop and regional jet transports, and Bell Textron Canada and Eurocopter's helicopters, while primarily designed for civil use, can have military utility.[3] Canada also produces fast frigates (CPF) and some minor vessels used for coastal patrol and minesweeping for its own purposes. While efforts are under way to secure overseas sales for frigates, none have been sold to date.

While not a major producer of weapons platforms, Canada has developed a niche marketing strategy which is integrated, in some cases, directly with the major arms producers. As a result of this niche market development, Canada has become primarily a supplier of assemblies, sub assemblies, components and sub-components to prime platform manufacturers.[4] These include products in the electronics field, many of which can be used in civil platforms as well as military ones. Much of the production is "build-to-print," in which

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[1] *The Future of Canadian Military Goods Production and Export*, 14.

[2] SNC Lavalin is the major ammunition manufacturer in Canada. The "dumb" rockets referred to are the CRV-7 series of unguided air-to-ground rockets manufactured for the air force by Bristol Aerospace Ltd. These have been exported to various forces in NATO, ASEAN and Australasia.

[3] The Bell Textron 212 helicopters, in particular, are often classed as civilian exports, and have been sold to Colombia and Thailand. *Toronto Star*, 8 April 1995.

[4] The obvious exception to this is Bombardier-Canadair with their wide range of aircraft, and the helicopter companies mentioned above.

a company receives a contract from a prime manufacturer to build a certain component designed by the prime. In some cases, this has led to important inter-relationships between business partners in particular ventures. In such cases, investment in research and development (R&D) is usually high and involves years of commitment. Teaming on specific high cost projects, therefore, is a common method of cooperation in product development. There are also many cases of considerable indigenous design conducted by Canadian firms, where a Canadian-designed and manufactured product has been accepted as a component of another system.

Some examples can illustrate how the Canadian aerospace industry is integrated into the North American market, and how defence and civilian production is mixed. Menasco Aerospace Limited (a Canadian subsidiary of the American firm Coltec Industries Inc) manufactures landing gear for the Boeing aircraft: the 737, 757, 767 and the newest, largest and most sophisticated six-wheel landing gear for the 777. It also manufactures landing gear for the McDonnell Douglas MD-80, C-17, and Fokker 100 and 70 aircraft. To gain this market, Menasco had to make substantial multi-year investments and offer assurances that it can deliver components on time and on budget. Some of these aircraft have military application. Similarly, AlliedSignal Aerospace Canada has developed a bleed air control system for the Boeing 777, with similar programs for the 767-300 and McDonnell Douglas MD-11 and C-17 military transports. Litton Systems Canada Limited (LSL), which was originally launched 34 years ago to manufacture inertial guidance systems for the CF-104 Starfighter, subsequently developed the LTN-72 system, the most widely used inertial navigation system in the world. Finally, Pratt and Whitney Canada (PWC), originally established in 1928 to overhaul radial piston engines, has evolved to the point where it has the world mandate from its American parent to produce all small gas turbine engines for general aviation, commuter, or paramilitary use (as well as auxiliary power units). To date the company has delivered over 40,000 engines world wide.[1]

These examples illustrate that the application of export controls is extremely important to the success of these firms. Such controls must be consistent lest irreparable harm be done to Canadian firms' reputation as reliable suppliers. The shrinking global defence market has also left Canadian companies scrambling for market share, often against new entrants into the arena. From the figures in chapter three, it is apparent that a major readjustment in the global arms market is under way. In this environment, a loss of a market opportunity usually means the loss of a market, if not forever, for a very long time.

Canada's defence sector has, however, been less hard hit by the changing conditions than either most of the Western European producers, the United States or Japan. In part this is due to the nature of Canadian defence production, and its already-strong diversification into civilian products; in part this is due to its close integration with the American defence market; in part this is due to several recent successful export sales (detailed below). But even so, the market share which Canada has previously enjoyed is under greater pressure as competitors compete to maintain or gain market share.

Canada's Top Military Contractors

Figure 4.3 provides some details on the top 20 Canadian military contractors in 1992-93. While this chart reflects the general nature of Canada's top defence contractors in this period, it must be kept in mind that some of the single-year "snapshot" figures reflect multi-year procurement and as such may artificially "spike" the figures for this particular year. Examples would include the multi-year $754 million procurement of 100 Bell 412 helicopters for the Canadian Forces from Bell Helicopter Textron, or the $654 million contract to Fenco Engineers Inc (a subsidiary of SNC Lavalin), to oversee construction of the 12 Canadian coastal patrol

[1]In all examples, DIPP funding, discussed below, was a key factor in the R&D phases of these developments.

vessels. The general description of products shown in parentheses is not intended to be a comprehensive list of products, but it does provide an indication of the general nature of the company's defence production.

Together these twenty firms account for the vast majority of total defence-related production. The high concentration of aerospace firms and projects reflects the dominance of that sector, with electronics being the second most important sector. It is also worth noting that only nine of the top twenty depend upon exports for more than 50 percent of their total sales.

Up to 1,000 firms may be involved in Canadian defence production, but the vast majority of these are sub-contractors, supplying parts and components as part of larger contracts. Perhaps the most salient point to note is that while these companies are the major Canadian defence contractors, most of their activities are either in direct support of the Canadian Forces or are in non-weapons areas of production.

The Special Relationship with the United States

The Canadian defence industry is integrated with, and heavily dependent on exports to, the United States. While the basis for Canadian/U.S. cooperation in the field of industrial mobilization stems from the Hyde Park Agreement of 1941, perhaps the most significant development in this relationship was the cancellation of the AVRO Arrow interceptor program in 1959. With this event, the defence industry in Canada was unalterably changed.

At the time of the cancellation decision, it was recognized that Canada could not afford to maintain an indigenous self-sustaining aerospace industry, because there was insufficient domestic demand. The government, recognizing the importance of aerospace and other defence-related industries in setting the pace of scientific and technical development, perceived a serious disadvantage in not participating actively in these high-technology sectors. Without the trickle down effect transfer of technology expected from military R&D, there was serious concern that this would have a negative impact on the national manufacturing sector and that Canada would be left behind in important technological advancement.[1]

Under these circumstances, the government of the day chose to seek technical equality by pooling resources and opening markets within the American sphere of influence.[2] The Canada/U.S. defence development and production sharing arrangements (DDPSA) were a direct result of these considerations. The statement of principles of the original agreement of 1959 contained two fundamental points: that "the technical knowledge and production skills involved in such production within both countries shall, where feasible, be freely exchanged", and that "barriers which impede the flow between Canada and the United States of goods essential for the common defense effort shall be removed as far as possible."[3] As a result, the U.S. agreed to waive domestic content regulations for purchases of defence goods produced in Canada, waive import duties, and relax security restrictions so that technology could flow more freely between the two states.[4]

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[1] *Economist*, 11 April 1959, 139.

[2] Ralph A. Shaw, *The Influence of Post-War Continental Air-Defence Strategies and National Economic Development Policies on the Industrial Organization of the Canadian Aerospace Industry*, unpublished M.A. thesis, Queen's University, Kingston (May 1994).

[3] United States Department of Defense, "Defense Economic Cooperation with Canada," *directive number 2035.1*, 28 July 1960.

[4] Regehr, 52.

FIGURE 4.3

Canada's Top Military Contractors, 1992-93

COMPANY HEAD OFFICE/MAIN PLANT	A	B	C	D
SNC-Lavalin, Inc. Montreal Produces ammunition,protective equipment and is involved through Fenco (a subsidiary) in the building of the Maritime Coastal Patrol Vessel.	1	3,5		$803.8
Bell Helicopter Textron Canada, Mirabel Manufactures commercial helicopters, some of which have been purchased as utility and training aircraft.	2	1	□	$755.6
General Motors of Canada, Diesel, London Produces light armoured vehicles.	3	4	□	$494.9
Frontec Logistics Corp, Ottawa Provides logistic support to the North Warning System: antennas, electronic equipment, radars, radio beacons.	4	9		$220.5
Bombardier Inc. Montreal Commercial aircraft, some of which have been purchased for military transport, electronic warfare and navigation training, major repair and overhaul contract for CF 18s. Also involved in primary flying training.	5	1	□	$156.1
Bristol Aerospace Ltd.,Winnipeg Support centre for CF-5s, produces CRV 7 series air-to-ground rockets, R&O for rotary wing aircraft, solid fuel rockets, and target systems.	6	1,5		$89.6
Spar Aerospace, Mississauga Aerospace repair and overhaul, air navigation and flight safety systems, shipboard integrated systems.	7	1	□	$70.0
IMP Group Ltd., Halifax Aircraft repair and overhaul, avionics, components, executive aircraft and navigation systems.	8	1		$62.0
CAE Inc., Montreal Flight simulators and aircraft repair and overhaul.	9	1	□	$59.4

Port Weller Dry Dock, Port Weller Naval ship building and repair	10	3		$58.1
Devtek Corp., Markham Electronics, aircraft components, and small arms (subsidiary: Diemaco).	11	2, 5	□	$57.2
Standard Aero Ltd., Winnipeg Engine repair and overhaul.	12	1		$53.9
Saint John Shipbuilding, St. John Naval ship building and repair	13	3		$44.5
AlliedSignal Aerospace Canada, Etobicoke Aircraft electronic and support systems	14	1,2	□	$42.4
General Electric Canada Inc., Mississauga Aircraft engines.	15	1		$39.0
Canadian Marconi Co., Montreal Avionics, electronics, navigation, communications systems.	16	2	□	$35.7
Computing Devices Canada, Ltd., Ottawa Defence electronics.	17	2		$33.7
Litton Systems Canada, Ltd., Rexdale Electronic equipment.	18	2		$32.2
Heroux Inc., Montreal Landing gear repair and overhaul	19	1	□	$30.1
Hughes Aircraft Canada, Ltd., Calgary Radars, air traffic control, avionics and support.	20	2		$28.6
TOTAL				**$3,175.3**

Column A: ranking in top 20 Canadian Defence Companies.
Column B: type of export: 1-aerospace; 2-electronics; 3-marine; 4-transportation; 5-armaments; 6-industrial; 7-data processing: 8-research and development; 9-miscellaneous).
Column C: estimated or reported export sales greater than 50 percent of total sales.
Column D: total value of reported contracts (domestic and export) during the period in $ millions.

Source: *Ploughshares Monitor* (March 1995), 18-20, excerpted from material in the Canadian Military Industry Database, maintained by Ken Epps.

For the past 35 years, the Canadian defence industry has thus been evolving from a manufacturer of primary weapons systems to one of specialized niche or branch-plant manufacturing. During this period, defence goods have also moved relatively freely across the Canadian/American border. One result, given that Canada cannot sustain a viable defence industry solely on its domestic market, is that the bulk of its defence production is shipped to the United States.

In spite of the defence production sharing arrangements, however, it is not clear that the American defence market is really that open. As the 1992 parliamentary committee report noted, "several industry representatives expressed the view [that]...the United States defence market remains very difficult to penetrate on a large scale, due to a variety of small-scale protectionist measures."[1] The actual volume of Canadian exports to the United States remains less than one percent of United States Department of Defence purchases. In addition, the arrangements were also supposed to ensure a rough balance of defence trade between the two states. Although the figures are imprecise, it appears that over the past three decades, Canada has run a defence trade deficit of several billion dollars.[2] On the other hand, there is little evidence that the situation would have been better in the absence of the DDPSA.

Whether Canada will be able to continue its "preferred relationship" with the United States remains to be seen as protectionist elements in the United States make their case to protect their industry. But cost is an increasingly important bargaining chip in international sales. Cost of production, reliability of the work force and quality of product are key factors in retaining and gaining market share. As long as Canada can compete in these areas, and barring punitive American legislation, it will likely maintain its close supplier relationship and integration with the American defence market.

The Economic Impact of Defence Production In Canada

From an economic perspective the overall value and contribution to the economy of defence production is difficult to assess accurately. An industry of more than $3 billion represents less than 0.7 percent of Canada's GNP, and about one percent of Canada's workforce.[3] Over and above the actual dollar value, there are several other indicators that give some understanding of the impact of the defence industry on the Canadian economy.

In the early 1990s, there were estimated to be between 60,000 and 80,000 persons employed directly and indirectly in the defence industry, in some 1,000 firms.[4] The aerospace industry, which is the biggest contributor to this total, employed directly 50,000 people in 1994, a decline of about 15,000 from figures reported in 1992/93. Indirectly, the aerospace sector may employ up 150,000 persons (including both civilian and defence production).

Apart from the direct impact of employment by manufacturers of the defence industry on the Canadian economy, there is the indirect economic effect from suppliers which is extremely difficult to quantify. Figures compiled by Queen's University that chart the distribution of aerospace prime manufacturers and their suppliers across Canada give some picture of the direct and indirect employment impacts of defence

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[1] *The Future of Canadian Military Goods Production and Export*, 7.

[2] *Ibid.*, 6.

[3] *The Future of Canadian Military Goods Production and Export*, 13-14.

[4] *Ibid.*, 7. Indirect jobs are those that are not directly engaged in the manufacturing of components, but which are suppliers of goods and services to companies which are.

production, and suggest that overall there may be up to 4,000 suppliers to the defence industry (including all aspects of production), concentrated in such centres as Vancouver, Edmonton, Winnipeg, Montreal and Toronto. These figures suggest the pervasiveness of the industry, and the economic and ultimately political impact it has throughout Canada.[1]

Finally, the industry also makes a contribution to Canada's export balances. As a trading state, Canada must export to survive as a viable industrialized nation, because it does not have a large domestic market. Canada's exports in 1993, for example, totalled $170 billion and accounted for over one-quarter of GNP. In the aerospace sector alone, of some $10 billion in total production (civil and military), about 70 percent was exported, and of the exports about 70 percent went to the United States. Defence exports (discussed below) total roughly $1.7 billion and represent roughly one percent of total exports; 80 percent of them go to the United States.[2]

The technological impact and spinoffs from defence production are also important, but almost impossible to quantify, as was noted in chapter three. From a management perspective, major systems production projects create opportunities to bring to bear the requisite management control, financial resources, and technical skills to develop new, or to upgrade ailing, industries.

The AVRO Arrow is of course the most well-know case. Conceived and built in the Cold War, it represented one of the greatest technological achievements in Canadian aviation history. It demonstrated that Canada was a leader in many areas of aviation technology: fly-by-wire, power plant, aerodynamic design, materials production, systems integration and assembly line production. The Arrow program has been considered by some to be Canada's equivalent of putting a man on the Moon. The cancellation of the Arrow, on the other hand, led to a brain drain of the finest aeronautical team assembled since WWII. Scientists and technologists left Canada to work in the United States and United Kingdom, and made major contributions to the development of the United States space program and the Anglo/Franco Concorde. The impact of the departure of such a technological team is difficult to calculate.

The Canadian shipbuilding industry represents a contemporary case. An industry which has had its problems in the past has produced the Canadian Patrol Frigate (CPF), one of the most technologically advanced warships in its class in the world. Until the start of the CPF program no Canadian warship had been built in Canada since 1973. The program was highly complex, and included the design and construction of hulls, development of new materials, and the integration of propulsion power, software and combat systems. To bring the project to completion required not only a modernization of the shipyards involved (which had become outdated in terms of modern shipbuilding techniques), but constant improvements in construction efficiencies and the introduction of new construction technologies. St. John Shipbuilding Limited, for example, claims efficiencies in labour hours of 54 percent between the first and the tenth ship (the lead ship took 5.2 million labour hours whereas the tenth took only 2.4 million hours). All of this was, according to

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[1] This information is based on work done for the Aerospace Industries Association of Canada by Queens University, and shows suppliers of products and services to the aerospace and defence industry. The suppliers include raw materials, assemblies, sub assemblies, components and sub-components used in the manufacture of aerospace and defence products. The list, although quite comprehensive, is by no means complete. The charts are intended to be representative only.

[2] Jing-dong Yuan, *Nonproliferation Export Controls in the 1990s* (Kingston: Centre for International Relations, Queen's University, 1994), 91.

the company, achieved under budget within the fixed price of the contract.[3] It is unlikely that the modernization of this shipyard could have been achieved through commercial means, unless done so on a scale similar to the CPF. The end result has been a modernization of the yard and the retraining and development of a skilled work force that can compete internationally, at least in the manufacture of modern warships. Unfortunately, this project also highlights some of the dilemmas of defence production in a small domestic market: there have been no export customers for the frigate, and Canadian products compete with many other advanced ship-building industries for scarce contracts.[2]

Government Policy towards and Support of the Defence Industry

Throughout the twentieth century, nations have supported their defence industries in one form or another, whether this be direct via subsidies, sales support or funds for R&D. As noted in chapter three, military R&D spending in the United States in 1994 will be $42 billion (U.S.), and in France, 33 billion francs. In both of these states, military R&D makes up a high percentage (up to half) of total government R&D spending. Even in Sweden, military R&D is 20 percent of the total. This spending is usually concentrated in high technology sectors: in 1990, 76 percent of the American aircraft industry's R&D expenditures of $25 billion were provided through the American government.[3]

Canada is no exception, but its levels of support to industry have been relatively low, and mostly directed to maintaining a semblance of a defence industrial base. Canada has also taken a somewhat different approach to its R&D support. The direct R&D budget of Canada's Defence Department, the budget for the Chief, Research and Development, is relatively modest at some $122.7 million per year (1990-91) compared to the overall $6 billion per year spent by the Canadian government in R&D.[4] Most of the military R&D is also focused on specific military development projects, not necessarily on weapons development. On the other hand, the Canadian aerospace industry will commit over $1 billion towards investment in R&D and investments in plants and machinery, the bulk of which will be for civil use, although no doubt some of this will have military application.

On the other hand, until recently, most support was provided to the industry via the Defence Industry Productivity Program (DIPP), which was established in direct response to the Defence Productivity Sharing Agreement initiated in 1960 after the cancellation of the Arrow program. Initially run by the Department of Defence, in 1968 DIPP became the responsibility of the Department of Industry Trade and Commerce and its mandate was broadened to include more civil-related products. DIPP grew from a modest base to an average of about $250 million a year in the late 1980s. The overall purpose of DIPP was to encourage companies to invest in the development of proprietary products that would not only broaden the technological and industrial base, but lead to growth in the industry, provide jobs, and bolster the economy. The primary benefactor and main user of the program has been the aerospace industry, which used the fund as a tool to

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[1] As claimed in an advertisement by St. John Shipbuilding Limited, *Globe and Mail*, 2 May 1995.

[2] Potential customers for either ships or technology could, however, include Kuwait, Saudi Arabia, the UAE, Singapore, Malaysia, and South Korea. See "Awaiting Export Approval," *Jane's Defence Weekly*, 2 July 1994.

[3] *Canada's Aircraft Industry (SIC 321): A Sector Competitiveness Framework*, 50.

[4] The most important support, however, is indirect, and comes through programs such as the DIPP, the Shipbuilding Industry Assistance Program, and the Canada Commercial Corporation. One estimate of public support to the Canadian Military Industry in 1990-91 put it at more than $400 million. *The Future of Canadian Military Goods Production and Export*, 54-55. This is still a relatively modest amount.

provide a more level playing field against foreign firms, who were recipients of much greater levels of financial support from their governments.

The program originally permitted the government to share up to 50 percent of the total cost of R&D in the development of new products and was conditionally repayable when the product became profitable. There were other arrangements that would also allow the company to reinvest the amount repayable in R&D of future projects. In some cases, based on suitability, the government could advance up to 100 percent of the funding required to initiate new production facilities -- again, on a conditional repayment basis. According to many industry observers, DIPP has been largely responsible for the transition in the aerospace industry from a heavy reliance on defence production in the 1950's to the development of civil products.

Since the early 1990s, the government has reduced its exposure to DIPP support and in the 1994 federal budget announced that DIPP would be cut back from $144 million to less than $22 million over the next three years, and a more suitable alternative for providing support to industry would be established.[1] While there are other programs available to industry, such as the Enterprise Development Program, the Industry Research Assistance Program (IRAP), and the Program for Industry/Labour Projects, DIPP was clearly the most important for its recipients.[2] It would appear, however, that whatever the outcome of this debate, Canada has already made the transition from the 1960s to a point where military R&D is not a major driver of technological development in Canada.

The Canadian defence industry has been successful since the 1960's in making a transformation from a heavily-defence oriented one (as in the dominant aerospace sector) to one with a well established civil base. In this process the move to the development of dual-use technologies and dual-use products has been a key factor in establishing Canada as one of the world's leading aerospace producers, with high quality and cost competitive products. The development of proprietary products supported by programs such DIPP and IRAP were especially helpful in establishing this position. But as government support declines, companies that cannot depend on government support to develop a technology will look for support elsewhere including off-shore. Off-shore involvement usually results in technology and manufacturing transfer. Should government support weaken or disappear, industry may be inclined to move to locations where support is greater. Given that more than 50 percent of the top 20 major Canadian defence firms are foreign-owned, this could be cause for concern.[3]

The Decline of Major Defence Procurement Projects

It is clear by now that the limited domestic market cannot support the Canadian defence industry, because unit costs would be too high, and would not allow the industry to recoup its investment in R&D. Draw downs in the size of the Canadian Forces, and overall reductions in the defence budget, are further sharpening the

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[1] "Subsidy Cut Trims Aerospace Sales," *Financial Post*, 22 March 1995.

[2] Shaw, 47-48, 50; "Canadian Firms Want Defense Fund Revived," *Defense News*, 12 June 1995. According to a 1980 Peat Marwick study, DIPP is also important from a Canadian government investment perspective, in that the return on investment was 10.75 percent, compared to the broad economy's 10 percent and the high tech, high risk sector's average ROI of 7.5 percent. The Aerospace Industries Association of Canada believes the current return on the dollar invested to be between 25 and 40 percent, depending on the industry sector.

[3] Recent concern over whether or not Pratt and Whitney will continue development of its new aircraft engine in Canada highlight this problem. See "Pratt and Whitney Fishes for Federal Cash," *Montreal Gazette*, 14 June 1995; "Subsidy cut Trims Aerospace Sales," *Financial Post*, 22 March 1995.

impact on an already modest defence industry. For example, the cancellation of the EH-101 shipboard and rescue helicopter program has had a effect on the aerospace industry.

As defence budgets shrink, greater emphasis has been placed by the Department of National Defence on efforts to achieve cost savings while at the same time maintaining a capital equipment program in the order of 23-25 percent of total military expenditures a year. The Department believes this level is needed to avoid the serious case of "rust-out" that manifested itself in the 1980s: the situation in which most of the Canadian Forces capital equipment (ships, planes, tanks and trucks), were wearing out all at about the same time. This situation had been caused by inadequate funding of the Defence Services Program in previous years. Since the mid-1980s, however, the Department has worked towards establishing a capital equipment program that would allow for timely and staggered replacement of capital equipment, thereby avoiding major funding perturbations in the acquisition cycle. Whether this level of investment in capital equipment funding can be maintained in the future, however, remains to be seen as the pressure to further reduce defence spending grows. Without such spending though, serious choices will have to be made concerning the roles and missions assigned to the Canadian Forces and whether life cycle extensions of equipment can be made at acceptable cost and risk.[1] There is, therefore, considerable pressure within the Department to cut costs so as to maintain an adequate level of equipment replacement.

Forced economies in the defence budget are constraining choice by the Canadian Forces of desired equipment and forcing a move to off-shore and off-the-shelf purchases. Part of this cost reduction process has come from the recognition, in Canada and abroad, that in certain technology areas there are distinct advantages to acquiring equipment built to civil specifications and not military ones. While this approach is valid in certain sectors, such as aircraft components, vehicles, non-specialized vessels and selected electronics, it does not hold for combat systems such as fighters, tanks, artillery and submarines.

A similar shift can be seen in the area of dual-use technologies: as Canada has de-emphasized military R&D, there has been a concomitant shift in interest towards the use of dual-use technology. Chapter three pointed out that it is increasingly difficult to differentiate between military and civil technologies, and that the past emphasis on spin-off benefits from military technology development to civil use may be shifting in some sectors. Technological advances, particularly in the area of electronics: microelectronics, superconductors, computers and composite materials are becoming increasingly more important to defence capabilities. Such effective "spin-on" can gain nations years of lead time over competitors and adversaries.[2]

As a result, there is a growing realization that in some cases a different approach other than the use of formal written military specifications is required. The rapid development of the technology revolution and evolution can only emphasize the need for the military to adopt greater use of dual-use technologies. However, as noted elsewhere in this report, this phenomenon introduces a new level of complexity for arms control. In Canada's case, with most of its defence production being exported, if the export controls applied to dual-use technologies are too restrictive, this factor could pose problems.

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[1] In general terms, it is possible to keep equipment operating for extended periods of time (in excess of 25-35 years), but the cost to do so rises dramatically and reliability and serviceability usually decreases. Spare parts also become more difficult to find, and replacements have to be especially manufactured because they are no longer in production. Advances in technology (particularly in electronics) surpass existing equipment designs, and it becomes necessary in some instances to train technicians to use old technology to keep equipment operating. The tube technology radar used in the Distant Early Warning System is a good example: replacement tubes had to be purchased from Soviet-dominated Eastern Europe, because they were no longer made in the West. This would have been a questionable relationship in times of crisis.

[2] Thomas J. Welch, "The Future of Military Technology," *Washington Quarterly*, 13:2 (Spring 1990), 111.

Given the nature of Canadian defence production, Canada will likely continue to acquire combat items from off-shore producers, unless it enters into some sort of co-development or co-production scheme. With the exception of those items that are manufactured in Canada (such as the Bell 412 helicopter), off-shore purchases that are made without some commensurate offset arrangement that require similar investments in Canadian industry are a direct cost in expenditure and may represent a lost opportunity in terms of jobs, technology development and industrial growth.

Canada's Arms Export Trade

As would be expected from the nature of Canada's defence production, Canadian arms exports tend to be non-offensive or non-weapons items. There are exceptions, however, and these include small arms and ammunition, light armoured vehicles (which Canada produces for its own forces), unsophisticated air-to-ground rockets, and low level air defence/anti tank systems. Many of the exports are components or sub-systems and may have dual-use. For example, from Figure 4.3 it can be noted that only four of the top 20 defence companies produced and exported actual armaments. The aerospace products that were exported were mostly in repair and overhaul or, for the maintenance of engines, systems or airframes. The exception to this is the Bell Helicopter 412, which has been sold to the Canadian Forces, although one should keep in mind that the 412 is a civil machine that has been converted to military use as a replacement for the Utility Tactical Transport Helicopter.

According to the United States Arms Control and Disarmament Agency figures given in chapter three, exports of conventional weapons in 1993 (the latest available figures) were valued at $21.9 billion U.S. Canada's export of military goods to countries other than the United States in the same year was about $335.9 million (US$ 245 million).[1] Based on this estimate, then, Canada's percentage of the total worldwide arms trade in 1993 was just over one percent.

There is a statistical anomaly here, however, which arises from the Canada/U.S. defence production sharing arrangements. Since military exports to the United States do not require an export permit (except for items which fall under Groups three and four, the International Atomic Energy List and the Nuclear Non-proliferation List), the Canadian government does not keep track formally of the volume of this trade. Until 1991, however, the government informally compiled statistics, based on voluntary submissions from industry firms.[2] According to these figures, the total of Canadian military exports to the United States was more than $1 billion a year between 1981 and 1989, and is estimated to have averaged about $700 million a year since 1990.[3] The result is that total Canadian arms exports have been about $1 billion (Canadian dollars) a year throughout the 1990s. Canada's share of the global arms trade is then about five percent,

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[1] Figure for Canadian exports from Department of Foreign Affairs and International Trade, *Export of Military Goods from Canada*, Annual Report 1993 (Ottawa: June 1994).

[2] These figures were released annually, and were collected in order to keep track of the rough balance of defence trade between the two countries. See Ken Epps, *Tracking Canadian Arms: A Survey of Canadian Military Production and Trade since 1978*, Project Ploughshares, March 1995.

[3] Epps, 5.

placing Canada among the top seven or eight exporters (keeping in mind that the statistics in chapter three probably underestimate dual-use and component trade).[4]

Figures 4.4 through 4.10 reflect Canadian military export history for the years 1978 through 1993, and are taken from a recently published report by Project Ploughshares and based on data from various government departments. These charts reflect the export of military goods which are subject to the Export and Controls Permits Act (plus those exported to the United States without permits) and are expressed in 1993 constant Canadian dollars. In reading these charts it is useful to bear in mind the broad definition of "military goods," as reflected in Figure 4.3.

Figure 4.4 provides total values for Canadian military exports. The chart is based on annual totals (current dollars) of non-American exports as reported by the Department of Foreign Affairs, and the value of military goods sold to the United States, which were calculated separately. The rise and fall of the chart indicates that Canadian sales reflect the overall trend in international arms sales, which appear to have stabilized at new and lower levels. Figure 4.5 highlights the importance of the Canadian/U.S. relationship in military-related trade. The peak is attributed to the rise in American military spending during President Reagan's era and falls off about as rapidly as it started with the declines in American military spending. Continued reliance on the U.S. market will continue, however, to be an important factor in the sale of Canadian defence goods, particularly in light of the trend indicated in Figure 4.4.

Figure 4.6 details Canadian military exports to Europe over the past fifteen years. As might be expected, Canada's long involvement in and support of NATO, has meant that it represented the next-largest Canadian military export market after the United States. The spikes in 1987 and 1989 is attributed largely to the sale of CL 289 surveillance drones to Germany. Overall, however, there has been a steady decline in Canadian military exports to Europe. The dramatic restructuring of defence industries in Europe, the decline in defence procurement budgets and the move to pan-European solutions to defence (including procurement) will likely continue this decline, and there is nothing on the foreseeable horizon that will change this situation.

On the other hand, Figure 4.7, which details Canadian military exports to the Third World, appears to indicate an increased emphasis on arms sales to the Third World, especially with levels above $200 million a year since 1991. These figures, however, are largely attributed to three significant arms contracts: the sale of de Havilland Buffalo transport aircraft to Egypt in 1982 ($130 million), Canadair Challenger executive/utility aircraft ($51 million) to China in 1986 and the sale of General Motors Light Armoured Vehicles ($217 and $212 million) to Saudi Arabia in 1992 and 1993. This last deal is a multi-year one, and will result in deliveries for the next few years. The spikes in the chart in these four years reflect these sales. Without these sales,

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[1] Another way to estimate Canadian defence exports is to extrapolate it from industry figures. First, we start with aerospace manufacturing, which provides the bulk of defence exports. Of the $9.4 billion in sales reported by the aerospace industry in 1992, about 30 percent ($2.82 billion) of this was defence-related. The aerospace component of Canadian domestic defence procurement for 1992 was approximately $985 million, and was made up of aircraft and aircraft parts ($795 million), communications ($60 million) and air transport services ($129 million).

If this is subtracted from the $2.82 billion of aerospace defence-related sales for 1992, this leaves about $1.83 billion (or two-thirds of defence-related aerospace production) that was exported, almost all of it to the United States. If one adds to this the $362 million of exports to other destinations that the U.S., the aggregate is $2.19 billion or US$1.6 billion. Most of the non-U.S. exports were non-aerospace production; conversely, some non-aerospace exports to the U.S. have not been counted. But this provides a rough estimate, which is somewhat higher than other estimates, and which should only be used as a guide or "upper bound." It must also be remembered that the bulk of these defence exports are dual-use products or components.

Sources: Serge Caron, *The Economic Impact of Canadian Defence Expenditures*, Occasional Paper 2-94, Centre for National Security Studies, (Kingston: National Defence College, June 1994); *Export of Military Goods from Canada*, Annual Report 1992; Aerospace Industries Association of Canada.

exports to Third World countries would have been at or below $75 million per year since 1988. As was the case with arms sales to Europe, intense competition with other suppliers, and in some cases with new entrants into the arms business, will likely result in a continued decline (or stabilization at low levels) in Canadian military exports to the areas involved.

Figures for 1994 more or less confirm the picture painted above, albeit at higher levels. Total exports of military goods in 1994 were $497 million - an increase of 48 percent over the previous year.[1] In addition to the major sales to Saudi Arabia (which totalled $280 million in 1994), Canada significantly increased its military exports to Algeria (from zero to $6 million), Australia (from $8.4 to $23.3 million), Belgium (from $0.6 to $8.6 million), Great Britain (from $5.5 to $21.1 million), Malaysia (from $3.8 to $11.9 million), the Netherlands (from $5.9 to $18.8 million), Portugal (from $5.7 to $22.0 million), South Korea (from $4.3 to $12.8 million), and Thailand (from $0.6 to $20.6 million). Four of these are NATO partners, one is in North Africa, and three are in East Asia, thus closely reflecting existing distributions of sales, and the potentially greater emphasis on Asia in Canadian military exports.

It should also be noted, however, that the distribution of Canadian military exports between developed and developing recipients is quite different than for most other major suppliers. In 1993, *78 percent* of the total arms trade was destined for the Third World, while the proportion of Canadian military goods so destined was less than 30 percent. Put somewhat differently, Canada was responsible for *less than one percent* of the arms sales to the Third World in 1992-93 (about $US 357 million, out of total imports of $36.4 billion in these two years).[2] This was the case even given the large (in Canadian terms) deliveries to Saudi Arabia in recent years.

The combination of sales for Europe and the Third World is shown in Figure 4.8. It confirms a rather erratic pattern of exports, which as discussed above, is indicative of unique and relatively large (in Canadian terms) sales, rather than demonstrating that Canada has been a historical supplier of defence goods to these regions. Finally, Figures 4.9 and 4.10 provide a few more specific details concerning the flow of arms to Asia and the Middle East, and confirm the general pattern illustrated in previous tables.

The pattern of Canadian arms exports is unlikely to change greatly in the future. From time to time unique opportunities for the sale of military goods to particular regions or states will appear, but Canada's overall arms exports outside of the United States will likely remain small. In the absence of these opportunities, sales to both Europe and the Third World are also likely to remain low, although the balance between them may shift towards the Third World. This will raise difficult dilemmas for policy-makers, given the recent emphasis of Canadian policy on promoting human rights and reducing military expenditures in the developing world. Recent illustrations have been provided by Canadian efforts to export rocket launchers to Thailand, surplus aircraft to Turkey, and ships to Kuwait and elsewhere.[3] Priority or growth markets for

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[1] From the *Export of Military Goods from Canada*, 1994 (July 1995).

[2] The Canadian figures were obtained from the *Export of Military Goods from Canada*, 1992 and 1993, and compared to ACDA figures for those two years.

[3] "Canadian Planes fit Turkish Plan to Expand Air-combat Power," *Montreal Gazette*, 28 March 1995; "Canada Pursues Weapons Sales with Thailand," *Ottawa Citizen*, 7 December 1994; "Awaiting Export Approval," *Jane's Defence Weekly*, 2 July 1994.

FIGURE 4.4

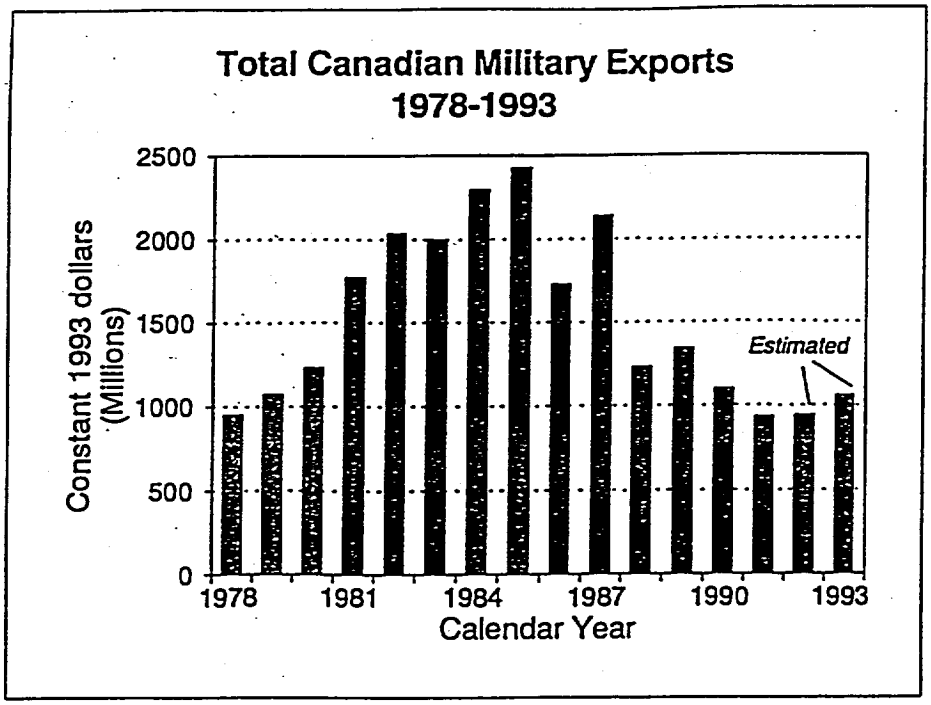
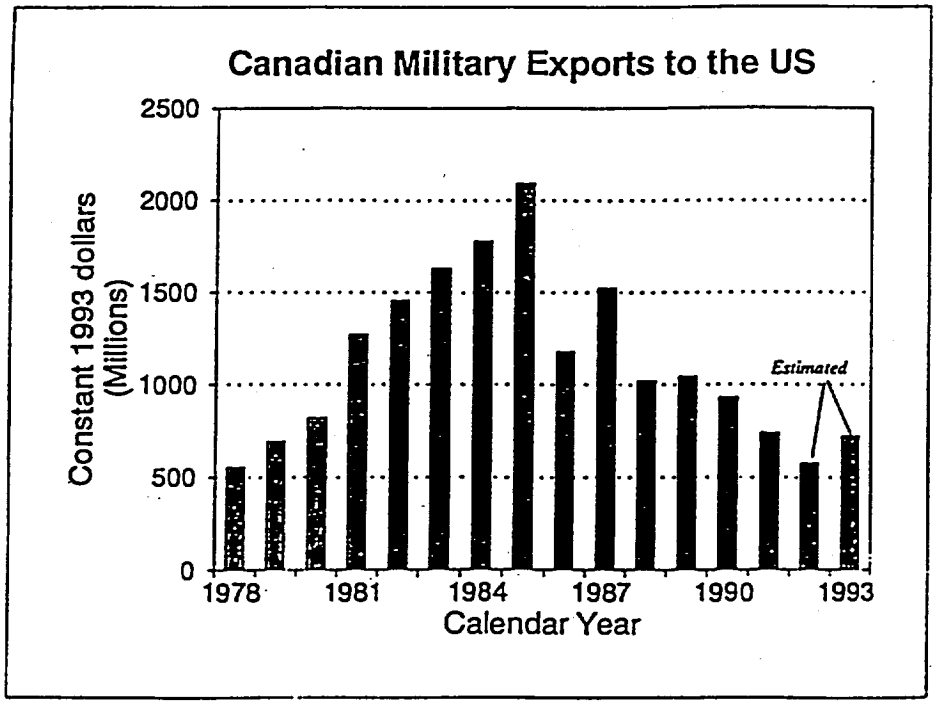


FIGURE 4.5



Source: Ken Epps, *Tracking Canadian Arms: A Survey of Canadian Military Production and Trade Since 1978*, Project Ploughshares (March 1995). Figures in constant 1993 Canadian dollars.

FIGURE 4.6

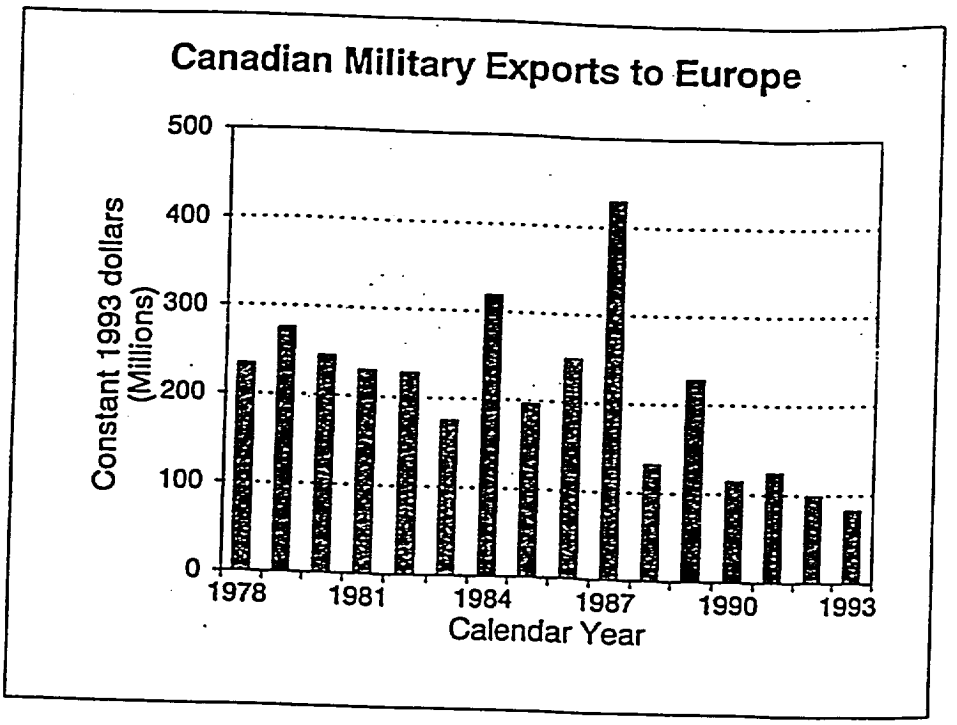
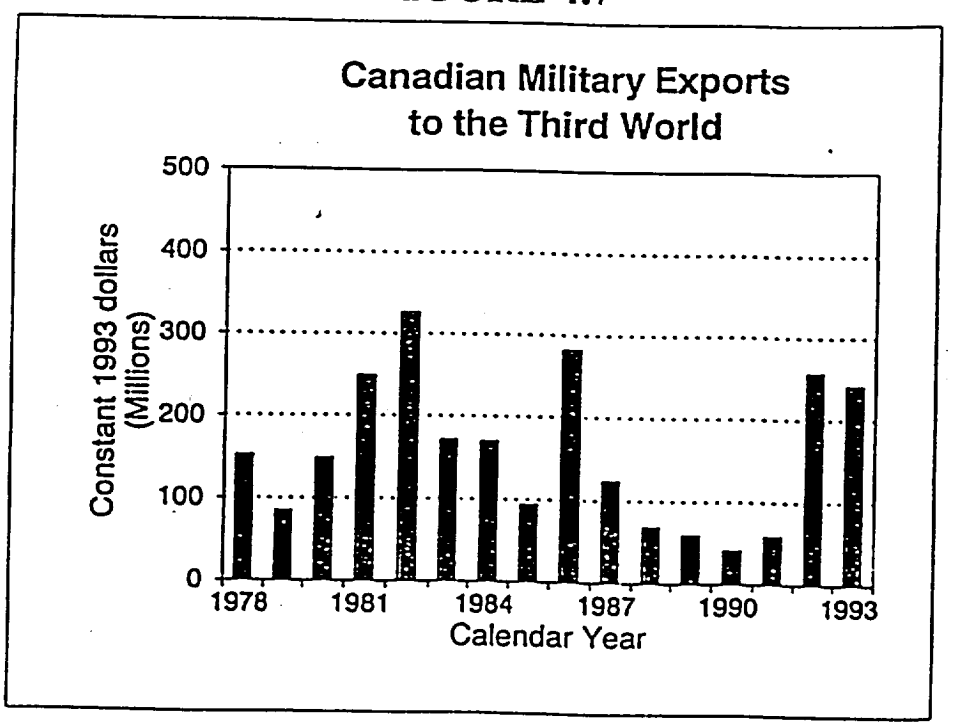


FIGURE 4.7



Source: Ken Epps, *Tracking Canadian Arms: A Survey of Canadian Military Production and Trade Since 1978*, Project Ploughshares (March 1995). Figures in constant 1993 Canadian dollars.

FIGURE 4.8

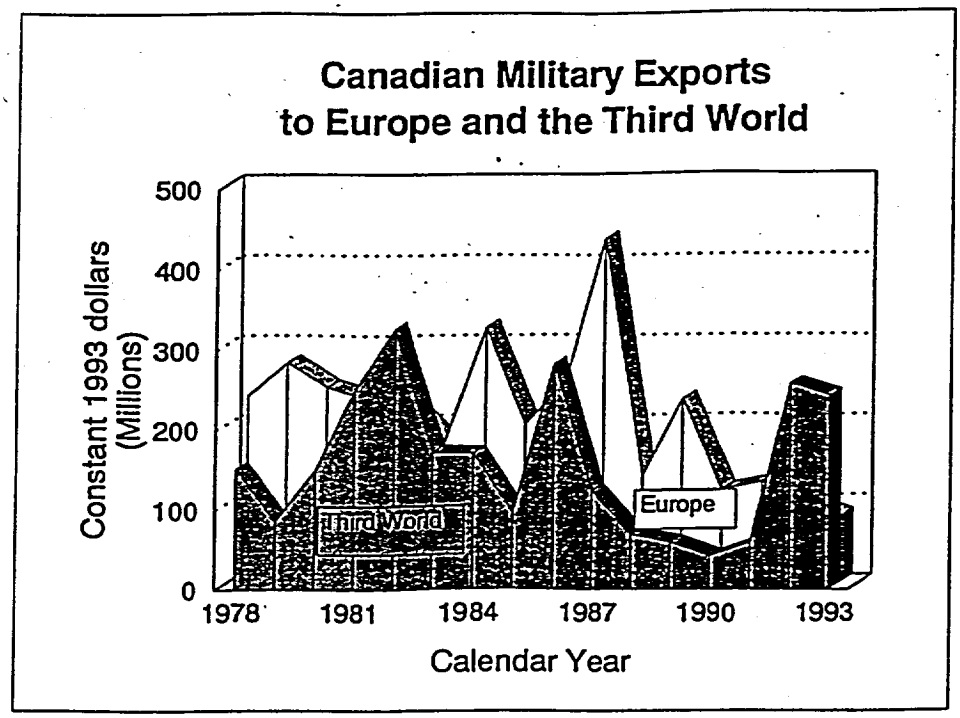
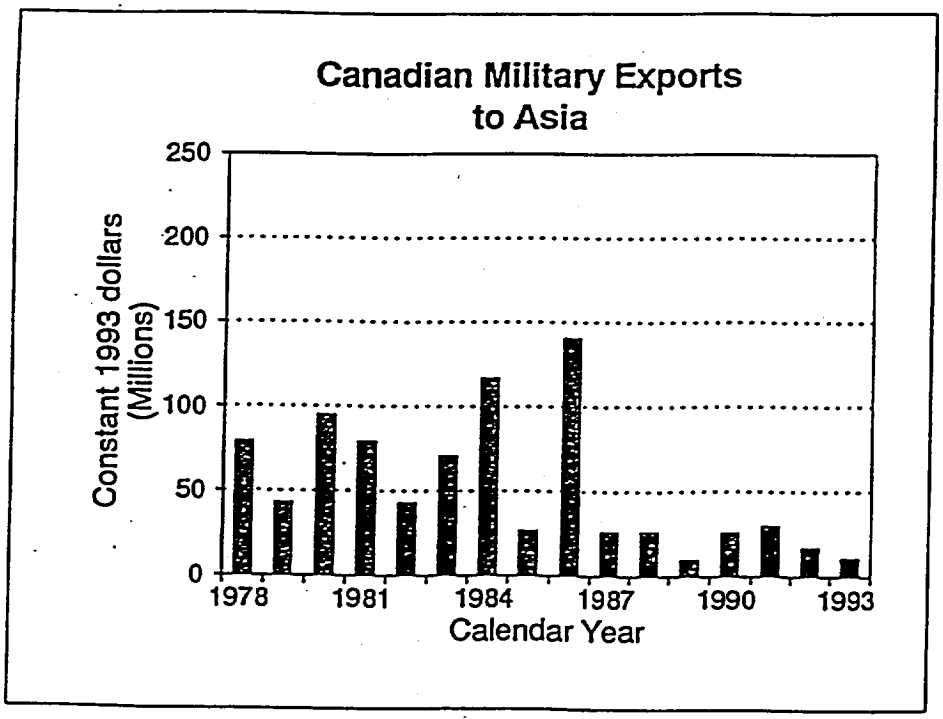
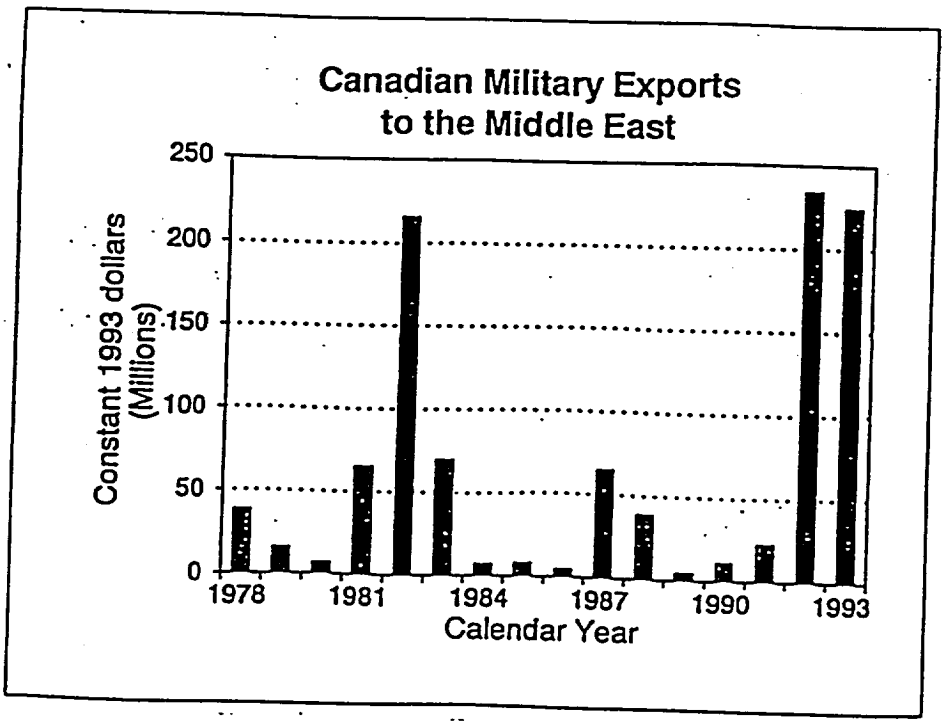


FIGURE 4.9



Source: Ken Epps, *Tracking Canadian Arms: A Survey of Canadian Military Production and Trade Since 1978*, Project Ploughshares (March 1995). Figures in constant 1993 Canadian dollars.

FIGURE 4.10



Source: Ken Epps, *Tracking Canadian Arms: A Survey of Canadian Military Production and Trade Since 1978*, Project Ploughshares (March 1995). Figures in constant 1993 Canadian dollars.

Canadian weapons exports identified by the government include the United States, South Korea, Saudi Arabia, Kuwait, Malaysia, Indonesia, China, Taiwan and Turkey; defence sales to many of these states could provoke public controversy.[1]

Canada's Capacity to Advance Constraint: Trade-offs and Opportunities

Does Canada Need a Defence Industrial Base?

If the definition of a defence industrial base is one that meets the military equipment needs of a state, then Canada does not possess a defence industrial base, properly speaking. Major combat systems (with the exception of naval shipping) are purchased off-shore and there is no reason to expect this to change in future. The evolution of the Canadian defence industry since 1960 has led to a restructured industry that does, however, support in part the equipment requirements of the Canadian Forces.

This does not mean, however, that there is no security rationale for defence production in Canada. First, the rising cost of arms and shrinking defence procurement will likely mean life-extension of existing systems as far as practical and cost-effective. Domestic upgrading of these systems will only be possible as long as Canadian companies maintain such capabilities, which will require them to stay abreast of the related technologies and production techniques, whether these are civil or military-based. The continued viability of the industry depends on developing proprietary products, or at least building systems under licence with some sort of world mandate and access to the global market place. This will mean involvement in international collaborative projects. From an arms control perspective, it is also important to be able to draw upon defence industry expertise for technical assessments of arms control initiatives.

The sophistication of contemporary arms and equipment demands long lead times in production, acquisition and training. Typically it takes about 10 years from initiation of a major capital equipment program, to delivery to the armed forces. Such long lead times mitigate against rapid military build-ups, which implies that forces go into conflicts with what they have "on-hand." Logistics support, including replacement of ships, tanks, airplanes, artillery, components and other spares, must be sufficient to sustain combat forces until such time as industrial production, whether domestic or offshore, can be achieved.

It is not likely that Canada would be involved in a serious international conflict by itself, and the reality of recent (and projected) Canadian military missions is that they have been overwhelmingly for multilateral peacekeeping or peace-enforcement operations. In these types of missions, Canada can look to the United States and other allies for support. This situation, however, is complicated by the increased costs of new equipment. Lower defence budgets and higher unit costs of weapons means fewer units, limited production lines and fewer spares. In an era of just-in-time delivery, large stocks of spares are a thing of the past. Whether Canada could always rely on its allies to provide equipment needed in times of emergency, presumes that our allies have sufficient stocks to meet their own needs as well as ours.

It can be argued that Canada could always acquire older equipment in storage from its allies. Certainly, this is possible, with respect to submarines, air defence interceptors, and tanks. However, modern equipment in storage require extensive inspection, modification and repair before use. Even new commercial aircraft in

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[1] Details from the government's *International Trade Business Plan for 1995-96*, as reported "Canadian Arms Sales Like Dabbling in Arson," *Toronto Star*, 8 April 1995.

storage require considerable overhaul, upgrades and inspection before they are reintroduced into service.[2] Similarly combat systems, unless stored in an "operational reserve" (rotated through and used in the regular fleet), usually require extensive modifications and upgrades before they can be brought back into service.

While the assumption Canada can always rely on its allies to provide equipment appears to be valid for now, the reasons outlined above suggest that this type of reliance can sometimes be tenuous. While Canada may not want to (nor need to at this point) maintain a defence industrial base that will meet all its needs, prudence would argue that it must a least have the technical capability to expand that base should it need to do so. Further analysis is needed, as well, to see if the future capabilities of the Canadian defence industrial base correspond closely to the current and projected future missions of Canadian forces.

Does Canada Need to Export Defence Goods?

As is clear from the picture of Canadian defence production and trade, if Canada were to halt all exports of its defence goods, maintenance of a technologically advanced defence industrial base that could serve the nation in times of emergency or war would become increasingly difficult, if not impossible. The economic impact of the loss of more than $1 billion in sales (and jobs) would also be significant. The low domestic demand for arms mitigates against the economies of scale necessary for companies to remain in the defence business, and although few Canadian firms specialize predominantly or exclusively in defence production, it remains an important part of overall sales in the aerospace, shipbuilding and electronics industries.

Over the past three decades, Canada has also developed close collaborative relationships with foreign manufacturers in partnerships that allow participation in the development of defence goods that are inevitably sold abroad, with some Canadian high-tech content. All of these projects are with countries that can be considered Canada's close friends and allies. It would be extremely difficult to halt these sorts of exports, without effectively ending Canadian participation in these projects, most of which are focused on the civilian high-technology sector. To illustrate with a simple example: if Canada were to refuse to export landing gear that may be used on military aircraft, then it is difficult to imagine that Menasco Aerospace would be manufacturing the landing gear for the Boeing 737, 757, 767 and 777. Needless to say, stopping such collaborative projects would also be inconsistent with Canada's alliance commitments and close trans-Atlantic ties.

Shrinking defence markets, the global restructuring of the defence industry, and the desire to keep R&D and manufacturing at home in order to preserve national capabilities will likely cause Canadian companies to have a more difficult time in participating in bi-national or multinational contracts. This will be compounded by the fact that as Canada draws down its military capabilities, it will have a lesser demand for equipment which will mitigate against its participation in such programs.[2] Moreover, reduced defence funding will ultimately have an impact on the level of defence-related R&D, in Canada and elsewhere. All of these factors suggest that while defence production in Canada will shrink rather than expand over the next few years, its reliance on export markets and close integration with American and international firms will make some level of exports essential.

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[1] Air Canada, for example, because of decreased passenger traffic, stored brand new Boeing 747s for a little over a year in the southern desert of the United States. Yet the reintroduction of each plane into service incurred costs of approximately $1 million.

[2] Production shares in projects (especially European ones) are usually driven by financial involvement and market size. For example, if Canada were to fund 10 percent of the R&D for a project (or promise a market for the product), it could reasonably expect to receive 10 percent of the production, on the principle of *juste retour*.

On the other hand, these observations also suggest that official Canadian policy should *not* encourage the development of defence production capabilities that will require large levels of exports (or controversial ones) in order to be economically viable. A signal example of this is supplied by the direct and indirect investments in the Canadian shipbuilding industry that were associated with the frigate program. As a former Assistant Deputy Minister notes, the government "insisted on obtaining world product mandates from the various companies involved and [on] having an enduring capability to indigenously design and produce frigates." Since the Canadian government was not going to procure large numbers of ships, it "must have contemplated these things being sold around the world."[1] The result: Canada possesses a world class production facility, with few available markets, intense competition, and little opportunity for conversion to civilian production.

Is the Current Export Control Policy Working?

None of this, however, implies that Canada should pursue an unconstrained arms export policy, and indeed, the current Canadian policy is based on the belief that Canadians hold strong views about the role that their country plays internationally. These beliefs encompass a desire to fulfil national security obligations, participate in peacekeeping missions, work towards the maintenance of international order and stability, and take a strong stand against human rights abuses. To that end, Canadian guidelines controlling the export of military goods and technologies denies exports to:

- countries which pose a threat to Canada and its allies;
- countries involved in or under imminent threat of hostilities; and
- countries under United Nations Security Council sanctions; or
- countries whose governments have a persistent record of serious violations of the human rights of their citizens, unless it can be demonstrated that there is no reasonable risk that the goods might be used against the civilian population.[2]

Prior to March 1994, Canada was required to consult CoCom about many proposed exports of military goods. Since the disbanding of CoCom, the interpretation of export controls has become solely nationally-based, suggesting that in Canada the 1986 guidelines now play a greater role.

Canada's export control system in governed by the Export and Import Permits Act (EIPA) of 1947. The EIPA addresses national security concerns by stipulating that:

> arms, ammunition, implements or munitions of war, naval, army or air stores or any articles deemed capable of being converted thereinto or made useful in the production thereof or otherwise having a strategic nature or value will not be made available to any destination where their use might be detrimental to the security of Canada.[3]

The Act requires permits for the export of strategic goods and technologies, including military and military-related goods, that are defined by an Export Control List (ECL). An exception exists in the case of exports of Canadian military goods to the United States, where as noted previously, export permits are not required. The Export Control List separates controlled items into groups that generally correspond to categories arising from international treaty or agreement obligations. For example, the CoCom Industrial List, Munitions List, and Atomic Energy List correspond to Groups 1, 2 and 3 of the ECL.

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[1] Former Department of National Defence Assistant Deputy Minister (Materiel), Ed Healey, quoted in "Awaiting Export Approval," *Jane's Defence Weekly*, 2 July 1994.

[2] Canada, Department of External Affairs and International Trade, "Export Controls Policy," *Communiqué*, 10 September 1986.

[3] *Export and Import Permits Act*, R.S., 1985, c. E-19, Paragraph 3(a).

In addition, the EIPA requires permits for the export of all goods to countries on an Area Control List (ACL). Permits to export military goods to these countries are denied. During the Cold War, the ACL included the Warsaw Pact countries and a few others. As of August 1994 there were four countries on the ACL - Angola, Bosnia-Herzegovina, Libya, and Yugoslavia - all included because of UN or other multilateral sanctions. In 1991, the EIPA was amended to include an Automatic Firearms Country Control List of acceptable recipients of exports of Canadian automatic weapons. This list arose from Bill C-6, legislation that also changed the Criminal Code to allow the sale of Canadian automatic weapons to foreign governments.[1]

The EIPA gives the government Cabinet "broad and (almost) exclusive discretion in formulating, amending, interpreting, and implementing Canadian export control legislation and policies,"[2] including the creation or alteration of control lists.The policies are administered by the Export Controls Division of the Department of Foreign Affairs and International Trade, and applications for export permits, after technical review, are assessed on a case-by-case basis. Export applications to NATO allies and "like-minded" countries are routinely approved without consultation. Permits for the export of "offensive" military equipment to all other destinations require a consultation process involving other bureaus within the Department as well as other Departments such as National Defence. Approval of these exports, as well as all military goods exports to countries of concern, must be cleared by the Minister of Foreign Affairs.[3]

Despite Canada's relatively restrictive export control regime, public concern about the Canadian role in the international arms trade has fostered several proposals for tightening controls. Among the most prominent were the 1992 recommendations of the Sub-Committee on Arms Export of the Parliamentary Standing Committee on External Affairs and International Trade. The Sub-committee, which arose out of debate on Bill C-6, was mandated to "hold public hearings on the issues of Canadian defence production and export, the new challenges facing the defence industry and the question of converting the industry to civilian production."[4] Noting the complexities of changes to the ECL, the Sub-committee made several recommendations intended to improve controls on destination countries. These included the establishment of a "Munitions Country Control List", modelled on the Automatic Firearms Country Control List, that would prohibit military exports to countries not on the list, and require periodic parliamentary review of the list membership. The committee also recommended that criteria for additions or deletions to the list include, in addition to the 1986 criteria for close control, whether the country participates in the UN Conventional Arms Register. In all the Sub-committee made 20 recommendations, fewer than half of which received a government response.

Given the integrated nature of Canadian defence production, and the long lead-time on investment and production decisions, what is required is a considered and consistent application of export guidelines that makes sense and will not be injurious to Canada in the long term. For the most part, this is the case now, although issues can be raised concerning whether or not this policy is currently working as well as it could.

The first concerns the technical matter of export licenses. The latitude with which Canadian export controls are interpreted and the need for consistent application of the rules is extremely important. Defence export

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[1] Bill C-6 arose in turn from the commercial pressure of two large export orders, both subsequently filled, for light-armoured vehicles from Saudi Arabia and rifles from the Netherlands.

[2] Yuan, 72.

[3] Yuan, 79.

[4] *The Future of Canadian Military Goods Production and Export*, 2.

licences are currently issued for six months to a year. But the lead-in to production of the item for which the export permit was granted can exceed the time limit of the permit, making it necessary for the exporting company to reapply for a renewal. Changing international circumstances from the time the permit was first issued to the application for renewal may influence the interpretation of the rules, either slowing delivery of the product, or precluding delivery. Such circumstances, which may be understandable from a Canadian perspective, tend to make Canada to be regarded as an unreliable supplier. There is a need, therefore, to look at export permits from the investor/banker/share holder point of view as well as from a public policy perspective.

The second issue concerns the dual-use and component nature of most Canadian defence production. Considerable reference has been made in this and the previous chapter to the role of technology in the defence industry, in part because "the world is [now] functioning as a single technological evolution system."[1] Four inter-related changes are significant:

- the escalating diffusion and global availability of advanced military technologies;
- the increasingly blurry line between strategic and tactical, or conventional and unconventional weapons systems;
- the increasing role of civilian technological innovations in military products;
- the difficulty in constraining the application of dual-use technologies to weapons systems, and the legitimate use of technology for civil purposes;

These developments have far-reaching ramifications for efforts to constrain conventional proliferation. It will become increasingly difficult for any state to establish realistic criteria to make such determinations. Certainly Canada's arms control policy has served it well in the past and may continue to do so in future, but as a minimum it will have to be reevaluated in light of these changes.

The final issue concerns the destinations for Canadian defence goods. Again, most of Canada's defence production ends up in the United States or Western Europe. Other destinations, however, have been more controversial in recent years, especially with respect to the human rights component of Canadian policy. The current "caveat" in the policy ("unless it can be demonstrated that there is no reasonable risk that the goods might be used against the civilian population") rests on a separation of the inter-state and internal dimensions of security that is not reflected in the overall thrust of Canadian foreign policy, as suggested in chapter two. Nor does the Canadian public appear to make this distinction. The recent discussions of aircraft sales to Turkey highlight this: while Canada (and the United States) have attempted to impose restrictions on the end-use of the aircraft, Turkey refuses to accept such restrictions.[2]

Likewise, the sale of light armoured vehicles to Saudi Arabia is difficult to square with the human rights provisions of Canadian policy, given the potential use of such vehicles for the suppression of internal dissent or riots. One possible consideration (to be discussed more fully in later chapters) would be for a clarification of Canadian export policy with respect to human rights and military spending, to bring it in line with other government statements. This might ultimately preclude the pursuit of certain defence sales in the Third World (none of which are "sure things" in any case), but would have little overall impact on the Canadian defence industry. A loss of $250 million in sales, for example (the rough amount of sales to the Third World in 1992-93) would represent about eight percent of Canadian defence production. On the other hand, and as the debate

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[1] Welch, "The Future of Military Technology," 111.

[2] Canada wanted the CF-5 to be used only for pilot training or NATO-related defence activities; the U.S. wanted them to be used in only NATO or UN operations. See "Canadian Planes Fit Turkish Plans," *Montreal Gazette*, 28 March 1995. The Turkish operation against Kurdish rebels in Turkey and Iraq has also led Germany and Switzerland at various times to curtail their arms exports to Turkey.

over the sale of LAVs to Saudi Arabia demonstrated, neither unions, nor plant owners, nor the government are insensitive to the impact that even $250 million a year in sales can make on a local economy.[1] In addition, policy-makers must be clear that end-use restrictions such as these will be considered discriminatory by recipient countries.

The choices involved are difficult ones, and there are clear trade-offs that must be made. At a minimum, government efforts to promote such exports (or the production that gives rise to the need for these exports) should be carefully examined and perhaps curtailed.

How Can Canada Promote Multilateral Constraints on Conventional Proliferation?

Currently Canada is an active (and often a founding) member of all major multilateral non-proliferation regimes and arrangements, including CoCom (and its successor, the "New Forum"), the Missile Technology Control Regime, and such UN instruments as arms embargoes and the Register of Conventional Arms. Several regional proposals or initiatives, such as OAS transparency, CFE verification in Europe, non-proliferation discussions within the ASEAN Regional Forum, and confidence-building measures in the Middle East have also received Canadian support and prompting.

In addition, Canada has adopted unilateral measures designed to strengthen multilateral non-proliferation efforts. In 1990 Canada began publicly reporting its exports of military goods. The announcement of the annual report was intended to encourage arms trade transparency in other nations and to boost support for what eventually became the UN Register. Canada was also instrumental in supporting the Cambodian Mine Action Centre following the withdrawal of the United Nations Transitional Authority in Cambodia in 1993. The Centre, which has become a model for indigenous-led mine-clearing efforts in other countries, was in danger of closure without the Canadian commitment of several Department of National Defence personnel.

Occasionally, Canada has proposed more comprehensive initiatives. During the Gulf War in 1991, Prime Minister Brian Mulroney and External Affairs Minister Joe Clark announced what subsequently became known as the "world summit" initiative. The proposal contained several points designed to promote arms control after the Persian Gulf war. Most press attention was given to a plan for a summit-level meeting of the major arms suppliers to encourage "formal commitment to greater sensitivity" to weapons exports; "early action" to establish an information exchange on arms transfers; and a commitment from CFE signatories to avoid "cascading" equipment to regions of tension. The plan also called for measures to strengthen regimes dealing with weapons of mass destruction.[2] Never popular with the U.S. administration, the plan was eventually overtaken by the P-5 talks (see chapter six), although it did result in the creation of a "core group" on non-proliferation that explores informally the prospects for promoting measures to deal with the proliferation of weapons of mass destruction and excessive build-ups of conventional weapons.[3]

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[1] The Saudi deal was estimated to maintain about 700 direct jobs for up to ten years. Based on statements by Mr. Doug Rutherford, plant chairperson, Canadian Auto Workers Local 27, and Mr. William Pettipas, Director, Government Relations, General Motors Diesel Division, before the House of Commons Legislative Committee E on Bill C-6, 12 June 1991.

[2] Ernie Regehr, "Canada Prods United States on Arms Sales," *Arms Control Today* (June 1991), 14.

[3] The core group includes: Australia, Brazil, Canada, Columbia, the Czech Republic, Egypt, Germany, Indonesia, Italy, Japan, the Netherlands, Nigeria, Norway, South Korea, Spain, Slovakia, Sweden and Venezuela.

More recently, former Foreign Affairs Minister André Ouellet has indicated Canadian interest in multilateral approaches to link development assistance with the military expenditures of recipients. Exploratory discussions that have begun with Japan and Norway may be extended to include other "like-minded" donor countries. The goal according to the Minister "is not to punish countries, and thereby punish innocent populations, whose governments abuse human rights," but "to change the behaviour of those governments."[1] If a way can be found to allay recipient concerns that such a linkage represents an unwarranted intrusion into domestic security matters, then this initiative could develop into a significant multilateral non-proliferation measure (see the discussion in chapter five on this subject).

Although Canada has many immediate, tangible interests in constraining conventional weapons proliferation, none are unique to Canada. In the context of building a new security framework that endeavours to extend security beyond military needs this is a strength. A broader security vision necessarily involves cooperative, multilateral measures that must be assembled from the shared security interests of many states. There also must be room for a range of actors and approaches in security-building, including middle powers like Canada within state circles, as well as non-governmental organizations (including Canadian ones), outside of formal arenas.

Most existing conventional non-proliferation initiatives arose out of the security analyses of the Cold War. In embracing the more inclusive concepts that are slowly replacing the security models of blocs and nation-states, Canada has a role to play in devising and promoting new initiatives to constrain conventional proliferation. These may address non-military security as well as defence/security needs, and must be prepared to respond to crises within states as well as between them.

There are, however, practical limits to the degree of Canadian influence, and to its ability to advance controls on conventional weapons proliferation. To be effective and to make efficient use of limited resources, Canada must carefully formulate and implement any constraint measures. The Canadian championing of a multilateral supplier initiative to constrain the proliferation of fighter aircraft, for example, is unlikely to carry weight as long as Canada is perceived to have nothing at stake in the proposal because it does not build advanced fighters. Likewise, Canadian promotion of restraining arms exports to regimes that violate human rights will not be facilitated by export sales to egregious human rights violators. At a minimum, any Canadian-introduced multilateral measures for supplier restraint will need to reflect Canada's relative position and experience in the global arms trade.

Similarly, Canada has limited scope to move supplier restraint forward unilaterally. Although there are openings for unilateral Canadian initiatives (which will be discussed below), significant constraint in major weapons systems will not occur without the commitment of the largest suppliers, especially the United States, Russia, Germany, Great Britain and France. Moreover, during the current period of declining government spending, most Canadian proposals for constraint will be shaped by government willingness to put some resources behind them. The present fiscal realities suggest that Canadian initiatives will need to be focused, directed to areas where Canada has comparative advantage, and pursued with like-minded partners.

Nevertheless, Canada remains well placed to promote and participate in the elaboration of several measures to constrain conventional proliferation. Canada has a strong commitment to multilateralism and an interest in its ongoing application - former Foreign Affairs Minister Ouellet has spoken of "our view in Canada of the need for frameworks, policies and institutions which limit the scope for unilateralism and tie the world

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[1] Notes for an Address by the Honourable André Ouellet, Minister of Foreign Affairs, to the Conference of the Political Internationals on Human Rights, Ottawa, 25 April 1995, 4.

into rules-based regimes."[1] As outlined in chapter six below, Canada already has demonstrated a commitment to multilateral efforts to restrain arms transfers. It is a member of all supplier regimes aimed at controlling conventional weapons proliferation, and it has shown a willingness to introduce measures to advance multilateral constraint initiatives elsewhere. More specifically, Canada enjoys three specific comparative advantages in this area.

FIGURE 4.11

Canada's Comparative Advantages in Constraining Conventional Proliferation

- Canada is a member of a wide range of multilateral organizations, spanning several major international divides between arms suppliers and recipients
- the Canadian government has been willing to engage non-governmental organizations and representatives of industry as stakeholders in the issue of constraining conventional proliferation
- Canada's own defence production profile gives it special interest in the technological (and dual-use) dimensions of constraint initiatives

First, Canada is a member of a vast range of multilateral organizations, which span several major international divides. In the "new world of multilateralism" it could use these contacts to great advantage. Canadian trade, cultural and political links to recipient nations, through such organizations as the Commonwealth or La Francophonie, suggest that Canada could usefully participate in formulating and promoting demand-side constraints, or measures that bridge the supplier-recipient divide (which is also a North-South one). Membership in several regional bodies, such as the OAS, OSCE and Asia-Pacific forums, offer opportunities for transferring the lessons and experience of constraint measures among regions, or for developing specifically regional models of global measures. Finally, membership in NATO, the OECD and the G-7 gives Canada a forum in which to engage the most important arms producing and exporting states in constraint discussions.[2]

Second, the willingness of the Canadian government to engage non-state participants in ongoing foreign policy debate (through such mechanisms as the 1994 parliamentary review and the annual "National Forum" on foreign policy) presents opportunities to draw on the wealth of academic, industry, and NGO proposals for constraint. Non-state actors have assumed an increasing role in promoting and monitoring such measures as the UN Register of Conventional Arms, the Convention on Certain Conventional Weapons (containing the landmines protocol), and the tracking of light weapons. The linkage between peace-keeping operations and humanitarian relief organizations, or between development assistance programs and post-conflict peace-building efforts, also highlight the increased importance of the government-NGO nexus. There may be

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[1] Notes for an address by the Honourable André Ouellet, Minister of Foreign Affairs, to the International Institute for Strategic Studies, Vancouver, 8 September 1994.

[2] The issues of conventional proliferation, and of linking development assistance to military spending, were raised, for example, at the 1995 Halifax summit of the G-7. Statement by the Honourable André Ouellet, Minister of Foreign Affairs, to a colloquium organized by l'Institut International d'Études Administratives and l'École Nationale d'Administration Publique, Montreal, 13 June 1995.

additional non-governmental avenues for constraint that the Canadian government could encourage through regular dialogue with these actors.

Finally, the nature of Canadian military production and trade suggests that Canada could advance constraint by introducing measures in specific areas that draw upon our domestic experience. For example, a large portion of Canadian production for military end-use falls into the "dual-use" category, with most Canadian defence manufacturers producing and exporting goods for both military and commercial customers. Closer examination of Canadian dual-use trade, that might result in recommendations for measures to enhance controls on the proliferation of dual-use goods, would be a helpful contribution to international constraint action.[1] Bilateral efforts to bolster the export control systems of newly-emerging states (especially in East-Central Europe) should also be continued, and perhaps expanded.

By making use of comparative advantages such as these, Canada can help construct a range of initiatives to control proliferation of conventional weapons. Even Canadian measures that are modest or diffuse would send a signal that Canada is committed to reining in the global arms trade. These initiatives would help meet the security interests of Canada by promoting international cooperation, building stability and preventing conflict abroad.[2]

Summary

From this chapter's discussion of Canadian defence production and trade, it is evident that Canada is neither a major player, nor an insignificant one, in the global arms trade. Rather, Canada finds itself in the "middle of the second tier," facing the same production and export dilemmas as other industrial arms producing states such as Sweden, the Netherlands, Italy, or Spain. The nature of Canada's defence industrial base, national economic considerations and the application of export control is, at best, very complex. From the discussion of Canada's interests and potential involvement in efforts to constrain conventional proliferation, however, it is clear that there is some room for unilateral and multilateral initiatives in this area.

Such initiatives will be sketched in more detail in chapters six and seven. The material in this and the previous chapter, however, provide the basis for understanding the broad ramifications for Canada of efforts to constrain conventional proliferation, efforts that must be based on a careful evaluation of costs and benefits, measured in terms of human development, as well as in fiscal or financial terms.

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[1] According to many Canadian groups, the broader security aspects of the military end-use of dual-purpose equipment are inadequately addressed by Canadian export controls. These groups object to Canadian dual-use equipment sales to military forces with records of human rights violations. See, for example, Inter-Church Committee on Human Rights in Latin America, *Press Release*, "Churches want Canada to stop helicopter deal with Colombian security forces," 31 May 1994.

[2] *Canada in the World*, 25. The government statement refers to "approaches that broaden the response to security issues beyond military options and focus on promoting international cooperation, building stability and on preventing conflict."

V Patterns and Consequences of Conventional Proliferation: Linkages and Evidence

Introduction

To this point, this report has concentrated on the "supply-side" of the conventional proliferation equation, by surveying the policies and practices of the major arms suppliers, and examining in detail Canada's participation in global defence industry and arms trade. One clear implication of the collapse of the arms trade at the end of the Cold War, however, is that conventional proliferation is in large part *demand-driven*. When subsidized weapons are no longer available, or regional conflicts resolved, the most intense marketing efforts of major weapons suppliers cannot maintain the market.

This chapter concentrates on the *consequences* of conventional proliferation, as these were tentatively outlined in the introduction. Before launching into this discussion, a quick snapshot of the recipient side of the equation is in order. This is provided in Figures 5.1 and 5.2, which detail respectively the shifting regional distribution of arms imports since the early 1960s, and the identity of the top ten arms importers in different years.

Figure 5.1 highlights the shift from the dominance of NATO Europe and the former Warsaw Pact as destinations for arms in early Cold War period (together they accounted for 40 percent of global arms imports in 1963-67), to the dominance of the developing world since the late 1960s. The developing world has accounted for three-quarters of the arms imports since 1975; within this, the Middle East has been by far the most important. In the 1980s, for example, the Middle East accounted for almost 40 percent of global arms imports, although it has less than five percent of the world's population! At the end of the 1980s, as can be seen from Figure 5.2, five of the top ten arms recipient states were in the Middle East, and they accounted alone for roughly one-quarter of total sales.

Figures for the period since the end of the Cold War are still too uncertain for a conclusive assessment, especially given the temporary impact of the 1991 Persian Gulf War and the restructurings of armed forces in Eastern and Western Europe (which involves new equipment for some states, and "cascading" of older equipment to others). What is perhaps most significant is that regional shares of imports have dropped relatively dramatically in Africa, Latin America and the states of the former Warsaw Pact, while South and East Asia appear to be increasing in importance. This at least implies that overall economic conditions (for Africa and Asia), and trends in democratization (for Latin America and the former Warsaw Pact) are significant factors affecting arms imports. These points will be returned to later in this chapter.

In general, these tables highlight the importance of the Middle East, South Asia and East Asia as regions of concern. By themselves, however, these tables do not tell us which particular sub-regions or states might be areas of proliferation concern, and they may conceal problems in regions other than the dominant importing ones. Small additional quantities of weapons in particular contexts (such as imports of small arms to Rwanda in the early 1990s) will not register in aggregate figures, but have proved to be very important contributing factors to conflicts.

FIGURE 5.1

Regional Distribution of Arms Imports, 1963-1993 (percentage shares)

	1963-67	1968-72	1973-77	1978-82	1983-87	1988-93	(% popul. 1982)
Africa	4.2	3.6	11.3	18.7	12.3	7.1	(9.8)
East Asia	28.7	34.6	15.6	10.7	11.5	12.7	(35.1)
Latin America	3.1	3.6	4.8	6.8	7.4	5.0	(8.1)
Middle East	9.2	16.6	33.6	37.5	37.8	34.8	(3.1)
South Asia	6.8	4.3	4.0	3.9	7.3	11.3	(20.4)
N. America	3.0	3.5	2.0	1.7	1.5	5.4	(5.6)
Oceania	2.0	1.4	0.9	1.0	1.5	1.5	(0.5)
NATO Europe	20.3	18.3	10.2	8.7	7.4	13.5	(7.1)
Warsaw Pact (former)	19.1	11.2	14.7	8.3	10.4	4.9	(8.2)
Other Europe	3.6	2.7	2.8	2.7	2.4	1.9	(2.0)
Developed	41.7	28.9	25.7	19.5	20.9	23.5	(23.1)
Developing	58.3	71.1	74.3	80.5	79.1	76.5	(76.3)

Derived from: ACDA, *World Military Expenditures and Arms Transfers*, various years.

Note: The last period covers six, not five, years.
Regions are classified as follows:
Oceania: Australia, New Zealand, Fiji, Papua-New Guinea.
Africa: does not include Egypt.
Middle East: Egypt to the Persian Gulf, Iran and Cyprus.
Latin America: Mexico south, all Caribbean states.
North America: Canada and the U.S.
South Asia: Afghanistan, India, Pakistan, Nepal, Bangladesh, Sri Lanka.
East Asia: Mongolia, both Koreas, both Chinas, Japan and from Burma to Indonesia.
Warsaw Pact (former): includes all of the successor states of the Soviet Union.
Other Europe: Albania, Austria, Finland, Ireland, Malta, Spain, Sweden, Switzerland, former Yugoslavia.
Developed: all of NATO, except Greece and Turkey; all of the Warsaw Pact except Bulgaria; Japan, Australia, New Zealand, Finland, Austria, Ireland, Sweden and Switzerland.
Developing: all others.

FIGURE 5.2

Top Ten Arms Recipients, Selected Years (percent of total global arms imports)

	1963		1972		1982		1988		1993
W. Germany	14.6	S. Vietnam	15.4	Iraq	14.8	Iraq	9.5	S. Arabia	23.2
Indonesia	7.4	N. Vietnam	11.6	S. Arabia	6.7	India	6.6	U.S.	6.3
Italy	6.8	W. Germany	6.5	Libya	6.7	S. Arabia	6.2	Egypt	5.0
India	5.8	Egypt	5.3	Syria	5.4	Afghanistan	5.3	Iran	4.6
Egypt	4.7	Iran	5.1	Egypt	4.0	Iran	4.1	Turkey	4.4
E. Germany	4.1	South Korea	3.4	India	3.5	Israel	3.9	Hungary	4.0
Iraq	3.3	E. Germany	3.3	Cuba	3.5	Cuba	3.5	South Korea	4.0
Poland	3.2	Israel	2.9	Iran	3.3	Angola	3.3	Israel	3.9
Soviet Union	2.9	Syria	2.7	Algeria	2.5	Vietnam	3.1	Greece	3.3
S. Vietnam	2.8	Poland	2.5	Israel	2.0	Syria	2.7	Kuwait	3.0
TOTAL	**55.6**		**58.6**		**52.4**		**48.1**		**61.7**

Derived from: United States, Arms Control and Disarmament Agency, *World Military Expenditures and Arms Transfers* (Washington: ACDA, various years).

A final note of caution should be registered. It is clear that the developing world imports the vast bulk of the world's weapons. This, however, is created by the fact that most states in the developed or industrialized world produce their own arms. As a proportion of "total weapons consumption" (including domestic procurement and arms traded between states), the developing world would only account for approximately 15-20 percent.[1] Most of the weapons are still produced and consumed in the industrialized world. Hence efforts to constrain conventional proliferation that are *not* coupled with concomitant efforts to address the overall question of arms proliferation and acquisitions are certain to be regarded as discriminatory.

The Consequences of Conventional Proliferation

The rest of this chapter discusses the possible *consequences* of arms acquisitions on conflict, security and development in recipient states. How one defines what consequences are important, however, depends entirely on what one thinks is encompassed by the term "security." In addition to the traditional concern with inter-state conflicts and wars, chapter two argued that our conception of security now encompasses "freedom from a wide array of challenges" including various "non-traditional threats...that transcend political borders and affect whole regions or even the globe."[2] For our purposes, there are three elements of the new security agenda that are of particular importance:

- the increased "regionalization" of conflicts;
- the increased focus on the internal dimension of security, manifest in greater concern over ethnic conflicts, protection of minority (and broader human) rights, democratization and good governance;
- the increased attention being devoted to the economic and social dimensions of security.

As will be made clear throughout this chapter, this expanded conception of security enlarges the justifications that should be offered for constraining conventional proliferation, as a larger set of consequences of conventional proliferation can be analyzed. Obviously, arms acquisitions are merely a small element in the processing of achieving security, and are only one aspect of the complex process by which institutions, ideas and instruments for defining and achieving "security" are developed and diffused within and between states. But to say that weapons transfers are only one element does not diminish their importance. One goal of this chapter is to assess more precisely what role armaments might play in, to discuss what impact constraining conventional proliferation might have on, and to identify particular measures (or points of intervention) that could contribute to, the quest to achieve security in all its dimensions.

The three elements of the new security agenda highlighted above mesh nicely with the three possible consequences of conventional proliferation that were identified in the introduction:

- Arms transfers fuel regional inter-state arms races and military expenditures, and lead to increased conflict and even war;
- Arms transfers can exacerbate internal conflicts, thwart progress towards democratization and good governance, and serve to entrench authoritarian rule;
- Arms acquisitions and military expenditures consume scarce resources that could be devoted to social and economic development.

Each of these sets of consequences has been argued as a justification for constraining conventional proliferation, and each generates different policy prescriptions. This discussion will highlight the strengths

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[1] This assumes that total global arms production is around $200 billion, and that the developing world imported $17 billion and produced about $10 billion in weapons. These are rough estimates only.

[2] Government of Canada, *Canada in the World* (Ottawa: Government of Canada, 1995), 3.

and weaknesses of each argument, and provide a foundation for the tripartite set of policy recommendations developed below.

To foreshadow the conclusions, a broader approach to the consequences of conventional proliferation reveals that each of the three different sets of policy problems requires different kinds of multilateral and unilateral policy approaches:

- The problem of conventional proliferation and interstate conflict must be tackled with measures that deal with major weapons systems and military technologies, and concentrate on arms control, transparency, and confidence-building;
- The problem of good governance and internal conflict must be tackled with measures that deal with light weapons, and concentrate on micro-disarmament, demilitarization, conflict resolution, and post-conflict peace-building.
- The problem of the impact of arms acquisitions and military spending on social and economic development must be tackled through international development assistance policies (bilateral and multilateral), and through strategies that build governmental capacities and promote civil society.

This chapter will not, however, discuss in detail the wide range of measures for constraining conventional proliferation that flow from this diagnosis. It will, however, note many of them in passing, since they will be dealt with in more detail in subsequent chapters.

Conventional Proliferation, Conflict and War

The argument that conventional proliferation can be linked directly to regional conflicts and war, especially in the developing world, has received the most policy attention to date, as highlighted for example by the 1991-92 discussions of the Permanent Five members of the Security Council, or the earlier American-Soviet Conventional Arms Transfer Talks (CATT). Regional actors' perceptions of security threats are in part determined by the military capabilities of neighbouring states, and arms acquisition are a concrete response to these threats.[1] Although the inter-state "security dilemma" also rests on subjective perceptions of intentions, its acuteness is tied to the military potential of possible opponents. Prominent examples of regional conflicts (other than the Cold War) that appear to have been dominated by a such an "armament dynamic" would be the Arab-Israeli conflict, the Persian Gulf (since the early 1970s), the China-India-Pakistan conflict, the Ethiopia-Somalia conflict, and several lesser regional conflicts throughout Africa and Asia.

There are, however, strong and weak versions of the relationship between conventional proliferation and conflict. The strong version argues that there is a *direct causal link* between armaments and conflicts, such that increased levels of armaments (or a more rapid rate of acquisition) can exacerbate insecurities and/or increase the potential for misperception to lead to war. This relationship has been called the *spiral model* of conflict.[2] The weak version, the *tinderbox model*, argues that the exact causal relationship between armaments and conflict is irrelevant: "arms races do not necessarily cause wars, but they do create an inflammable

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[1] Barry Buzan, *People, States and Fear*, second edition (London: Harvester Wheatsheaf, 1991), 187-195.

[2] As Robert Jervis notes, "the spiral model of conflict sees the [resulting] action-reaction dynamic as accelerated by each side's inability to understand the other or to see how the other is interpreting its own behaviour. These processes generate and magnify conflict, leading to unnecessary wars." "Arms Control, Stability and Causes of War," *Political Science Quarterly*, 108:2 (Summer 1993), 244.

situation between the racing nations where even the slightest spark can push a blaze to war."[3] Both of these models were elaborated in the shadow of the East-West nuclear confrontation, and focused mostly on the potential for a slide to major conventional or nuclear war.

Not surprisingly, both the strong and weak formulations suffer from problems. First, there is little empirical support for the spiral model of arms races and war. Most studies that test it attempt to demonstrate either that arms transfers to one side in a conflict lead to a regional arms race as other participants in the conflict respond; or that arms transfers to any party in a regional conflict zone are correlated with the onset of conflict and war. Anecdotal evidence is mainly drawn from the Middle East, where the seven major and minor regional wars since 1948 have been accompanied by massive arms acquisitions, especially in the 1970s and 1980s. The snapshot of the top ten arms in different years that was provided in Figure 5.2 also seems to support this claim: beginning in the early 1970s, more than half of the states in the top ten recipients were involved in a war (or a significant regional conflict), during or soon after the period in question.

The most clear cases would seem to be Egypt-Israel in the period before the 1973 war, and the conflict between Syria and the Palestinians and Israel that erupted into war in Lebanon in the early 1980s. But in other cases, such as the 1967 Arab-Israeli war, or the 1980-1988 Iran-Iraq war, or even the Iraqi invasion of Kuwait, no clear evidence of "arms racing" behaviour exists. On the other hand, a clear pattern of arms build-up by *one side* in the conflict (Iran before 1980, Iraq before 1990, Egypt before 1973) does seem to exist, and has often justified countervailing arms transfers. This highlights the importance of the recent emphasis in various multilateral forums on determining "excessive and destabilizing" arms build-ups, even (and perhaps especially) in the absence of a regional arms race. Further work needs to be done to promote consensus on the way in which excessive and destabilizing accumulations of weapons can be identified by the international community.

Once one goes outside of the Middle East, however, the evidence for a link between arms acquisitions and conflict becomes completely inconclusive. The obvious counter-example is the recent high levels of arms acquisitions in East and South-East Asia which, although worrying, have not resulted in any direct increase in inter-state conflict, and which appear more connected to the increasing wealth and economic development in the region, to military modernization and procurement cycles, or to the diminished American regional presence.[2] Although "there has clearly been an arms build-up in Asia Pacific over the last decade," as measured by both defence spending and the size and sophistication of arsenals, there is almost no evidence that this process has been driven by competitive reciprocal inter-state arms races.[3]

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[1] James Morrow, "A Twist of Truth: A Reexamination of the Effects of Arms Races on the Occurrence of War," *Journal of Conflict Resolution*, 33 (September 1989), 502. For a review of this literature, see Randall Siverson and Paul Diehl, "Arms Races, the Conflict Spiral, and the Onset of War," in Magnus Midlarsky, ed., *The Handbook of War Studies* (Boston: Allen & Unwin, 1990).

[2] On Asian weapons acquisitions see Desmond Ball, "Arms and Affluence: Military Acquisitions in the Asia-Pacific Region," *International Security*, 18:3 (Winter 1993/94), 78-112; Michael Klare, "The Next Great Arms Race," *Foreign Affairs*, 72:3 (Summer 1993), 136-152.

[3] For an excellent overview, see Shannon Selin, *Asia Pacific Arms Buildups* parts one ("Scope, Causes and Problems") and two ("Prospects for Control"), working papers 6 and 7 (Vancouver: Institute of International Relations, UBC, 1994).

The implication is that there is no *necessary* relationship between conventional proliferation, arms races and wars.[4] Such relationships as do exist seem to depend on other factors, such as the presence of risk-taking leaders, territorial disputes, the existence of cross-border minorities, or internal unrest. Until we have a better understanding of what early warning indicators or danger signs act together with conventional proliferation to increase the risk of war, we do not have a useful guide to policy-making. Hence policies to constrain conventional proliferation that rest upon the identification of regional arms races might be misguided and even counter-productive: some arms buildups can stabilize a regional conflict, and perhaps by increasing the cost of war even deter aggression.

More pertinently, without a better understanding of the relationship between arms transfers and conflict, one cannot dispense with the argument (often heard with respect to Middle Eastern arms sales) that "our transfers will restore/maintain a regional military balance." This is especially important, since the entire discussion in the United Nations (and elsewhere) surrounding "excessive and destabilizing transfers" is based on an assumption that the international community, or particular groups of supplier states, can ultimately come to agreement on what distinguishes excessive and destabilizing transfers from those that are not.

Even if conventional proliferation does not increase the occurrence or risk of inter-state war, there are still three related arguments for constraining certain aspects of the conventional proliferation process.

First, increasingly sophisticated armaments have intensified the destructiveness of regional wars, even if they have not caused them. The annual number of war-related deaths, which reached more than 500,000 in 1992, has risen more or less steadily since the mid-1950s.[2] A range of restrictions on the transfer of exceptionally destructive or particularly destabilizing weapons (such as missiles that could strike populations centres in neighbouring states, or that provide an incentive for preemption, or that are indiscrimately destructive) should be promoted.

Second, subsidized weapons transfers (either via military assistance, direct price subsidies, or offset agreements) lowered the "opportunity cost" of participating in arms races or wars. When new weapons could be obtained (and destroyed weapons replaced) at low (or no) cost, and superpower support in the conflict could be counted upon, incentives to pursue cooperative solutions to regional conflicts were reduced. Relatedly, continued attempts to reach stable military balances at ever-higher levels of armaments (especially in the Middle East) exacerbated the suspicions that make efforts to transform or resolve regional conflicts more difficult. During the Cold War, the leaders of even relatively poor states such as Somalia, Ethiopia, Nicaragua or Syria were able to become regional military powers or fight major wars, with weapons arsenals far exceeding their economic resources that were obtained almost entirely through superpower patronage.[3] Hence the practice of subsidizing or offsetting weapons sales should be curtailed, as a contribution to encouraging less violent resolutions to regional conflicts.

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[1] See David Kinsella, "Conflict in Context: Arms Transfers and Third World Rivalries during the Cold War," *American Journal of Political Science*, 38:3 (August 1994, 557-581; Ronald Sherwin, "Controlling Instability and Conflict through Arms Transfers: Testing a Policy Assumption," *International Interactions*, 10 (1983), 65-99; Michael Wallace, "Armaments and Escalation: Two Competing Hypotheses," *International Studies Quarterly*, 26 (March 1982), 37-51; Paul Diehl, "Arms Races and Escalation: A Closer Look," *Journal of Peace Research*, 20:3 (1983), 205-212.

[2] Ruth Leger Sivard, *World Military and Social Expenditures* (Washington: World Priorities, 1993), 20.

[3] A.F. Mullins, *Born Arming: Development and Military Power in New States* (Stanford: Stanford University Press, 1987), 107-8.

Finally, even if unconstrained conventional proliferation does not exacerbate inter-state conflicts at all, it supplies the weapons that are used in internal conflict and civil wars. The next section of this report deals with this question in detail.

Conventional Proliferation, Internal Conflict, Democratization and Good Governance

Defence and security policies (and the proliferation of conventional armaments that accompanies them) are not solely responses to regional conflicts and threats.[1] In many parts of the developing world, insecurity also stems from weak regimes that have a narrow base of political support, or from the low legitimacy of the state itself. The result is often what is now called (somewhat misleadingly) "ethnic conflict": the often violent strife that occurs within states between different religious, racial, linguistic, cultural, tribal or status groups, over control of the state or its resources, and over protection or promotion of minority rights and status.

The flow of weapons to ethnic conflicts has been poorly captured by existing measures, and seldom analyzed as a contributing cause of these conflicts.[2] Yet of the 30 or so major conflicts currently in progress (see the map in chapter two), "all but four are being fought almost entirely with small and light armaments, mostly the cheapest and least advanced kinds."[3] The wars in Rwanda, the former Yugoslavia, Cambodia, Somalia, Angola, and elsewhere, and even several traditional inter-state conflicts such as the Afghan war, were mostly fought with light weapons.[4]

Of course, it should be acknowledged that violent ethnic conflicts are not new: more than three-quarters of all warfare since 1945 has been intra-state, not between states, and the majority of the more than 20 million war-related deaths since 1945 have been from such conflicts. What is different, however, is that these conflicts are now near the top of the international security agenda, because of their human cost and their spill-over effects (refugee flows and economic and social dislocation). Concerted multilateral responses (usually through the United Nations) have become commonplace, if not always effective.

The deep historical, social and cultural roots of these conflicts means that conventional proliferation and the easy availability of weapons are only a contributing factor to ethnic wars. The most important factors contributing to ethnic conflict are the absence of institutional protection for the rights of different social groups; the strength of ascriptive identities (tribal, racial, linguistic or religious group membership) that

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[1] For analysis of the security problematic in the developing world see Mohammed Ayoob, *The Third World Security Predicament: State-Making, Regional Conflict and the International System* (Boulder: Lynne Reinner, 1995); Edward Azar and Chung-In Moon, eds., *National Security in the Third World* (Aldershot: Edward Elgar, 1988); Yezid Sayigh, *Confronting the 1990s: Security in the Developing Countries*, Adelphi Paper 251 (London: International Institute for Strategic Studies, 1990).

[2] See John Sislin and Frederic Pearson, "Arms Transfers and Ethnic Conflict," paper presented at the annual meeting of the International Studies Association, Chicago, February 1995. For one attempt to analyze such conflicts in terms of such factors as the balance of offensive and defensive military technologies, see Barry Posen, "The Security Dilemma and Ethnic Conflict," *Survival*, 35:1 (Spring 1993), 27-47.

[3] Aaron Karp, "Arming Ethnic Conflict," *Arms Control Today* (September 1993), 8-13. See also Swadesh Rana, "Small Arms and Intra-State Conflicts," paper prepared for the United Nations Institute for Disarmament Research, 1994. One comprehensive study lists 63 ongoing ethnic conflicts (not wars) in 1992-1993. Ted Robert Gurr and Barbara Harff, *Ethnic Conflict in World Politics* (Boulder: Westview Press, 1994).

[4] On Rwanda see Stephen D. Goose and Frank Smyth, "Arming Genocide in Rwanda," *Foreign Affairs* (September/October 1994), 86-96.

overwhelm more complex and cross-cutting identity patterns; and the breakdown or absence of the conflict resolution processes that we associate with "strong" states.[1]

This does not mean, however, that conventional proliferation and access to arms plays no role at all. The evidence suggests that access to arms plays a role in the *initiation* or outbreak of war and violence, that it can prolong these struggles, and that the availability of weapons (and presence of large arsenals) deters third-party intervention to resolve or contain these conflicts.[2] This last finding has strong implications for the future of multilateral peacekeeping or peace-enforcement operations, especially since 13 of the 21 peacekeeping operations established since 1988 (and 9 of the 11 established since January 1992) have dealt with intra-state or internal conflicts. If UN or multilateral forces face larger and more sophisticated arsenals, their ability to broker a settlement, or the willingness of states to contribute to these operations, will be extremely limited. The war in the former Yugoslavia would seem to underscore this point.[3]

The short-term policy prescription that flows from this is that governments need to address the flow of light and small weapons to ethnic conflict zones, whether or not these have yet erupted into violence. In the long term, they also need to address some of the factors that represent the underlying causes of such conflicts. Conventional proliferation plays a role here too, but a more complex one that needs to be untangled. As one recent study notes, "the proliferation and use of light weapons and small arms in societies around the world can be seen as symptomatic of deeper problems in the fabric of these societies."[4] This impact is manifest in two ways: through the undermining of political and social institutions, and through the creation and perpetuation of a culture of violence.

First, the easy availability of weapons can thwart the development of strong, representative and independent social and political institutions in civil society by accelerating political anarchy and the undermining of state authority. Without strong societal institutions, social conflict (whether rooted in economic deprivation or other circumstances) is endemic, and the potential for reducing insecurity through political dialogue and compromise is limited.

The onus of responsibility for the outbreak of violence can rest on either "side" in an internal conflict. Effortless access to arms can move the grievances of various groups in society quickly to violence and terror, and to attacks on state institutions (one thinks here of the terrorist activities of such groups as Sendero Luminoso in Peru). On the other side, the most immediate method by which regimes have secured themselves against internal threats has been to tighten their control over the armed forces, and through this, over society (one thinks of the many African coups d'état). In many states the military has emerged as a significant prop of the state, existing in a symbiotic relationship with the ruling elite (sometimes ruling itself, sometimes acting as the "power behind the throne"). A tragic example of this spiral of violence is provided by the civil

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[1] See Donald Horowitz, *Ethnic Groups in Conflict* (Berkeley: University of California Press, 1985); Charles Maynes, "Containing Ethnic Conflict," *Foreign Policy*, 90 (Spring 1993).

[2] Sislin and Pearson. Most of the data they use for this study is, however, extremely tentative. Somewhat surprisingly, there does not appear to be any relationship between access to arms and the destructiveness of the conflict (lives lost), or between the escalation of an ethnic conflict and increased arms imports.

[3] Hugh Beach, "Peacekeeping and Weapons Proliferation," *Occasional Paper*, Centre for Defence Studies, King's College, London (1994). Figures from Secretary-General, *Supplement to An Agenda for Peace*, S/1995/1 (3 January 1995), paragraph 11.

[4] Christopher Louise, "The Social Impacts of Light Weapons Availability and Proliferation," *Discussion paper 59*, United Nations Research Institute for Social Development (March 1995), 2.

war in Algeria, which has to date claimed at least 35,000 lives.[1] Regardless of which quarter the violence emerges from, democratic and representative institutions and basic human rights are always the victims.

One piece of evidence for this is the apparent link between conventional proliferation, military rule or coups d'états, and social conflict. One recent study "suggests that arms transfers facilitate the occurrence of coup d'état...lengthens the period of military rule...[and] indicates that large-scale deaths from political violence might be the result rather than the cause of military rule."[2] This relationship may persist, even though the military has retreated from direct political control in many states. As Nicole Ball has noted, it is a mistake to assume that the "return to the barracks" has subordinated the armed forces to civilian control:

> most Third World armed forces have not supported the growth of participatory forms of government...rather they have become important both as mediators between different elite groups...and as guarantors of elite-dominated political and economic systems."[3]

The increasing threat of violence in daily life has only accelerated this trend, as those in power turn to the armed forces, urban mafias or private security forces, to shelter and protect them. This phenomena is clearly evident in South Africa, Pakistan, Russia and the states of the former Soviet Union, Colombia, Peru and elsewhere.

Second, the creation of a culture and environment of violence can have political and social consequences by increasing the overall level of societal "militarization" and threatening basic human rights.[4] In the absence of other societal institutions capable of commanding loyalty from the citizens, the armed forces, and their concomitant modern techniques of surveillance and social control, became the most prominent tools of statecraft. They represent a tremendous reservoir of political power that can be captured by particular groups within a state that have no interest in creating a broader social consensus for rule, and which rule by terror and force. As one recent report has pointed out, of 61 governments identified as military-controlled, *all but three* violated citizens' rights, including in most cases through extreme measures such as torture, political killings and disappearances.[5]

Especially in states with weak "national" identities, religious, ethnic, racial or cultural minorities can, by dominating or controlling the institutions of violence, entrench their positions and thwart the emergence of more pluralist or representative politics. Excellent examples of this are provided by Iraq and Syria. The highly-armed security apparatuses are controlled by minority groups (Tikritis in Iraq, Alawis in Syria) and are among the most repressive in the world. The recent history of Nigeria also illustrates this problem.[6] Obviously, other economic and social forces contribute to the creation and perpetuation of authoritarian rule,

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[1] Bruno Callies de Salies, "De la Crise à la Guerre Civile," *Les Cahiers de l'Orient*, 36/37 (1994-1995), 45-59. Some estimates go as high as 50,000.

[2] Talukder Maniruzzaman, "Arms Transfers, Military Coups and Military Rule in Developing States," *Journal of Conflict Resolution*, 36:4 (December 1992), 733-755.

[3] Nicole Ball, *Security and Economy in the Third World* (Princeton: Princeton University Press, 1988), 391.

[4] For an analysis of the link between militarism and arms transfers, see Michael Brzoska, "Current Trends in Arms Transfers," in Saadet Deger and Robert West, *Defence, Security and Development* (New York: St. Martin's Press, 1987), 164. For a discussion of the definitional difficulties with the term "militarization" see Andrew Ross, "Dimensions of Militarization in the Third World," *Armed Forces and Society*, 13:4 (Summer 1987), 561-578.

[5] Sivard, 22. Among Third World countries *not* controlled by the military, the situation was much less bad.

[6] "The Nigerian Tragedy," *International Herald Tribune*, 22-23 July 1995.

but "political violence...is central to the longevity of these regimes...once established these [coercive] institutions may assume an independent internal dynamic."[1]

The major difficulty from the policy-formulation perspective, however, is that comparative indices of "militarization" do not present a clear picture. Figure 5.3, which presents cross-regional comparative military indicators such as military expenditures as a percentage of GNP or central government expenditures (CGE), or the number of soldiers per thousand population, illustrates the problem. One cannot find a pattern of wholesale global or regional militarization, and regions vary widely in their military expenditure levels, size of their arsenals, and relative economic burden and societal "weight" of the armed forces. Although this data does not highlight differences within regions and the important role of particular states (such as South Africa, Egypt and India), it does depict the great differences that exist between regions, and suggests that solutions, if any, must be found at the regional level.

Central America and the Caribbean, for example, has relatively low levels of military expenditure (as a percentage of GNP), but large numbers of soldiers (per thousand population) and has a long history of military and authoritarian rule (as has much of Latin America).[2] Africa (especially sub-Saharan Africa) ranks low on most indices, but many African states have a post-colonial history of authoritarianism, and the dire economic situation of much of the continent may make even these levels of spending excessive relative to other more pressing social needs. Only the Middle East ranks high on almost all indicators, but it should be noted that in terms of spending per capita, it remains far below the levels that existed between the two opposing blocs during the Cold War. On measures such as military spending as a percentage of government expenditures, or the number of soldiers per thousand population, North America and Western and Eastern Europe still rank rather high. Once again, this underlines the fact that measures to constrain conventional proliferation, especially if broadly conceived, must be part of a broader policy that is not seen as exclusively directed against the South. Finally, these figures also strongly suggest that the relationships between armaments and conflict must include other military, economic and social factors, if only because the weapons by themselves cannot be said to *do* or *cause* anything!

There are a range of possible measures to address this dimension of conventional proliferation. The two most prominent focus on the promotion of "good governance," and micro-disarmament. "Good governance" has been defined by the World Bank as "the manner in which power is exercised in the management of a country's economic and social resources for development," and it draws attention to the role of institutions of organized violence in political life.[3] Promotion of good governance, however, has mostly concentrated on military spending in general, rather than just on armaments, and it will be dealt with in the next section. "Micro-disarmament, as defined by the UN Secretary-General, refers to "practical disarmament in the context of the conflicts the United Nations is actually dealing with and of the weapons, most of them light weapons, that

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[1] Jill Crystal, "Authoritarianism and its Adversaries in the Arab World," *World Politics*, 46:2 (January 1994), 267, 282.

[2] For an excellent survey of recent changes in military expenditures, see Patrice Franko-Jones, ""De Facto Demilitarization: Budget-Driven Downsizing in Latin America," *Journal of Interamerican Studies and World Affairs*, 36:1 (Spring 1994), 37-74.

[3] See World Bank, *Governance and Development* (Washington, D.C.: IBRD, 1992), 58. The OECD Development Assistance Committee uses the term to cover a range of issues associated with participatory development, respect for human rights, transparency in decision-making and democratization.

FIGURE 5.3

Selected Military Indicators, by Region, 1993

	Milex (000 SU.S.)	Milex/GNP (percent)	Milex/ capita (SU.S.)	Armed forces (000's)	Popul. (millions)	Milex/CGE (percent)	Soldiers/ thousand
Africa	11,500	3.1	19	1,558	617.7	10.1	2.5
South America	14,800	1.4	48	913	309.6	7.3	2.9
Cent. America and Caribbean	1,000	1.3	17	356	60.4	5.3	5.9
Middle East	49,000	9.0	241	2,448	203.5	24.9	12.0
East Asia	140,000	1.9	75	7,813	1,870.6	11.2	4.2
South Asia	12,700	3.7	10	2,059	1,208.7	19.5	1.7
Central Asia	2,500	1.3	35	247	70.4	3.8	3.5
North America	309,600	4.3	822	2,066	376.4	18.5	5.5
Oceania	8,200	2.5	315	88	26.1	8.9	3.4
Western Europe	185,300	2.6	418	3,195	443.4	6.1	7.2
Eastern Europe	133,900	8.3	385	3,864	347.6	16.0	11.1
Developed	647,600	3.4	630	7,041	1,028.5	11.2	6.8
Developing	220,800	3.1	49	17,570	4,505.9	12.6	3.9
WORLD	**868,400**	**3.3**	**157**	**24,610**	**5,534.4**	**11.5**	**4.4**

Source: U.S. ACDA, *World Military Expenditures and Arms Transfers, 1993-1994* (Washington: ACDA, 1995), 43-48.

are actually killing people in the hundreds of thousands."[1] It has focused on post-conflict disarmament measures, but could (and should) be supplemented by preventive measures designed to address arms buildups before a war occurs.

Conventional Proliferation, Social Welfare and Economic Development

The negative consequences of conventional proliferation and military spending on economic and social development have become a prominent concern of policy makers, especially in the development community. Before 1989, the division between the development and security sectors had been virtually sacrosanct, in large part due to the assertion of the sovereign prerogatives of states to determine their security needs. Today, however, the International Monetary Fund, World Bank, Organization for Economic Cooperation and Development (OECD), and major donor states such as Canada, Japan, Germany, the Netherlands and the Nordic states have begun to push this linkage.[2] There is, however, still no consensus on the best way to pursue this goal; indeed, even upon the nature of the problem that is being addressed.

The simplest form of the argument is the static *displacement effect*: it argues that arms acquisitions consume scarce resources that could otherwise be devoted to social welfare spending, such as health care, education or basic services. While superficially attractive, however, evidence for a displacement effect is difficult to find, and there appears to be no straightforward relationship between levels of armaments and social welfare spending. Many countries with extremely high levels of spending on armaments (such as Saudi Arabia or the United Arab Emirates) also have relatively high levels of spending on education and health care, and vice versa (Columbia and Mexico).[3]

Equally complex is any *dynamic* relationship between economic development (broadly defined) and conventional proliferation. Here the argument is that arms spending consumes scarce foreign exchange that could otherwise be invested in more productive imports that have development spin-offs for the entire economy. Arms spending, it is argued, seldom has any local "multiplier effect," creates few jobs, and provides low levels of relative stimulus to the economy. Again, there is little evidence for so direct a relationship, especially since one must acknowledge that there is no easy way to define an "acceptable" level of arms imports for any particular state - this must depend on its regional threat environment, its overall level of economic development, and so forth.

It is a mistake, however, to focus directly on *armaments* as the key element of security policy that is "traded off" against development or social welfare, since spending on weapons is only a small part of the resources devoted to the military expenditure. As Nicole Ball points out:

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[1] Boutros Boutros-Ghali, *Supplement to An Agenda for Peace: Position Paper of the Secretary-General on the Occasion of the Fiftieth Anniversary of the United Nations*, S/1995/1 (3 January 1995), paragraph 60. The disarmament of warring parties as part of conflict settlement processes is also the subject of a major ongoing UNIDIR study.

[2] Stockholm International Peace Research Institute, *Yearbook 1994* (Oxford: Oxford University Press, 1994), 449-453.

[3] Saudi Arabia and the UAE rank two and three in arms imports per capita; 24 and 27 in health care spending per capita; 28 and 29 in education expenditures per capita. Columbia and Mexico rank 93 and 101 in arms imports per capita; 82 and 97 in health care spending per capita; 79 and 63 in education expenditures per capita. Sivard, 46-47.

> In the public mind, security expenditure in the Third World is firmly linked with the arms trade. It is commonly assumed that a large portion of all developing countries' security outlays are used to purchase weapons and related services from abroad.[4]

Yet the bulk of military spending in most states (especially in the developing world) goes to operating and personnel costs, not on arms procurement. In India, for example, the proportion of the military budget devoted to personnel, operations and maintenance over the period from 1951 to 1979 was always greater than 80 percent (although it slowly declined over this period). In states as diverse as Ghana, Malaysia, the Philippines, Morocco, Argentina, Brazil and Chile, operating costs have generally accounted for more than two-thirds of military spending.[2] What this implies is that levels of arms acquisitions are derived from and dependent upon overall levels of military spending, and that conventional proliferation might therefore be indirectly (and perhaps more easily) constrained by reductions in military expenditures.

The general relationship between arms acquisitions and military expenditures is confirmed by Figure 5.4, which charts arms transfers against military spending for the period from 1963 to 1993.[3] Although there is not an exact fit, the two curves track each other closely, with arms transfers manifesting somewhat greater fluctuations from year to year. But the link between the two is clear, with increases in arms transfers (in the 1971-73 and 1975-84 periods) following, perhaps with a slight lag, after increases in military spending (1969-72 and 1976-78). The slight reduction in the 1973-74 period, and the great one in the post-1987 period, also track well, with arms transfers falling even more rapidly than military spending in recent years. These figures suggest that overall levels of military spending place an "absolute" limit on the pace of conventional proliferation, since some sort of long-term balance between procurement and other spending must be maintained. Obviously, these figures need not track as closely in particular states or regions.

As these figures suggest, conventional proliferation is a proxy for a deeper relationship between levels of military expenditures and social and economic development. In fact, the process of conventional proliferation may be driven by a more complex process that has increased the military's claim on national resources and distorted economic, social and developmental priorities.[4]

There have been two general attempts to uncover a negative relationship between military expenditures, economic growth and development. The first addresses a possible linkage between military spending and economic growth. Efforts to test for a relationship between military expenditures and development have, however, been notoriously intractable. One comprehensive recent survey discusses the findings, strengths and shortcomings of the many studies that have attempted to link military expenditure to development, and concludes that:

> the considerable variations in the ways in which Third World economies actually function and in their potential for development, as well as differences in the size and nature of the

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[1] Ball, *Security and Economy*, 107.

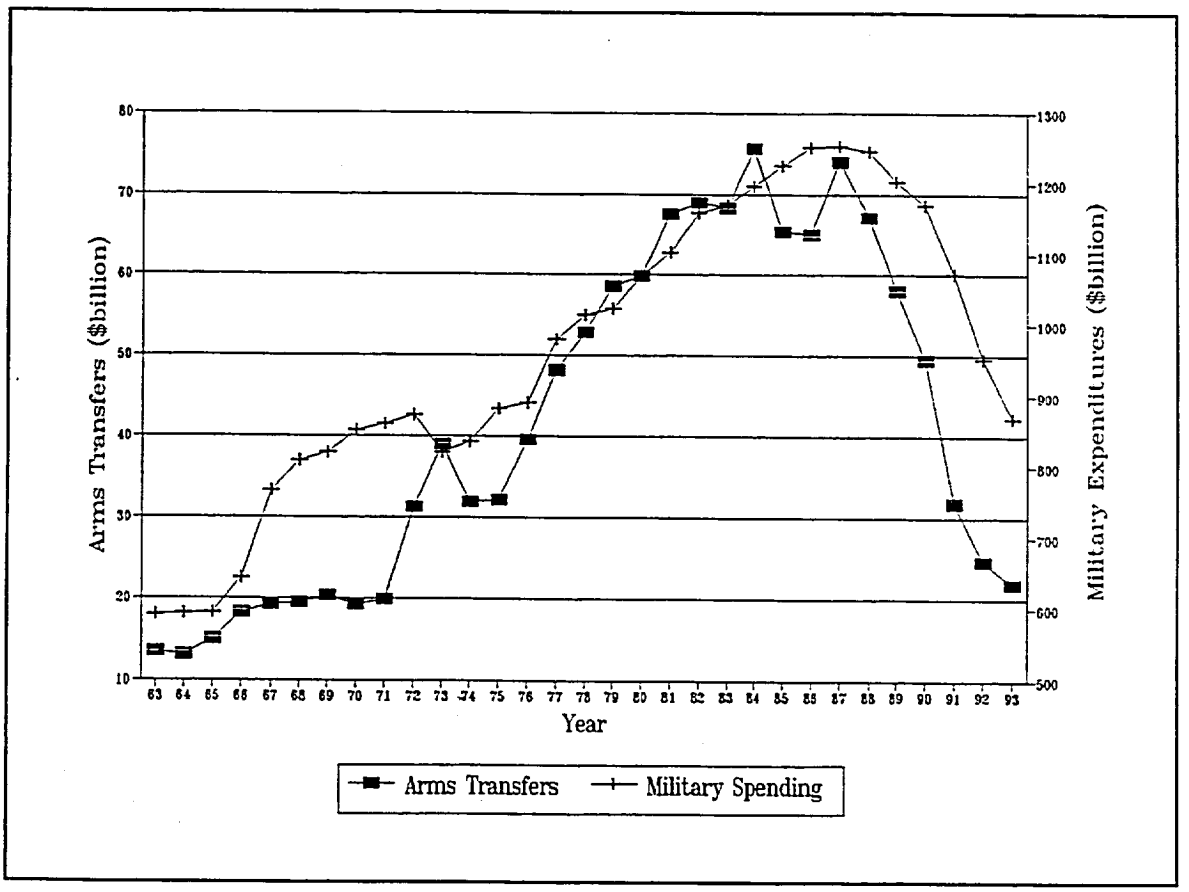
[2] *Ibid.*, 396-402. Prominent exceptions to this pattern from among those states for whom reliable information is available were Iran under the Shah (31 percent) and Nigeria (46 percent).

[3] Note, however, that this figure omits the percentage of demand for arms that is satisfied domestically; if all states produced their own weapons, there would be no arms trade at all!

[4] See, for an overview, Steve Chan, "The impact of defense spending on economic performance: a survey of evidence and problems," *Orbis*, 29:2 (Summer 1985), 403-33; Saadet Deger, *Military Expenditure in Third World Countries: The Economic Effects* (London: Routledge and Kegan Paul, 1986).

FIGURE 5.4

Arms Transfers and Military Expenditures, 1963-93



Derived from: United States Arms Control and Disarmament Agency, *World Military Expenditures and Arms Transfers* (Washington: ACDA, various years).

> security outlays of individual countries, greatly reduce the likelihood that one pattern could be discovered to describe the situation in all developing countries at all times.[1]

The second argues that there is another displacement effect, this time between military spending and spending on social welfare, with poorer states spending a disproportionate amount on defence. Again, however, *grosso modo* there is no clear relationship. Figure 5.5 charts military expenditures as a percentage of GNP against states' rankings on the UNDP Human Development Index for more than 140 states. The Human Development Index is a composite measure that combines indicators for life expectancy, education levels and income, and it provides a broad gauge of social welfare.[2] Each bar represents a state, and they are arranged from the highest ranking on the left (which in 1994 was held by Canada), to the lowest for which data was available (Guinea). It demonstrates (in a static way) that there is no obvious relationship between high levels of military spending and low levels of human development: if there were such a relationship, taller bars would be more prominent as one moved to the right of the table. Yet neither poorer nor richer states as a whole seem to spend a disproportionate percentage of GNP on defence.

The figure has also labelled all those states that spent more than eight percent of their GNP on defence. A quick glance at their identity suggests that levels of military spending are in part determined by the presence or historical experience of intense regional conflicts or wars. Eight of the sixteen states labelled are in the Middle East; four others (Angola, Ethiopia, Mozambique, Nicaragua) have just emerged from major wars (and their military spending may have subsequently been declining). The remaining four (Russia, Cuba, Brunei, Zimbabwe) are scattered on four continents, and have very different explanations for their high levels of spending. Many more states are captured by six percent or four percent thresholds, but here too there is no obvious pattern to their distribution, either in terms of geographical regions, or level of wealth.

Although it is notoriously difficult to define "excessive" military spending, one thing should be clear from the figures presented. With a number of prominent exceptions (regional conflict zones) there is little evidence to suggest that the threat environment faced by the overwhelming majority of states is as dangerous as levels of military spending and arms acquisitions would *prima facie* suggest. Thirty-eight states spend more than four percent of GNP on the armed forces; fully 95 percent of these are in the developing world.[3] And as one study of 46 "new" states shows, "there is no evidence that [these] states are arming themselves in response to external considerations [ie: regional threats]." The size of their economies and relationships with superpowers (especially the former Soviet Union) appear to have been the most powerful factors explaining their level of military capability.[4] Insofar as future military spending levels are based on levels of wealth, or relationships with external patrons, or past levels of spending, this suggests that policy solutions must be calibrated to long-term solutions, not quick-fixes.

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[1] Ball, Security and Economy, 390, 123-157, 405-408.

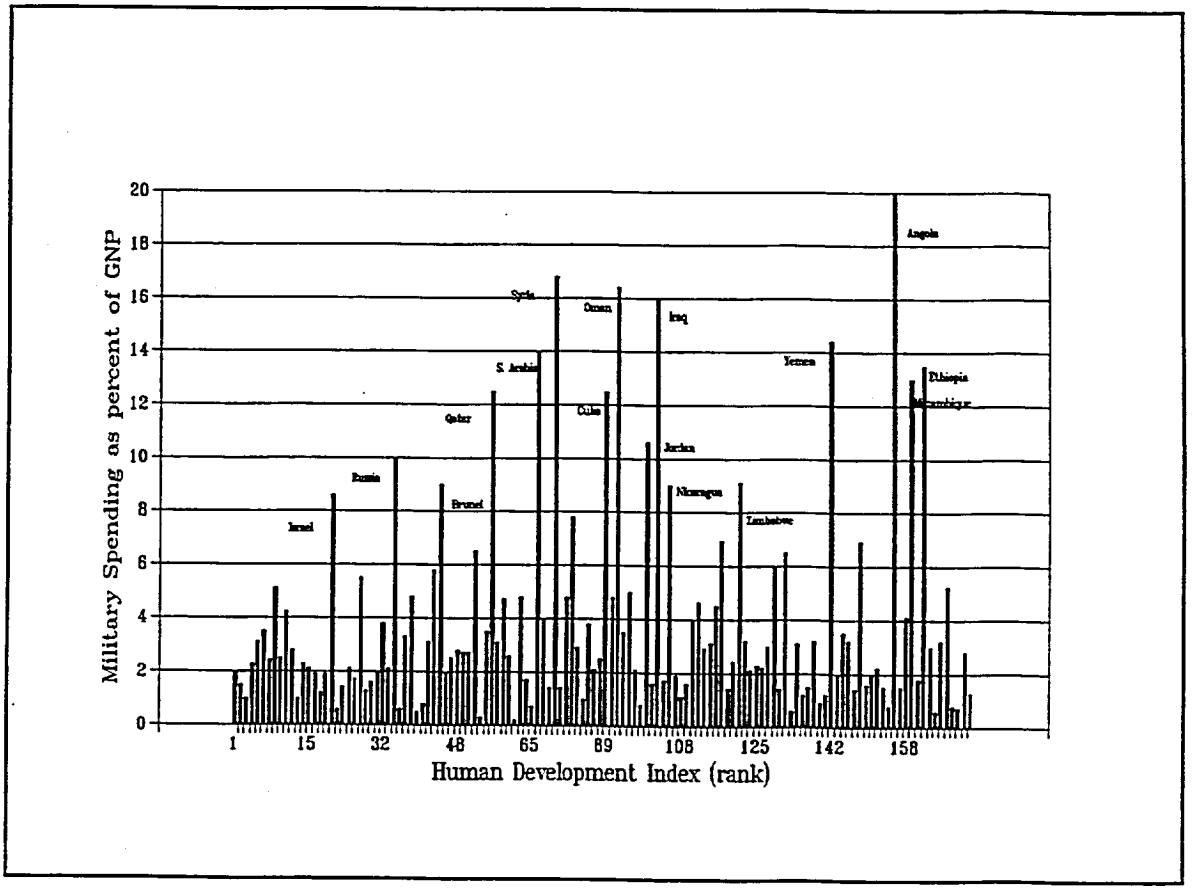
[2] United Nations Development Programme, *Human Development Report 1994* (New York: Oxford University Press, 1994), 90-101.

[3] The only two industrialized states spending more than four percent of GNP on defence are the United States and Great Britain (this excludes Russia and Israel from the ranks of industrialized states; if included, the list does not change significantly). If the threshold is lowered to three percent of GNP on defence, 55 states are included, only four of which are in the industrialized world.

[4] Mullins, 77. He concludes (68-69) that the overall growth of weapons capabilities in the developing world is closely correlated with rising GNP, although this relationship does not hold for individual states.

FIGURE 5.5

Military Spending and Social Welfare



Source: United Nations Development Programme, *Human Development Report 1994* (New York: Oxford University Press, 1994).

One objection to these measures is that they do not capture the real trade-offs that governments make between "guns and butter," because both military expenditure and human development are based upon overall economic or social measures (such as GNP), over which government policy may have little influence. Oil or resource-rich states, for example, could in principle spend freely on both guns and butter, without sacrificing either. Hence it is also important to look for more specific comparisons between military and other government spending. Two such measures are presented in Figures 5.6 and 5.7, which compare levels of military spending per capita with per capita spending on health care and education.

These figures need slightly more explanation, and one caveat. First, the graphical presentation is logarithmic, which allows comparisons to be made between states with levels of government spending that differ by orders of magnitude. Thus the distance between the "ticks" on both the horizontal and vertical scales is exponential, and a small shift can mean a dramatic change in absolute terms. On the other hand, percentage changes in spending would shift the point exactly the same distance, no matter where on the table the state was placed. For example, if China and Yemen quadrupled their per capita education spending (from $8 to $36 and from $26 to $104 respectively), both would move vertically and land on the diagonal line. Second, the data should be used with great caution, since there are large error margins for all three measures; military spending is seldom reported in a similar fashion between states and the degree of public versus private spending on health and education varies widely between states. But these figures do present a good general picture of the situation. Improving the general quality of comparative data in this area should be an urgent policy goal.

How should one interpret these graphs? States that fall above the diagonal line are spending more per capita on education or health than on the military; states below the line are spending more on the military than on education or health. The further away from the line, the greater the divergence between military and other spending. Each table has labelled those states that are furthest from the norm. All of the raw data is presented in Appendix 5.1 at the end of this report. For example, in both figures, China and Myanmar spend approximately $40 per capita on the military, but less than $10 per capita on education and less than $5 per capita on health care. At the higher end of the spectrum, Saudi Arabia spends more than $2,000 per capita on defence, but only about $229 per capita on health care and only about $408 on education. On the positive side of the ledger, Costa Rica and Barbados spend extremely little on the armed forces (about $8 and $34 per capita respectively), and relatively large sums on education ($81 and $479 per capita) and health care ($125 and $241). The contrasts between these states are enormous, in either absolute or relative terms.

What can we conclude from these analyses? First, there is no simple and straightforward trade-off in government priorities between military and other social welfare spending. Neither richer nor poorer states have a discernable tendency to trade off higher military expenditures against social welfare spending; instead, both seem to rise as the overall wealth of the state increases, as is indicated by the fact that states appear distributed around the diagonal in both Figure 5.6 and 5.7. Second, there is also some baseline level of spending on the military, education or health care that governments must make, in order to provide the minimal security needed to ensure basic conditions of economic and social life. Whatever their level of wealth, virtually all states devote some resources to these three basic functions of government.

The lack of a general relationship between military spending and social welfare obviously does *not*, however, mean that particular states (especially less developed ones) always make good policy choices. For example, in Figure 5.7, a number of relatively poor states - Chad, Sudan, Ethiopia, Myanmar, China and Pakistan - are spending virtually nothing on health care, while devoting considerable quantities (in absolute, not relative terms) of scarce resources to the armed forces. Three of these have recent experiences of war; all of them

receive considerable quantities of Official Development Assistance (ODA).[1] Although each has strong justifications for needing some level of military spending, a *prima facie* case can be made that some of these states should be urged to reconsider their mix of military versus social welfare spending. Somewhat higher on the scale, states such as Syria, Yemen, Oman and Iraq are also clearly spending disproportionate amounts on the military; although there is no established standard that should be met, they are outliers, even when compared to other states in the Middle Eastern conflict zones (such as Egypt or Jordan, both of which fall much closer to the diagonal).

Even those states in which there appears to be no "guns-butter" trade-off (such as Kuwait, Saudi Arabia or Qatar), can still present worrisome cases, in part because their levels of military spending imply a strong influence for the armed forces in all of the allocative decisions of the state. In many states (especially in the developing world) the armed forces are the strongest "modern" institution, relative to other groups in society (bureaucracies, interest groups, civic associations, corporations, etc.). Whether or not they hold power, the military in many states behave like any powerful bureaucratic actor, advancing claims for resources that are based on maintaining or expanding their share, rather than being based on national security imperatives.

Even if there is *no* evidence that military spending exerts a negative impact on economic growth, there are opportunity costs of these choices (ie: higher growth rates, or redistributive policies, or different approaches to achieving security), and armed forces consume resources which could in principle be used for other purposes. This unequal balance of social and political power skews the distribution of resources between military and other ends.

Ultimately, a wide range of factors are at work in determining the policy and allocative choices of states, and there will be no simple index that will allow policy-makers to determine which states deserve the attention of the international community. Perhaps the most important purpose of comparative quantitative measures is to highlight which countries are of potential concern. These can then be evaluated in qualitative terms against some of the following sorts of questions:

- are security expenditures justified or explained by recent conflicts or an insecure regional environment, or is there a more dysfunctional process of militarization at work?
- is there evidence of a trade-off between military and social welfare spending?
- is this level of military spending working against other goals such as development or conflict resolution that the international community is pursuing?

This list can be expanded, but it indicates some of the questions that can be generated by a closer examination of such data.

Finally, and perhaps most importantly, these figures suggest that there is much further research to be conducted in this area. The most immediately useful measures (which are beyond the scope of this report) would examine in a detailed regional context the relative weight of these same (and additional) factors. Outliers in a particular regional context could be identified as targets for special attention, especially if their decisions would appear to have an impact on regional conflict resolution processes, or on the ability of all the states in the region to pursue economic and social development goals, with or without the assistance of the international community.

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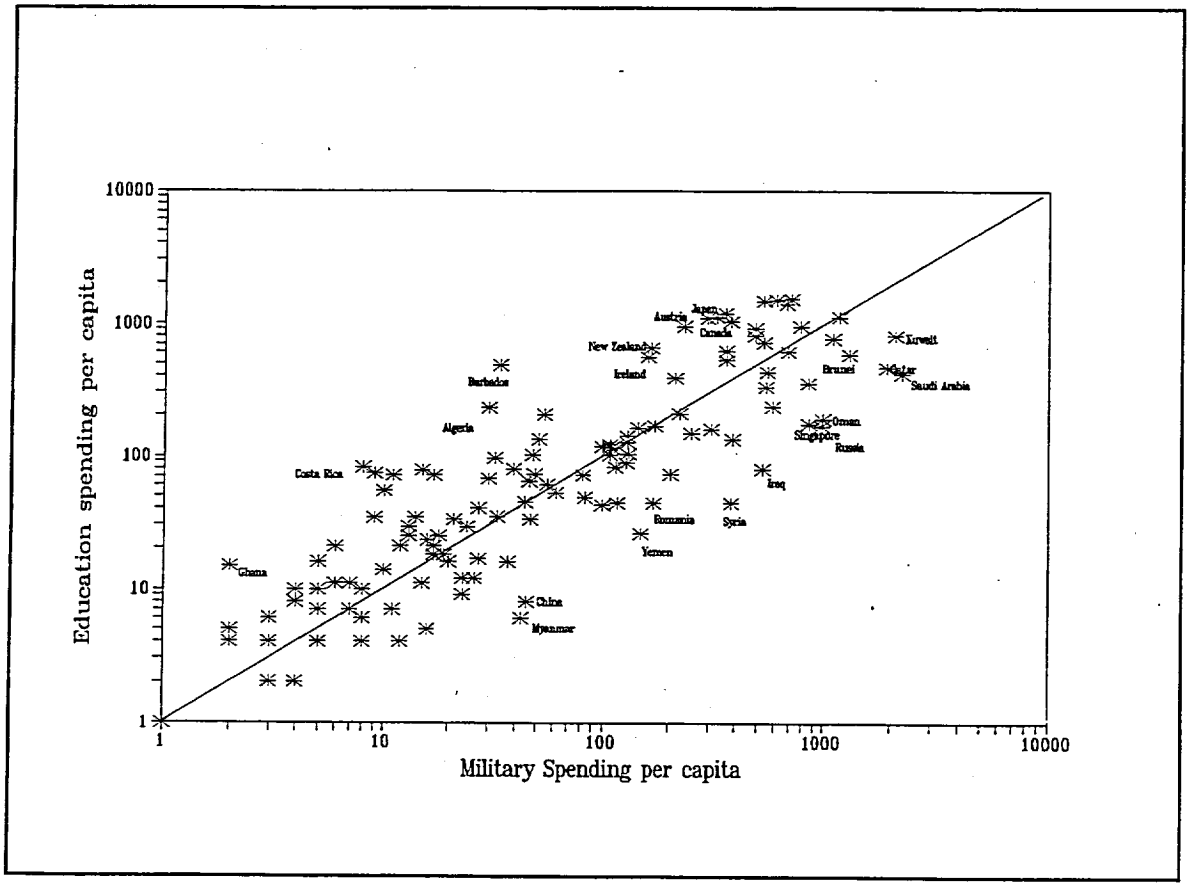
[1] Respective levels of ODA are: Chad, $248 million; Myanmar, $126 million; Pakistan, $1,169 million; Ethiopia, $1,301; Sudan, $608 million; China, $2,945 million. For Chad and Ethiopia, this represents more than 20 percent of GNP; for Sudan, six percent and for Pakistan, 2.3 percent. Figures from UNDP, *Human Development Report 1994*, table 19.

FIGURE 5.6

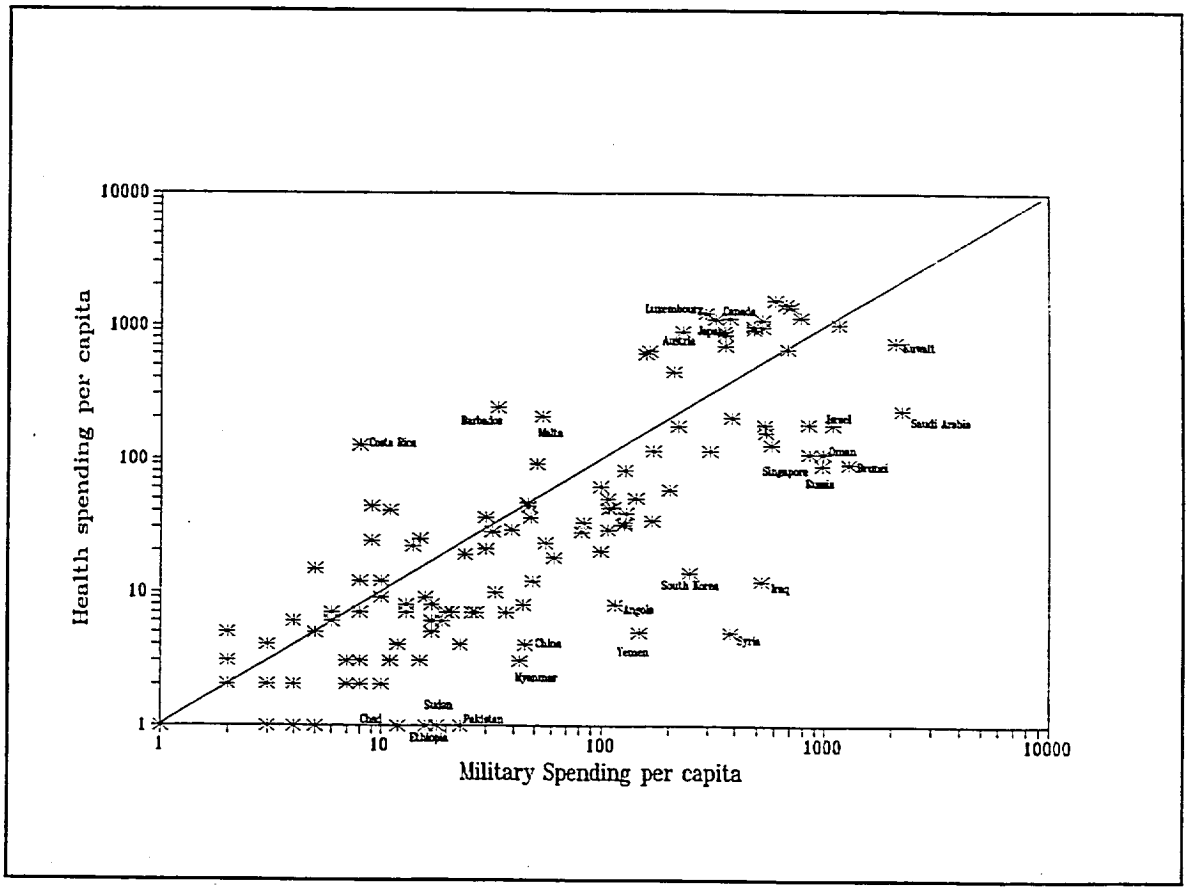
Military and Education Spending



Sources: United Nations Development Programme, *Human Development Report 1994* (New York: Oxford University Press, 1994); Ruth Leger Sivard, *World Military and Social Expenditures* (Washington: World Priorities, 1993), 20.

FIGURE 5.7

Military and Health Care Spending



Sources: United Nations Development Programme, *Human Development Report 1994* (New York: Oxford University Press, 1994); Ruth Leger Sivard, *World Military and Social Expenditures* (Washington: World Priorities, 1993), 20.

Conclusion: The Policy Implications

The evidence presented in this chapter suggests that arms acquisitions and military expenditures are not directly (causally) linked in a simple fashion to the outbreak of wars and conflicts, and do not by themselves necessarily consume scarce resources. They do, however, exacerbate existing insecurities that lead to conflicts (inter-state or domestic), and they have a negative impact on processes of democratization in the developing world. Unconstrained conventional proliferation and military spending can accelerate the momentum towards conflicts that have been created by a constellation of other factors, by changing the range of costs and benefits associated with various policy options state leaders face to achieve peace and security. Easy access to weapons can also tilt the balance in favour of particular "solutions" to inter-state and internal conflicts, by encouraging (or facilitating) confrontation and violent conflict as opposed to peaceful negotiation and conflict resolution strategies.

The three sets of practical policy implications of these different accounts of the relationship between conventional proliferation, conflict, development, and democratization have been summarized in Figure 5.8. Details of the specific measures that could be proposed will be offered in chapter seven.

The first set of implications concerns the *regional and inter-state* dimensions of conflict and insecurity. Insofar as conventional proliferation contributes in itself to regional and inter-state conflicts, the international community should reinforce controls on the continued proliferation of major weapons systems and associated technologies, either through supply-side efforts (such as the Missile Technology Control Regime, or a renewed CoCom), or via supplier-recipient initiatives (analogous to the Chemical Weapons Convention). The latter will almost certain be of greater importance, given that it will be difficult to construct "leak-proof" supplier regimes (one or two states outside of the regime will almost always be able to upset it), and that without recipient tacit consent or active participation, efforts to undermine the regime will be more frequent.[1]

Insofar as conventional proliferation exacerbates insecurities (even if it does not directly cause conflicts), measures to increase transparency or to implement regional military-oriented confidence- and security-building measures, could play a small meliorative role. Although by themselves such measures are not magic solutions that trigger major shifts in regional conflict dynamics, confidence-building and transparency can over time contribute enormously to creating the climate of trust that is necessary for more successful concrete measures. Insofar as conventional proliferation is simply a symptom of deeper problems, however, the root causes of regional conflicts will have to be addressed not by measures to constrain proliferation, but via peace-building and conflict resolution processes, in which measures to constrain conventional proliferation could be one crucial element.

Efforts to increase transparency have focused on the recently-established UN Register of Conventional Arms.[2] At the inter-state level, the Register could potentially diminish uncertainty and misperception, reduce crisis instability, and lower levels of military and armaments spending. To achieve this, however, the Register would have to be improved to include national procurement and weapons holdings, and inter-governmental consultative processes would have to be established (on a regional or bilateral basis). Although the Register

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[1] One of the lessons of the U.S.-Soviet Conventional Arms Transfer Talks (discussed in chapter six) was that by themselves, the two superpowers could not create an effective and enforceable arms transfer regime.

[2] See Edward Laurance, Siemon Wezeman and Herbert Wulf, *Arms Watch: SIPRI Report on the First Year of the UN Register of Conventional Arms* (Oxford: Oxford University Press, 1993); Malcolm Chalmers, et al, eds., *Developing the UN Register of Conventional Arms* (Bradford: Bradford University, 1994).

FIGURE 5.8

Possible Measures to Deal with the Consequences of Conventional Proliferation

ISSUE	PROBLEM	PRESCRIPTION
The increased "regionalization" of traditional inter-state conflicts, manifest in increased activity in regional conflict management and resolution forums and processes.	Arms acquisitions fuel regional inter-state arms races and military expenditures, and can lead to, or exacerbate, conflicts and wars.	Measures that deal with major weapons systems and military technologies, concentrate on arms control, transparency and CSBMs, and are not strictly supplier-based.
The increased focus on the internal dimension of security, manifest in greater international concern over ethnic conflicts and protection of minority (and broader human) rights, democratization and good governance.	Arms acquisitions can exacerbate internal conflicts, thwart progress towards democratization and the creation of the institutions of civil society, and entrench authoritarian rule.	Measures that deal with light weapons, and concentrate on early warning, better tracking mechanisms, micro-disarmament, demilitarization, conflict resolution, and post-conflict peace-building.
The increased attention being paid to the economic and social dimensions of security.	Arms acquisitions and military expenditures consume scarce resources that could be devoted to social and economic development.	Measures that enhance transparency in government policy-making, increase oversight (both domestic and multilateral), build government capacities, and promote civil society.

currently appears to be stalled (after the 1994 failure to expand it to include national holdings, or other categories of weapons), it is at minimum a multilateral instrument that should be kept in good functioning order, to await the time when political will and attention may permit its improvement.

As this chapter strongly argues, however, policies that concentrate exclusively on the regional and inter-state dimension of conventional proliferation are misguided: such a focus leads almost inevitably towards the logic of "stabilizing" potentially explosive conflict regions. Measures to stabilize conflict zones are not necessarily a bad idea, and in some cases this might even result in a more permissive policy of arms transfers towards specific parties. The advocates of lifting the embargo on arms transfers to the Bosnian government argue, for example, that a cease-fire could perhaps have been achieved earlier had the Bosnian government been able to mount a stronger defence of its territory.

Unfortunately, the goal of "stability," does not often promote stability at lower levels of armaments in order to achieve broader security goals. It is also open to self-interested manipulation by arms suppliers, who can defend (and have defended) virtually any decision to export arms as a stabilizing measure. Most importantly, a focus on inter-state or regional stability neglects two serious other potential negative consequences of conventional proliferation: its impact on internal/ethnic conflicts and democratization, and on social and economic development.

Ethnic conflicts are particularly impervious to third-party interventionary strategies, and are fought with low-technology weapons that are widely available. Nevertheless, stronger institutional mechanisms for tracking the trade in light arms must be developed, either via the UN Register of Conventional Weapons or coordinated systems of national export controls and information sharing (perhaps in an expanded New Forum). Some such projects are under way in the NGO sector (most notably those sponsored by the Ford Foundation and Human Rights Watch), and could receive a timely boost with official support that perhaps explores the requirements and feasibility of different tracking mechanisms. Early-warning mechanisms that make use of available information on ethnic unrest, government repression, and respect for minority rights must also be put in place. Finally, perhaps the most useful step the international community could take at this point would be to concentrate on micro-disarmament, demilitarization, conflict resolution and post-conflict peace-building, since protracted internal conflicts seldom are resolved after one bout of warfare and violence. Ideas that will be noted below include gun buy-back programs, concrete programs to ensure and oversee the disarmament of warring parties, and the closer linking of peacekeeping operations with measures to constrain proliferation or pursue disarmament.

With respect to the increased attention being devoted to the economic and social dimensions of security, the key variable for policy-makers is military spending, not arms acquisitions. Since conventional proliferation tracks closely the pattern of global military spending, an exclusive focus on controlling armaments will be misguided, as the forces that give rise to arms acquisitions are rooted more deeply in decisions around national security and defence spending. Hence attention should be paid to ways to constrain military expenditures and the growth of military establishments, and on the nature of civil-military relations in the developing world. Three particular practical measures merit closer study: increasing the transparency of arms acquisitions and security policies, linking security expenditures and international financial assistance, and promoting (under the rubric of "good governance") different patterns of civil-military relations.

With respect to the first measure, increasing transparency, the expansion and promotion of the UN Register of Conventional Arms could play a role. From the perspective of increasing economic and social security, greater transparency would help reduce the military's privileged status as the sole custodian of national security policy-making, and perhaps make possible a greater debate over the allocation of resources within society, and over security policy in general. A closely related goal would be the provision of "early-warning"

indicators (ie: of accelerated arms imports) that could be used by governments and international or non-governmental organizations to raise awareness of the rising potential for violent conflict by highlighting outstanding and worrisome cases.[1] Register data would also have to be widely disseminated and used by non-governmental groups (such as Human Rights Watch or Amnesty International) to promote policy changes. This is a more complex task than simply improving inter-governmental consultative mechanisms dealing with security and armaments, but it is a logical corollary, and it highlights the necessary role of civic organizations in promoting a dialogue within society on the best means to achieve security.

Efforts to link restraint in arms acquisitions or military spending to access to the international financial system have received increased attention since 1989, when IMF and World Bank officials began speaking out against the excessive resources devoted to the military and security policy in many parts of the South.[2] The fact that Official Development Assistance from OECD states was $60 billion in 1992, while military spending in the developing world was $125 billion, at least drew attention to the need to examine more closely whether or not ODA was working effectively, was fungible with greater military spending, or was perhaps undermined by high levels of military spending.[3]

Concrete measures that have been discussed would tie restraint on the part of Southern states to development assistance, World Bank lending, credits from the International Monetary Fund, or other multilateral financial instruments for development. The Development Assistance Committee of the OECD in 1993 endorsed a consensus document that contained a number of general principles that have emerged: a preference for policy dialogue and positive incentives over threats and punitive actions; an emphasis on improving transparency in military budgets; a desire for greater coordination among lender and donor countries; an explicit linkage with global or regional security arrangements; a connection between aid and lending policies and measures to promote political liberalization; and a norm of "reciprocity," by which donor states acknowledge the applicability of the same norms to their own behaviour.[4]

Individual states (in particular Japan, Germany, the Nordic countries and Canada) have also stated that their overseas development assistance programs will consider military spending and security policies in their decisions, albeit on a case-by-case basis.[5] The most straightforward initiatives threaten to reduce bilateral or multilateral development assistance or credits in cases of "excessive" arms acquisitions or military spending, and the comparative indicators that have been used to assess this include: level of armament spending relative to military (or government) spending, the percentage of GNP (or government spending) devoted to the armed forces, the relationship between arms imports or military spending and fiscal deficits, and the level of personnel in the armed forces (soldiers/thousand population).

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[1] For one attempt towards this, see Frederic Pearson and Michael Brzoska, "The Register as an Early Warning System: Case Studies and Empirical Evidence of the Role of Conventional Arms in Conflict," in Chalmers, 225-250.

[2] For additional discussions of recent efforts in this direction, see *SIPRI Yearbook 1993*, 394-396; Nicole Ball, "Development Assistance and Military Reform," *International Security Digest*, 1:2 (1993), 3; Nicole Ball, *Pressing for Peace: Can Aid Induce Reform?*, policy essay no. 6 (Washington: Overseas Development Council, 1992); Robert Miller, ed., *Aid as Peacemaker: Canadian Development Assistance and Third World Conflict* (Ottawa: Carleton University Press, 1992).

[3] Figures from UNDP, *Human Development Report 1994*, 48, 197.

[4] Organization for Economic Cooperation and Development, *DAC Orientations on Participatory Development and Good Governance*, OECD/GD (93)191 (Paris: OECD, 1993), discussed in SIPRI, *Yearbook 1994*, 449-453.

[5] See "Canada Planning Arms-Cut 'Reward'," *Toronto Star*, 18 April 1995.

As the figures above make clear, however, there are no easy mechanisms for assessing comparatively the impact of armaments and military spending on economic and social development, conflict and insecurity, and measures to link economic development programs to reductions in military spending must be approached with caution. Indicators of "militarization" vary widely from region to region and offer no easy bench marks, but within particular regional contexts there are always one or several outlier states that appear to devote disproportionate resources to the military. Further work to develop quantitative measures that could help identify such states would be appropriate.

Unfortunately, even if well identified, such states will not always be the ones most susceptible to multilateral pressure. Military spending levels in one state remain closely linked to changes in the level of military spending in neighbouring countries, suggesting that the classic security dilemma still plays a role in setting levels of military expenditures (and hence, arms build-ups), even if the *consequences* of these choices are felt most acutely at the state and individual level. Initiatives that target individual states outside of the context of regional initiatives could thus exacerbate rather than ameliorate conflicts. Such measures are also discriminatory if they exclude states that do not rely on the international community for financial resources (ie: resource-rich states), if they affect only states that must import weapons (allowing producers to arm themselves with impunity), or if they affect only states that borrow from multilateral financial institutions, rather than those which obtain credit in the private market (as is increasingly the case in, for example, East Asia).

Perhaps the most important initiatives in the short term will concentrate instead on offering inducements and assistance to those states that actively promote "good governance." This concept can easily be oriented towards security policy, and three specific areas have been highlighted to date:

- the demobilization and reintegration of military personnel in the aftermath of conflicts or a transition to democratic rule (eg: Argentina, Uganda, Central America, Russia);
- the conversion of defence industries (eg: Slovakia, Poland and the former Soviet Union);
- the rebalancing of military expenditure with other government spending (eg: much of Sub-Saharan Africa, India).

Each of these issues goes beyond simple declaratory policy linkages, and requires concerted assistance from the international community in such matters as restructuring civil-military relations, retraining military personnel, or providing investment and export assistance.

At the official multilateral level, states could be encouraged as part of "good governance" to participate in regional confidence- and security-building processes, global and regional non-proliferation regimes, and domestic demilitarization programs. At the domestic level, strategies of "capacity-building" could concentrate on enhancing the power of groups in civil society (community groups, entrepreneurial elites, social service networks) that have a vested interest in pursuing non-conflictive solutions to regional conflicts, and in reducing or constraining the resources that go to maintaining the institutions of organized violence in developing states. Strategies for good governance must, however, be conscious of the role that the institutions of organized violence play in many states, and the disruptive potential they contain.

None of these measures or strategies will provide a short-term fix for a deep and seemingly intractable problem that has been many years in the making. But the end of the Cold War at least provides the opportunity to overcome some of the obstacles to progress that existed, and to address the quest for security in a broader multilateral context. The chapters that follow turn to the task of examining previous, and elaborating possible future, constraint measures.

VI Past and Present Efforts to Constrain Conventional Proliferation

Introduction: Early Measures

Interest in controlling weapons proliferation has existed as long as the ability to make the weapons themselves. As early as the ancient Greek period, there is evidence that Mediterranean-wide demand for the latest armaments was constrained by efforts to restrain the free movement of military engineers and their plans. During the era of the European colonial powers, from the Renaissance to the nineteenth century, advances in military technologies (especially the development of cannon and firearms) accelerated the arms trade as well as attempts to control it. The intense inter-state rivalries and shifting alliances meant that efforts at controlling the arms trade, whether they were unilateral measures aimed at protecting national arms-making capacities, or multilateral efforts to isolate common enemies, were based on immediate self-interest. At the same time, restrictions on arms trading went against the grain of prevailing international law and attitudes, which granted the right to trade with any state that was not an enemy; as a result arms trade controls were temporary at best and not intended to provide ongoing constraint or regulation.[1]

By the late nineteenth century, the application of new industrial technologies to warfare created larger markets for the major weapons suppliers (Britain, France and Prussia) that were eager to export to strengthen their domestic industries. Mass weapons production was finding a mass market, including within native populations in European colonies. This posed a problem for the suppliers and other European colonial powers that worried about armed insurgencies. The concern contributed to the General Act for the Repression of the Slave Trade (known as the Brussels Act of 1890), which included a section to prohibit, with some exceptions, the delivery of arms and ammunition to most of Africa.

Although primarily aimed at eliminating slavery, the Brussels Act was the first international agreement to restrict the arms trade, and it did have some success in restraining arms imports into Africa. Moreover, by drawing a link between slavery and the import of arms, the Act foreshadowed current humanitarian concerns about weapons proliferation. The link was a central argument of opponents to slavery, and the influence of British public opinion in particular, which helped reverse Britain's initial opposition to the Act, was an early instance of public influence on arms control policy formulation.

The nineteenth century also saw the rise of private international arms industries and merchants. Nobel in Sweden, Krupp in Prussia, and Vickers in Britain - private companies named after their individual founders - became synonymous with arms production and export, and even, as some have argued, with the advent of global industry more generally.[2] Sir Basil Zaharoff, the celebrated Vickers salesman whose secretive dealings took him around the world, was for many the archetypal "merchant of death" as public opposition to the arms trade and weapons manufacturers grew. Indeed, by the end of World War I the widely shared perception that private industry orchestrated the arms race before the war became a larger factor in proposals for arms trade control. National policies on arms transfers now included a need to respond to public pressure to restrain the activities of private arms merchants. Although public interest in arms sales has waxed and waned since, many governments remain cognisant of popular concern over the unconstrained trade in weapons.

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[1] For further discussion see Keith Krause and Mary K. MacDonald, "Regulating Arms Sales Through World War II" and Keith Krause, "Controlling the Arms Trade Since 1945", in Richard Dean Burns, ed., *Encyclopedia of Arms Control and Disarmament* (New York: Charles Scribner's Sons, 1993), 707-724, 1021-1039.

[2] Anthony Sampson, *The Arms Bazaar: From Lebanon to Lockheed* (New York: The Viking Press, 1977), 33-55.

The Interwar Period

The heyday of efforts to constrain conventional arms transfers occurred in the period between the two world wars. The agreements and proposals of these years encompassed a wide range of mostly multilateral initiatives that would find resonance in ideas and arguments advanced during later periods. These initiatives included the peace treaties following World War I that prohibited German and other arms imports and exports as a step towards more general disarmament, and a series of embargoes on countries at war (for example, the Chinese Civil War in the 1920s and the Spanish Civil War in 1936-39).

The furthest-reaching multilateral measures were undertaken through the League of Nations. As a reflection of beliefs about the role of arms merchants in World War I, the 1919 Covenant of the League enshrined the statement, "the Members of the League agree that the manufacture by private enterprise of munitions and implements of war is open to grave objections," and charged League members "with the general supervision of the trade in arms." The 1919 St. Germain Convention for the Control of the Arms and Ammunition extended the 1890 Brussels Act, specifying the weapons for which there would be controls as well as reporting of the trade. The Secretariat of the League Assembly published, from 1924 to 1939, the *Armament Year-Book*, drawn from public sources, and the *Statistical Year-book of the Trade in Arms and Ammunition* (from 1925 to 1938), which drew upon weapons trade statistics submitted by members.[1]

The Geneva Arms Traffic Convention of 1925 revised the provisions of the failed St. Germain Convention, and included a recognition of special zones of control. Finally, at the 1932 Disarmament Conference of the League, the Committee for the Regulation of the Trade in, and Private and State Manufacture of, Arms and Implements of War used the previous work of the League as its starting point and examined proposals to abolish or regulate private weapons manufacture.

Most of the initiatives of this period failed or never came into effect. The League attempts at collecting weapons trade data for example faltered on the incompatibility of national statistics reported by members, deliberate attempts at concealing exports, and the lack of congruence between exports and imports. In this instance at least, transparency by itself did not translate into a useful constraint or even confidence-building measure. There were other reasons for failure, including rapidly expanding sources of supply, but the most important may have been the limited understanding at the time of "the systemic nature of the arms trade problem," since most emphasis was placed upon the role of the private actors, rather than on the economic and political motivations for the transfer of arms.[2]

Nevertheless, the international attention devoted to the conventional weapons trade has not been repeated since, and the proposals of the time contain the seeds of "norms" about the trade that are relevant today (see Figure 6.1). During this period the manufacture and trade in arms became widely recognized as a unique activity, whose real and potential impact merited special consideration and control. The attention to the activities of private arms manufacturers advanced the trend towards government control of arms exports and helped shape the national export control systems eventually adopted by most major suppliers. The reporting and publicity proposals of the League of Nations conventions, and the experience of the Yearbooks,

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[1] Stockholm International Peace Research Institute, *The Arms Trade with the Third World* (Stockholm: Almqvist & Wiksell, 1971), 93-94.

[2] Thomas Ohlson, *Arms Transfer Limitations and Third World Security* (Oxford: Oxford University Press, 1988), 3. On the interwar period in general, see Robert Harkavy, *The Arms Trade and International Systems* (Cambridge: Ballinger Publishing, 1975).

established the significance of arms trade transparency as a confidence-building measure and as a basis for control. The League conventions also formalized categories of munitions whose trade was to be prohibited or controlled, as well as proscribed countries or regions. At the same time, the debate of the period raised ideas and issues that remain unresolved today, including the discriminatory effects of imposing restrictions on arms trade but not production, and the challenge raised by international control measures to the sovereign right to produce, trade and acquire weapons.

The Bipolar Cold War System

After World War II the bi-polar international system dominated by the United States and the Soviet Union circumscribed diplomatic interest in, and efforts towards, the constraint of conventional weapons proliferation. Control initiatives shifted from the multilateral activities and proposals of the League of Nations to unilateral nationally-based measures, as arms transfers became government-directed and the international community froze into camps with disparate arms trade policy goals. It was also a period of supplier hegemony, and the majority of restraint measures were constructed to meet narrow supplier interests.[1]

FIGURE 6.1

Constraint "norms" that Emerged During the Interwar Period

- The unique nature of arms manufacture and trade requires special consideration and control
- Government restraint of private weapons trade is exercised through national export controls
- Arms trade transparency contributes to confidence-building
- Common lists of controlled goods and proscribed countries aid multilateral constraint

Although no global restraint measures were adopted between World War II and the 1991 Gulf War, several instructive efforts did emerge. The most effective were the unilateral arms export control systems developed by supplier states (discussed below). In addition, suppliers attempted a number of partial and regional initiatives to control or embargo arms transfers to particular countries and regions. The first post-World War II constraint measure was the 1950 Tripartite Declaration of the United States, Britain and France, that built on a temporary UN embargo during the 1948 Arab-Israeli war, and that regulated arms transfers to the Middle East until 1956. The agreement collapsed when Egypt obtained (via Czechoslovakia) weapons from Russia, the remaining major supplier at the time, whose "containment" the measure was to help achieve.

Coincident with its strategic importance during the Cold War, the Middle East remained a focus for arms restraint in principle (if not in fact), and various proposals for control were made by the Soviet Union and United States. However, it was not until the Iran-Iraq War of 1980-1988, when attempts were made to restrict arms supplies to both combatants, that any tangible regional control efforts were again made. The American-led efforts to impose an embargo on both parties were eroded by the availability of weapons from a large number of suppliers (including covertly from the United States or its allies).[2] This experience served notice

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[1] For a survey of the period, see Edward Laurance, *The International Arms Trade* (New York: Lexington Books, 1992), 77-123.

[2] More than 50 states supplied weapons to either (or both) sides during the war. See Keith Krause, "Transferts d'armements et gestion des conflits: les cas de la guerre Iran-Irak," *Cultures et Conflits*, no. 4, (hiver 1991-92), 13-40.

that embargoes during a multi-supplier era required new approaches. With the steadily increasing number of suppliers competing for a shrinking global arms market, this lesson is possibly even more relevant today.

While initiatives were typically supplier-driven, some recipient measures did arise during the Cold War period. The most notable was the Declaration of Ayacucho, signed by eight Andean nations in 1974. This declaration pledged the signatories to adopt "effective limitations of armaments and put an end to their acquisition for offensive warlike purposes."[1] It did not prevent the spread of weapons, but the declaration led to broader co-operation in the region, including a 1978 proposal to exchange information on arms purchases among 20 Latin American countries.

The most significant constraint initiative of the period arose from the 1977 decision of the Carter Administration to reverse previous American government policy and reduce the use of U.S. arms exports as an instrument of foreign policy. This took the form of unilateral measures (including a ban on the introduction of new, advanced American weapons into Third World regions) and an interest in broader multilateral agreements with other supplier nations, which arose from concern that the vacuum created would be filled by other suppliers. Bilateral discussions began with the Soviet Union in the Conventional Arms Transfer (CAT) talks of 1977-1979. For the United States, a key goal of the talks was to develop the "norms of supplier restraint" that are listed in Figure 6.2.

Figure 6.2

US-proposed "Norms of Supplier Restraint" for the Conventional Arms Transfer Talks, 1977-79

- No first-introduction of advanced weapons systems into a region which creates new or significantly higher combat capability in the area.
- Restrictions on co-production and re-transfers.
- Development of norms for recipient restraint.
- Establishment of consultative mechanisms to enhance the exercise of restraint.
- The integration of restraint efforts with diplomatic efforts to resolve regional disputes.
- Reduction of possibilities for substitution by suppliers where others have exercised restraint.

Source: *US Senate Foreign Relations Committee Hearings on Middle East Arms Sales Proposals* (Washington: GPO, 1978), 10. Cited in John M. Lamb and Jennifer L. Moher, "Conventional Arms Transfers: Approaches to Multilateral Control in the 1990s," *Aurora Papers 13*, (Ottawa: The Arms Control Centre, September 1992), 12.

The CAT talks broke off primarily due to disputes within the Carter Administration over the correct approach for the United States to take. One group, led by the Arms Control and Disarmament Agency, argued that a global-technical emphasis should seek initially a global ban on the export of weapons in which neither superpower had an advantage, and then move to more problematic systems as well as specific regions. The prevailing group, led by then Secretary of State Cyrus Vance, argued

[1] Quoted in Michael T. Klare, "Gaining Control: Building a Comprehensive Arms Restraint System", *Arms Control Today* (June 1991), 10.

for a regional-political approach to seek a "code of conduct" to govern arms and military technology transfers throughout the Third World, and to situate these in the larger context of regional interests.[1]

Although the talks effectively ended when the Soviet Union proposed to include regions (China and the Persian Gulf) that the United States was unwilling to discuss, their demise was quickened by deteriorating superpower relations. This suggests that a regional constraint strategy, although doomed during the height of the Cold War, might fare better in the more cooperative post-Cold War environment. In any case, the CAT talks achieved a useful basis for future multilateral negotiations. The superpower negotiators had "reached consensus on a number of prickly issues, demonstrating surprising interest by both sides in mutual restraint."[2]

In general, there was little progress on measures to constrain the proliferation of conventional arms and military technologies during the Cold War. Indeed, the rapid expansion in arms transfers through the 1970s and 1980s suggests the opposite; suppliers and recipients strained to push and pull weapons deliveries ever upward. Supplier regimes, typically based on self-interest, had limited impact and were weakened in the later years by the shift from a sellers' to a buyers' market. Perhaps most significantly, the strategic and political environment of the time made the idea of widespread co-operative measures untenable, and most proposals sank in a swamp of mistrust.

Recent and Current Initiatives[3]

The present range of measures to constrain conventional proliferation focuses broadly on four types of instrument. Legally, the most stringent form of constraint are *national export controls*, as these tend to be legislated by states. In some instances, these are informed by the second form of constraining instrument, *multilateral supplier regimes*, which attempt to coordinate the scope and application of national controls. Recently, these limited supplier regimes have been joined by *regional regimes* that directly or indirectly have as a goal the promotion of arms transfer restraint. Unlike the first two instruments, which are purely supply-side mechanisms, regional instruments have at least the potential to engage recipients (or suppliers and recipients together) in constraint measures. Finally, there are a number of *global instruments* for constraining conventional arms proliferation, notably the UN Register of Conventional Arms. As with other global regimes, the Register and similar mechanisms have as their primary function the development of common norms around issues of conventional proliferation, perhaps the most important of which is transparency.[4]

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[1] See John M. Lamb, and Jennifer L. Moher, "Conventional Arms Transfers: Approaches to Multilateral Control in the 1990s," *Aurora Papers 13* (Ottawa: The Arms Control Centre, September 1992), 12-15.

[2] Klare, 10; Janne Nolan, "The U.S.-Soviet Conventional Arms Transfer Negotiations," in Alexander George, ed., *US-Soviet Security Cooperation: Achievements, Failures, Lessons* (New York: Oxford University Press, 1988), 510-523.

[3] There have been several efforts to categorize constraint proposals and initiatives. One recent categorization, suggested by Ernie Regehr (based on a discussion by Michael Klare), consists of six groupings, includes: Transparency; Fiscal Rewards and Disincentives; Technology Control Regimes; Supplier Cartels; Regional Agreements; and National Restraint. Other categorizations are available, such as those of Keith Krause and Douglas Fraser. The most basic appears to be Supplier, Recipient and Supplier-Recipient.

[4] On the importance of a normative consensus for developing arms constraint instruments, see Peggy Mason, "Compliance Enforcement: The Norm Consensus Issue" *Multilateral Institutions and Global Security Working Papers*, Number 2 (Toronto: York Centre for International and Strategic Studies, 1995).

Before examining the current state of each of these types of constraint instrument, it is useful to compare their goals and operation to the different causes and consequences of conventional proliferation that were outlined in chapter one (Figures 1.2 and 1.3). The four causal hypotheses summarize conventional proliferation as being: supply-driven, technology-driven, politically-driven, and demand-driven. Similarly, conventional proliferation is asserted to fuel arms races and inter-state conflicts, exacerbate internal conflicts and thwart progress to democratization and good governance, and divert resources from social and economic development.

The four forms of instrument currently being employed take different combinations of these seven causes and consequences as their primary or secondary "motivations" or "underpinnings." The relationship of these instruments to the causal and consequential hypotheses is summarized in Figure 6.3. It analyzes schematically the different classes of constraint measures according to whether or not they take certain causes and consequences of conventional proliferation as primary or secondary rationales for specific constraint policies. The distinction between primary and secondary rationales does not mean that other causes and consequences are ignored, but simply that particular constraint measures *target* certain aspects of the conventional proliferation problem, whether because of a specific diagnosis of the nature of the problem, or because of the likelihood of effective policies being implemented.

National Export Controls

National export control systems are based primarily on the assumption that the conventional proliferation is supply-driven, and hence that if controls to prevent "problematic" transfers can be put in place, proliferation can be constrained while the legitimate arms trade can continue. Although the trade may also be demand-driven, this side of the causal nexus is deemed not open to policy control or influence. This primary assumption about the nature of conventional proliferation is joined by a secondary consideration of the role played by technological change in conventional proliferation. This is reflected in the targeting of *specific* technologies of concern (for example, missile technologies, specialized materials, advanced computer software and hardware). Some export control regimes also reflect a secondary concern with the politically-driven nature of the arms trade, by targeting specific countries of concern. At present, so-called "rogue" states are so targeted, while during the Cold War, allies of the other bloc were the targets. On the other hand, export control systems explicitly leave aside any consideration of demand factors in conventional proliferation.

In terms of the *consequences* of conventional proliferation, export controls are primarily concerned with the effects that arms buildups can have on inter-state conflict. This is reflected in the language of avoiding transfers to states involved in hostilities (or the threat of imminent hostilities), and in concern over "excessive and destabilizing" accumulations of arms. In some states, there is a secondary consideration of the effects of arms on domestic governance, most commonly reflected in language on human rights. Finally, national export controls are generally silent on the economic consequences of arms transfers, reflecting the commercial importance of arms exports.

Multilateral Supplier Regimes

The multilateral supplier regimes mirror the domestic export controls in terms of the assumed causes of the proliferation problem. In essence, supplier regimes are an attempt to strengthen national export controls by multilateral oversight and decision-making that can ameliorate the "free rider" problem (although in most instances they fall far short of this ideal), and by providing confidence that unilateral restraint will not be rendered moot by the action of others.

FIGURE 6.3

Constraining the Causes and Consequences of Proliferation

Causes	Export Controls	Supplier Regimes	Regional	Global (UN Register)
Supply-driven	Primary	Primary	Secondary	Primary
Technology-driven	Secondary	Secondary	—	—
Politically-driven	Can be secondary	Can be secondary	Can be primary	—
Demand-driven	—	—	Primary	Primary

Consequences	Export Controls	Supplier Regimes	Regional	Global
Sparks conflict	Primary ("not involved in or under imminent threat of hostilities")	Primary ("increase tension in a region or contribute to regional instability")	Primary	Primary ("excessive and destabilizing")
Hinders democratization and the development of good governance	Secondary ("respect fundamental human rights")	Can be secondary	Can be secondary	Secondary ("the internal situation of affected states and the violation of human rights")
Retards social and economic development	—	Can be secondary ("least diversion of armaments from the world's human and economic resources")	—	Secondary ("least diversion of armaments from the world's human and economic resources")

The assumptions concerning the consequences of proliferation do, however, differ somewhat at the multilateral level. The primary concern is still with the potential for arms transfers to contribute to conflict (inter-state or internal), although the secondary concern with human rights and democratic development is so far more manifest in national controls that multilateral regimes. However, some multilateral supplier regimes do at least echo the global concern about the potential for arms to divert resources from economic and social development. This concern is usually phrased in language such as aiming for the: "least diversion of armaments from the world's human and economic resources."[1]

Regional Measures

Proliferation constraint measures developed and implemented at the regional level can be quite distinct from the other three forms of instrument. Unlike the other measures, regional processes generally recognise the importance of demand factors, such as the competitive pressures of the arms spiral. This is reflected in the importance that transparency and confidence-building measures have in most regional forums. In addition, regional measures may reflect the importance of political forces, particularly in attempts to insulate regional processes from outside interference (or by gaining tacit acceptance by external suppliers of regional security arrangements).

Most regional measures to date are concerned with the potential for arms transfers to spark conflict (such as in the Middle East peace process). Thus, they tend to incorporate CSBMs and transparency measures, and can go so far as to include regional arms control and disarmament (in the European context). A commitment to democracy, good governance and human rights can be reflected in regional processes, as it has been in the OSCE and the OAS.[2]

Global Measures

Global measures *could* in principle be developed to address the full range of causes and consequences. At present the only global constraint measure is the UN Register of Conventional Arms.[3] The Register recognises both the supply and demand dynamics of proliferation, calling for transparency at both ends of the transfer relationship. Ultimately, if the Register were to be expanded to include national procurement and holdings, this coverage would improve considerably. The Register does not, however, address either the technological or political dynamic of proliferation directly.

The primary consequence of concern to the Register is the potential of proliferation to spark inter-state conflict, again reflected in the language of "excessive and destabilising" accumulations, as well as in the focus on transparency in the resolution ("*Recalling* the consensus among Member States on implementing confidence-building measures, including transparency and exchange of relevant information on armaments, likely to reduce the occurrence of dangerous misperceptions about the intentions of States and to promote

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[1] In, for example, the P-5 "Guidelines for Conventional Arms Transfers." See Figure 6.5 below.

[2] Although, as Patrice Franko points out for Latin America, budget-driven military downsizing has not been accompanied by "a clear vision of the role and mission of a streamlined military." "*De Facto* Demilitarization: Budget-Driven Downsizing in Latin America," *Journal of Interamerican Studies*, 36:1 (Spring 1994), 38.

[3] We discuss the Convention on Certain Conventional Weapons (CCW) below. The relevance of the CCW for constraining conventional proliferation is its concern with anti-personnel land mines, and it represents an attempt to expand the laws of war rather than constrain the spread of conventional weapons. Indeed, one way to deal with the problem of anti-personnel land mines is to proliferate self-neutralizing and self-destroying mines!

trust among States").[1] There are, however, secondary concerns with both human rights and economic development in the Register; for example, "*Bearing in mind* that...the reduction of world military expenditures could have a significant positive impact for the social and economic development of all peoples."

Taken as a whole, Figure 6.3 reflects the point that has been made throughout this report: conventional proliferation has been seen primarily as a supply-driven phenomenon, whose consequences are almost entirely evaluated at the inter-state level. However, as the previous chapter made clear, there are at least three distinct conventional proliferation "problems," only one of which can concerns inter-state stability. Thus, in the proposals we outline below, we shall pay particular attention to means by which the *intra*-state dimension of the proliferation problem can be addressed through multilateral or unilateral constraint measures.

We turn now to a more detailed presentation of specific instruments that have been developed within each category of restraint measure.

National Export Controls

The national export control systems of supplier states are currently the most binding and widespread controls on the international arms trade. Developed by suppliers such as Britain, Belgium, the United States, Sweden, the Netherlands and France in the 1930s, unilateral export controls arose from a shared understanding that the unique nature of the trade in military goods demanded a formal government approval process based on licensing requirements.[2] Countries that are members of the United Nations (and hence are bound by Article 2(5) of the UN Charter, requiring members "to give the United Nations every assistance in any action it takes in accordance with the present Charter") also must have standing national arms export controls to be able to comply with UN arms embargoes.[3]

Figure 6.4 charts the most common features of national export controls against the descriptions of specific country controls found in the 1991 Stockholm International Peace Research Institute (SIPRI) publication, *Arms Export Regulations*. Typical national control features include legislation on exports of military goods, lists of regulated munitions and technologies and/or of proscribed countries, export licence and end-use certificate requirements, and involvement of high-level officials in the approval process.

The table reveals the considerable variation in national control regulations and requirements. No single feature is common to all states and there is variation even among nations where such commonality could be expected, such as members of the European Union or NATO.[4] More significantly, the number of national control features does not appear to correspond to the restrictiveness of the regime. For example, Japan, a country generally recognized to strictly control its military exports (in principle, exporting none), requires few of the regulations of the table. Conversely, Brazilian arms controls include most of the table's regulations

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[1] See Appendix 6.1 for the text of the resolution.

[2] John Stanley and Maurice Pearton, *The International Trade in Arms* (London: Chatto & Windus, 1972), 5, cited in Ian Anthony, ed., *Arms Export Regulations* (Oxford: Oxford University Press, 1991).

[3] Anthony, *Arms Export Regulations*, 1.

[4] On the obstacles to the creation of a common European policy, see Trevor Taylor, "European Cooperation on Conventional Arms Exports," paper presented to the International Studies Association annual conference, 29 March 1994.

Figure 6.4

National Arms Export Control Regulations

	Specific arms export control legislation	Weapon list	Special controls country list	Export licence require ments	End-use certificate requirements	Guidelines for export controls	Final Cabinet or Ministerial approval
Australia	✓	✓	✓	✓		✓	✓
Austria	✓	✓		✓	✓		✓
Belgium		✓	✓	✓		✓	✓
Brazil	✓	✓		✓	✓		✓
Canada	✓	✓	✓	✓	✓	✓	✓
Denmark		✓					✓
Finland	✓	✓		✓	✓	✓	✓
France	✓	✓	✓	✓	✓		✓
Germany	✓	✓	✓	✓	✓	✓	✓
Israel	✓	✓		✓	✓	✓	✓
Italy	✓	✓		✓	✓	✓	✓
Japan	✓	✓				✓	
Poland					✓		
Singapore	✓	✓		✓			✓
Sweden	✓	✓		✓	✓	✓	✓
Switzerland	✓	✓		✓	✓	✓	✓
UK	✓	✓	✓	✓	✓	✓	✓
USSR					✓		
USA	✓	✓	✓	✓	✓	✓	✓

Source: Ian Anthony, ed., *Arms Export Regulations* (New York: Oxford University Press, 1991).

in spite of Brazil's comparatively unrestrictive policy for exporting arms. Finally, the table demonstrates that there is little correspondence between a formally restrictive national regime and the volume of exports of military goods. With the exception of the USSR, the control regimes of the largest suppliers (US, UK, France and Germany) include all or almost all features of the table, as do Canada and Australia where arms export volumes are considerably lower.[1]

While national controls do prevent controversial or threatening shipments, analysts and critics can still point to a number of weaknesses. For instance, there is little requirement to coordinate or harmonize standards or procedures, and as Figure 6.4 reveals, national regulations are as varied as the interests of the governments that created them. The limited or non-existent transparency of military shipments, combined with inaccessible or secretive official decision-making, mean that governments are often not accountable to parliament or an electorate even for sanctioned arms exports.[2] This has facilitated the ability of governments to let short-term foreign policy or other goals (such as the arming of Iraq during its war with Iran), undermine the broader long-term non-proliferation goals of export control. In addition, lax enforcement of existing regulations has resulted in illicit transfers, such as the 1987 Toshiba-Konigsberg case (when high-technology equipment was illegally transferred from Japan and Norway to the Soviet Union) and the 1989 disclosure of illegal trading to the Middle East of nuclear, chemical and rocket items from West German companies. The lack of effective, end-use verification of arms transfers has meant that transhipment and re-export of controlled items and technology can also undermine export controls.[3]

In the interest of constraining conventional proliferation, attention must be paid to the gap between the declared policies of supplier states and their enforcement practices. Policies that are open to widely divergent interpretations can, when other pressures are brought to bear, result in questionable arms export decisions in spite of ostensibly tight control regimes. Actual government decision-making about arms exports may be more important than the detail of export control systems, especially since to a greater or lesser degree most supplier governments are also involved in promoting arms exports. An excessive focus on *technical* improvements to export control systems may lead to a neglect of the essentially *political* issues that must also be addressed if constraints on conventional proliferation are to be effective.

Thus it is worth noting briefly the balance of consideration given to political, commercial and other factors by different control systems.[4] In the case of the United States and the Soviet Union, foreign policy considerations were the most influential factors governing military export decisions during the Cold War. Both superpowers exercised restraint in delivery of advanced systems or technologies (in order to maintain their technological lead), and most transfers were based on maintaining alliances or extending influence over client states. The United States also worked hard, through multilateral mechanisms such as CoCom (described below), to prevent adversaries from obtaining Western equipment or technology. Other major suppliers, especially Britain and France, weighed economic factors more heavily into their arms export decisions. Their efforts to maintain a domestic defence industrial base (as well as to as gain commercial advantage from arms transfers), have included extensive co-production and licensed production arrangements (with the resultant

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[1] Russian regulations have changed significantly since the collapse of the Soviet Union.

[2] See SIPRI release, 14 January 1993 (announcement of publication of *Arms Export Regulations*).

[3] Several of these points are raised in Jing-dong Yuan, *Nonproliferation Export Controls in the 1990s*, Martello Papers 7, (Queen's University: Centre for International Relations, 1994).

[4] This categorization is a based on a discussion in Krause, "Controlling the Arms Trade since 1945."

transfer of technologies) with Third World states.[5] A third set of considerations emerge from what could be described as broader security interests. Restrictive suppliers such as Germany, Switzerland and Canada include evaluation of human rights compliance and conflict in their export controls and these temper, although they do not necessarily prevent, arms exports. The antithesis of this approach is found in a final set of opportunistic suppliers, many of which are in the developing world, which pursued arms sales relatively indiscriminately and exercised few or no export controls.

The history of international arms transfers suggest that most regimes include elements of all these considerations at one time or another. Since the end of the Cold War there has been a marked rise in the influence of economic factors however, as the shift to a smaller buyers' market has brought additional competitive pressure on suppliers. Led by the major suppliers, many governments increased their support for arms and technology exports, including marketing and financing assistance for foreign sales. For example, the February 1995 Conventional Arms Transfer policy of the American administration provides American military industry representatives with marketing support from U.S. embassy personnel and senior government officials once a sale has been approved. The policy also acknowledges that "the impact on U.S. industry and the defense industrial base" will be a factor in American arms export decisions.[2]

Proposals for improvements to national controls

Several proposals already exist to strengthen the national export control regimes of various supplier states. In the United States, Congressional legislators (led by Senator Mark Hatfield) have introduced a "Code of Conduct on Arms Transfers" (reprinted as Appendix 6.2).[3] The bill seeks to reaffirm and redefine existing principles governing U.S. arms transfers, and reinforces the Congressional role in approving arms sales. It contains two interesting features. First, it characterizes the consequences of conventional proliferation as "increasing the risk and impact of war in an already over-militarized world." The Code therefore suggests that conventional arms are implicated in the causes of war, and that the trade in arms is illegitimate to the degree that it fosters war-making. This report has, however, noted that there is little evidence to support a causal link between conventional proliferation and the incidence of inter-state conflict. Second, it shifts the burden of justification for arms transfers, presuming that arms are to be *denied*, unless certain conditions are met. A recipient must qualify to receive arms from the United States - arms imports are a privilege, not a right.[4] Such a norm reinforces the argument made earlier that the right to acquire arms for self-defence that is acknowledged by the UN Charter does not imply a duty to sell arms. The bulk of the Code details the qualifications that a state would have to meet in order to receive arms from the United States: in general the bill would prohibit U.S. arms exports to countries "that are undemocratic, do not adequately protect human

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[1] European suppliers exported between 30 and 70 percent of their production throughout the 1980s, and accounted for roughly half of the co- and licensed production agreements; the two superpowers exported less than 15 percent of their production, and accounted for only about a third of the co- and licensed production agreements. Figures from Keith Krause, *Arms and the State* (Cambridge: Cambridge University Press, 1992).

[2] United States Government "Fact Sheet," 17 February 1995, reprinted in *Basic Reports*, British American Security Information Council, Washington, 15 March 1995.

[3] Senator Hatfield had attempted to pass the same bill in 1994, but it died on the order paper with the conclusion of the 2nd Session of the 103rd Congress.

[4] Section 4 reads: "Except as provided in subsections B and C, United States military assistance and arms transfers may not be provided to a foreign govemment for a fiscal year unless the President certifies to the Congress for that fiscal year that such government meets the following requirements..."

rights, are engaged in acts of aggression, or are not fully participating in the United Nations Register of Conventional Arms." Presidential exemptions would need Congressional approval.

In November 1993, the Conference on Security and Co-operation in Europe (CSCE, now the OSCE) adopted a set of "Principles Governing Conventional Arms Transfers" (included as Appendix 6.3). These instructed member states (which include all major weapons suppliers except China), to take into account several factors in their deliberations on arms sales:

- the respect for human rights and fundamental freedoms in the recipient country;
- the internal and regional conflict situation;
- the record of compliance of the recipient country with international commitments concerning the non-use of force, non-proliferation, arms control and disarmament;
- the nature and costs of the arms to be transferred, with the objective of the least diversion for armaments of human and economic resources;
- the ability of a recipient to exercise its right of individual and collective self-defence;
- legitimate domestic security needs;
- recipient requirements to enable it to participate in peacekeeping or other such measures.

Members were enjoined to avoid transfers that would, *inter alia*, be used to suppress human rights, prolong or aggravate a conflict, introduce destabilizing military capabilities into a region, contribute to regional instability, or encourage terrorism.[1] These principles are noteworthy in several respects. First, they encompass all of the consequences of conventional proliferation identified in this report, and rest upon a much broader conception of the essential elements of security. Second, they are not a legally binding commitment, but rather represent an effort to harmonize national policies around common norms and principles. Third, they are vague, and can support a wide range of interpretations that to date have not been subject to multilateral discussion.

In June 1995, the OSCE Forum for Security Cooperation sponsored a seminar to follow up the decision on the Principles. It highlighted the difficulties in moving beyond the language of general norms and principles. To begin, it focused on technical not political issues, and concerned itself mainly with comparisons of national export legislation, control lists, and licensing and enforcement practices and procedures. While useful (especially if this information can be circulated more widely among OSCE member states, and used to help develop and strengthen the export control systems of newly-emerging democracies), this approach occludes the more difficult political issues raised above. It is possible to imagine identical export control systems with radically different export practices. Finally, the one controversial political initiative on the agenda, an effort to discuss the expansion of the UN Register of Conventional Arms or the development of an OSCE Register, was strenuously opposed by some delegations.[2] Some of the implications of this for particular initiatives that can be pursued will be discussed in the next chapter.

Non-state groups also have proposed measures to strengthen national export controls. Among proposals made by American non-governmental organizations (NGOs) are legislative and other changes recommended by the Washington-based Center for Defense Information, such as an "arms export impact statement" that would

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[1] "Principles Governing Conventional Arms Transfers," 25 November 1993, from "Compendium of Documents and Measures Adopted by the Special Committee of the Forum for Security Co-operation Since September 1992," CSCE Summit, Budapest, December 1994.

[2] Information in this paragraph was obtained from members of the Canadian delegation.

require the Pentagon to report to Congress on the "probable effects of prospective arms sales".[3] The idea of a code of conduct has been taken up in proposals for improvements to British export controls made by the British American Security Information Council (BASIC) and the World Development Movement. In Canada, after a public review that included briefings by Canadian NGOs, academics and defence industry organizations, the Parliamentary Subcommittee on Arms Export recommended several control improvements in 1992 (described below).

The implication is that nationally-based policies need to be coordinated and based on internationally-acceptable norms and principles of non-proliferation, in order to prevent regimes from working at cross-purposes. Lessons could possibly be drawn from the experience of parallel control mechanisms such as the International Atomic Energy Agency (IAEA) or the London Nuclear Suppliers Group. These can only be developed and adopted in multilateral fora, with the key participation of the major suppliers, especially the United States, and with memberships as inclusive as possible. Proposals to this end have already been tabled by some arms control advocate groups. Based on analysis of significant discrepancies between major supplier export practices, the London-based research organization, Saferworld has proposed the harmonization of the country control lists of suppliers.[2] Saferworld and other NGOs have also called for tighter European Union legislation to better govern member state arms exports, based on a coherent, region-wide code of conduct.[3]

Multilateral Supplier Measures

A number of multilateral non-proliferation regimes exist that are based upon formally-agreed supplier restraints. Two, the Australia Group and the Nuclear Suppliers Group, address concerns about proliferation of weapons of mass destruction (biological, chemical and nuclear weapons respectively). Two others, the Missile Technology Control Regime (MTCR) and the Coordinating Committee for Multilateral Export Controls (CoCom) and its successor, the New Forum, are intended to constrain proliferation of conventional arms and sensitive military equipment and technology, although the former is motivated by concern about the ability to deliver mass-destruction weapons by missile. Unlike national export controls, which tend to be based on national legislation, multilateral non-proliferation regimes are based on voluntary adherence.

The experience of these supplier regimes, including those focused on mass-destruction weapons, has isolated a number of issues relevant to efforts to constrain conventional proliferation. On the positive side, the regimes have helped member states identify issues of common interest, have contributed to the co-ordination of national export controls in specified areas, and have succeeded in halting, or at least slowing, the proliferation of weapons and technologies of concern. On the negative side, the operation of the regimes have revealed a number of problems, including the ability of lesser suppliers outside the agreement to circumvent it, the lack of effective controls in some supplier countries (notably the newly independent states arising from the dissolution of the Soviet Union), and the development of indigenous capabilities by recipient states.[4] The regimes have also drawn attention to the tension between export controls and the legitimate interest of developing countries in acquiring new technologies. Already analysts have noted the need to develop more

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[1] "Implementing A Conventional Arms Transfer Restraint Policy," *The Defense Monitor*, 23:8 (1994), 5.

[2] Saferworld/Deltac Limited, *Proliferation and Export Controls: An Analysis of Sensitive Technologies and Countries of Concern* (London: Saferworld/Deltac Limited, 1995), Executive Summary, 2.

[3] Debra Percival, "Europe's NGOs Seek Controls on Trade to South," *InterPress Service*, Brussels, 11 May 1995; Taylor, *passim*.

[4] Yuan, 11.

co-operative supplier-recipient arrangements to prevent a North-South schism in regime goals by concentrating on measures that bridge the supplier-recipient divide.[1]

CoCom in particular exerted a great influence on the evolution of Western supplier export controls, and within its intended goal of restricting exports of strategic goods to Communist countries, it was a relatively effective proliferation constraint measure. A voluntary arrangement of NATO countries (except Iceland), Australia and Japan, CoCom embargoed technologies that could contribute to military capability. It tackled the slippery issue of dual-use technologies head on by including joint military-civilian goods on its control lists. As long as members recognized the security advantages to adherence to the regime, CoCom remained a "containment" tool that contributed to a Western military technological lead. When commercial pressures mounted in the 1980s, however, and the political rationale behind containment weakened, cracks appeared in the regime and attempts were made to by some members to liberalize it. In the end, the rationale for CoCom was overcome by events in Eastern Europe and the regime was formally disbanded in March 1994.

Multilateral discussions to develop a "New Forum" out of the ashes of CoCom continue, and the New Forum is likely to emerge as the one multilateral forum directly concerned with controlling the transfer of conventional military technologies, and with some oversight of conventional arms exports.[2] To the degree that conventional proliferation can be constrained through technology control, the New Forum will be an important site of initiative. It is apparent already, however, that the new regime will be a much weaker proliferation constraint measure than CoCom. Although it will likely have a broader membership, the new organization will focus on a short list of "target" states (four have been mentioned at the outset: Iraq, Iran, Libya and North Korea) whose acquisition of conventional weapons, but especially technologies related to weapons of mass destruction, is of particular concern. The list of controlled items likely will be based on the radically shortened 1994 CoCom Munitions List but there are indications that any final list will be further reduced. The forum will also provide for consultations and exchanges of information among members. Unlike CoCom's provision for member veto over revisions to the list of controlled items, however, the New Forum will almost certainly allow national governments discretion in their compliance with regime decisions. This alone will mean that adherence to the new regime's controls will be subject to much wider variation than CoCom.

Finally, as attempts to combat the proliferation of weapons of mass destruction have demonstrated, it is becoming increasingly clear that strictly supply-side technology controls are of diminishing utility.[3] One of the most important factors reducing the utility of these controls is the widespread access to the relevant technologies — what is known as "technological maturity."[4] As was noted in the introduction, there are at least 69 states capable of producing small arms, ammunition and older-generation conventional arms. These

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[1] Saferworld-Deltac Limited, *Proliferation and Export Controls*, Executive Summary, 2. See also David Mutimer, ed., *Control But Verify: Verification and the Non-Proliferation Agenda* (Toronto: York Centre for International and Strategic Studies, 1994).

[2] See "U.S. Allies Set to Launch New Regime," *International Trade Reporter*, 26 October 1994; "CoCom Successor Held Hostage," *Daily Yomiuri*, 5 November 1994; see "Challenges Await Meeting of New Export Control Forum," *JEI Report* (Japan Economic Institute of America), 15 December 1995; "Military Export Controls to be Loosened," *International Herald Tribune*, 21 September 1995.

[3] For a discussion of the limits to supplier controls in the contemporary efforts to combat proliferation, see David Mutimer, ed., *Moving Beyond Supplier Controls in a Mature Technology Environment* (Toronto: York Centre for International and Strategic Studies, 1995); Aaron Karp, "Controlling Weapons Proliferation in the 1990s: The Role of Export Controls," *Research report SWP AP/2766*, Stiftung Wissenschaft und Politik, Ebenhausen (September 1992).

[4] James Keeley, "Weapons of Mass Destruction as Mature Technologies," in Mutimer, *Control But Verify*, 171-180.

are the weapons of concern in local conflicts, and that contribute to the problems associated with achieving good governance.

Regional Measures

The end of the Cold War and the second Gulf War have fostered a number of regional constraint measures designed either to control arms trade into a region or to build agreement on regional standards for arms exports.

In Latin America, the Organization of American States (OAS) adopted a resolution entitled "Cooperation for Security in the Hemisphere: Curbing the Proliferation of Instruments of War and Weapons of Mass Destruction" in June 1991. The resolution did little more than call for arms export restraint, but it did provide a context within which Canada could press for regional transparency proposals. These included a proposal that OAS members explore transparency options that would reduce the likelihood of excessive arms build-ups. In December 1991, the adoption of the Cartagena Declaration by the five Andean states established a weapons-of-mass-destruction free zone. This marked partial achievement of the first of three initiatives of the twelve-member Rio Group. Additional measures to be formally negotiated and agreed upon seek to prohibit the purchase, transfer and manufacture of new generations of special conventional weapons, and the implementation of regional confidence- and security-building measures that would include the establishment of a regional centre to monitor arms sales and production.[1] Columbia has also been active at the regional and global level in pushing initiatives to deal with illicit arms transfers..

The security dialogue and treaties that emerged from the Cold War in Europe contain many confidence- and security-building measures (CSBMs) that have a non-proliferation component. The OSCE has issued several declarations and documents with respect to arms control and nonproliferation. At the 1992 Prague Council meeting of CSCE ministers, a "Declaration of the CSCE Council on Non-Proliferation and Arms Transfers" recommitted member states to a number of non-proliferation measures based on principles of transparency, consultation and restraint, including a commitment to provide full information to the UN Register of Conventional Arms.[2] This was followed by the 1993 "Principles Governing Conventional Arms Transfers" discussed above.

More significantly, the 1992 Treaty on Conventional Forces in Europe (CFE), developed within the framework of the CSCE, became an important non-proliferation measure by introducing significant conventional arms reductions into Europe. The treaty contains requirements for transparency (a weapons-data exchange) and verification procedures (such as inspections to monitor holdings and aerial overflights) that could be reproduced in (or adapted to) other non-proliferation treaties or agreements. At the same time, the CFE has generated proliferation concerns from "cascading," whereby military equipment is transferred rather than destroyed. Another concern that has emerged in the CFE implementation process (in addition to the question of Russia compliance) is the *cost* of destroying the Treaty Limited Equipment (TLE), especially for Eastern European states. One innovative idea has been for Western firms to purchase the material as scrap,

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[1] Roland M. Timerbaev, and Meggen M. Watt, *Inventory of International Nonproliferation Organizations and Regimes*, 1995 Edition (Monterey: Monterey Institute of International Studies, 1995), 42. The Rio Group includes Argentina, Bolivia, Brazil, Chile, Columbia, Ecuador, Mexico, Panama, Paraguay, Peru, Uruguay and Venezuela. The Cartagena Declaration was signed by Bolivia, Columbia, Ecuador, Peru and Venezuela.

[2] BASIC, "Summary of Recent Initiatives to Control the Arms Trade," March 1992, 23.

perhaps with government subsidies or loan guarantees in order to reduce the cost burden. This could be appropriate for other post-conflict disarmament measures, and might represent an initiative that Canada could pursue with the United Nations and interested Canadian firms.

The European Political Cooperation (EPC) mechanism for coordinating the foreign policy initiatives of European Union (EU) member states has also formed an Ad Hoc Group on Arms Exports, and the EU has formal regulations (which came into effect in March 1995) on the trade in dual-use goods; both measures are designed to harmonize licensing and other procedures governing the export of dual-use technology and equipment. Finally, the EU has mandated embargoes on arms sales to China, Syria, Burma and Zaire (as well as CSCE embargoes on shipments to Armenia and Azerbaijan).[1]

The most important recent Middle East initiative arose from the second Gulf War. In May 1991, U.S. President Bush proposed that the five permanent members of the U.N. Security Council meet to develop guidelines to restrain conventional arms shipments, especially to the Middle East. Three rounds of senior-level meetings were held in 1991 and 1992. The P-5 talks, as they came to be known, established "Guidelines for Conventional Arms Transfers" (issued at the second meeting in London) that were meant to be global in scope. These guidelines (reprinted as Figure 6.5) focused on two consequences of the arms trade: "the dangers to peace and stability posed by the transfer of conventional weapons beyond levels needed for defensive purposes," and the undertaking by UN member-states "to promote the establishment and maintenance of international peace and security with the least diversion for armaments of the world's human and economic resources."

The Guidelines also identify eight restraining conditions for arms transfers, four of which restate the general definitions of "excessive and destabilising" in more concrete terms. The *character* of the transferred weapon is problematic if it introduces "destabilising military capabilities" into a region. The problem of instability is posed in terms of the *use* of the arms or military technologies, as transfers are to be avoided which "increase tension...or contribute to regional instability". The other prohibited uses are: terrorism, interference in others' internal affairs, and (more generally) any uses other than legitimate self-defence. The Guidelines also identify two *circumstances* in which transfers will be avoided: when they might aggravate an ongoing conflict and when they might "seriously undermine" a recipient's economy. Finally, the Guidelines identify one category of *recipients* to whom transfers will be denied: those under UN embargo.

Although the guidelines reiterated conditions that most of the P-5 claimed to already include in their export control deliberations, there was some optimism that future sessions would bring some original measures. The talks stalled on proposals to provide advance notification of conventional arms deliveries to the Middle East, and ended when China withdrew participation in protest of the U.S. decision to sell F-16 fighter aircraft to Taiwan in October 1992. But the Guidelines agreed by the P-5 in 1991 - although never fully implemented - provide the most important statement of a potentially broad normative consensus, and probably the most minimal basis for potential control. They therefore provide a basis for identifying the norms by which a global regime to constrain conventional proliferation might be established, a subject the next chapter will develop in more detail.

Measures in other regions have tended to be much more modest. Within the multilateral discussions on the Middle East peace process, initiated in Madrid in 1991, the Arms Control and Regional Security Working Group has introduced CSBMs that may lead to arms trade restraint within a larger peace-building process.

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[1] Taylor, 12.

Figure 6.5

P-5 Guidelines for Conventional Arms Transfers

The People's Republic of China, the French Republic, the Union of Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland, and the United States of America,

- recalling and reaffirming the principles which they stated as a result of their meeting in Paris on 8 and 9 July 1991,
- mindful of the dangers to peace and stability posed by the transfer of conventional weapons beyond levels needed for defensive purposes,
- reaffirming the inherent right to individual or collective self-defense recognized in Article 51 of the Charter of the United Nations, which implies that states have the right to acquire means of legitimate self-defense,
- recalling that in accordance with the Charter of the United Nations, UN Member States have undertaken to promote the establishment and maintenance of international peace and security with the least diversion for armaments of the world's human and economic resources,
- seeking to ensure that arms transferred are not used in violations of the purposes and principles of the UN Charter,
- mindful of their special responsibilities for the maintenance of international peace and security,
- reaffirming their commitment to seek effective measures to promote peace, security, stability and arms control on a global and regional basis in a fair, reasonable, comprehensive and balanced manner,
- noting the importance of encouraging international commerce for peaceful purposes,
- determined to adopt a serious, responsible and prudent attitude of restraint regarding arms transfers,

declare that, when considering under their national control procedures conventional arms transfers, they intend to observe rules of restraint, and to act in accordance with the following guidelines:

1. They will consider carefully whether proposed transfers will:
   a) promote the capabilities of the recipient to meet needs for legitimate self-defense;
   b) serve as an appropriate and proportionate response to the security and military threats confronting the recipient country;
   c) enhance the capability of the recipient to participate in regional or other collective arrangements or other measures consistent with the Charter of the United Nations or requested by the United Nations;

2. They will avoid transfers which would be likely to:
   a) prolong or aggravate an existing armed conflict;
   b) increase tension in a region or contribute to regional instability;
   c) introduce destabilising military capabilities in a region;
   d) contravene embargoes or other relevant internationally agreed restraints to which they are parties;
   be used to other than for the legitimate defense and security needs of the recipient state;
   f) support or encourage international terrorism;
   g) be used to interfere with the internal affairs of sovereign states;
   h) seriously undermine the recipient state's economy.

Source: US Arms Control and Disarmament Agency, *World Military Expenditures and Arms Transfers, 1990* (Washington, D.C.: ACDA, 1991), 23-24B.

In Africa, the most attention has concentrated on two areas: initiatives from the international financial community to reduce the burden of military expenditures, and attempts at post-conflict disarmament or preventive disarmament measures. Countries like Mozambique, Ethiopia, Eritrea, Chad, Zimbabwe, Namibia, Rwanda and Uganda "have sought donor assistance in developing and implementing programmes to down-size the military sector, promote political reconciliation and repair the ravages of protracted civil wars."[1] The United Nations has conducted in Mali a trial to assess micro-disarmament possibilities, and opened demobilization and disarmament programs in Somalia and Mozambique. The UN Institute for Disarmament Research (UNIDIR) is also conducting an information-gathering project on the disarming of warring parties as an integral part of conflict settlements. Most of these projects have not attracted major international donor support. On the other side of the ledger, failures to demobilize soldiers in Angola and Rwanda contributed to the recent outbreaks of ethnic violence in these states.

Global measures

In keeping with multilateral responses to global challenges from poverty, trade, resource-depletion, population, and pollution among others, there also exist initiatives and proposals for global constraints on conventional proliferation. These are few, however, and the attention paid to conventional proliferation by the international community has yet to reach the levels of other global issues. Within the UN system, considerable work has been done related to weapons of mass destruction, and the experiences of such instruments as the Chemical Weapons Convention, or the International Atomic Energy Association demonstrate that the international community can act in concert on proliferation. Their operations have relevance for conventional arms constraint proposals, especially in the area of verification. The UN has also introduced three measures that address conventional arms proliferation directly - UN arms embargoes, the UN Conventional Arms Register and the efforts to modify the Inhumane Weapons Convention.

United Nations Arms Embargoes

The collapse of Cold War antagonism has brought renewed interest in UN mechanisms for applying multilateral political pressure, and arms embargoes in particular have emerged as a preferred tool of international sanction. Since 1990 the UN Security Council has imposed mandatory arms embargoes on six member states — Iraq, the former Yugoslavia, Somalia, Libya, Liberia and Haiti. An embargo was also imposed on the non-state organization, the National Union for the Total Independence of Angola (UNITA) and the United Nations Transitional Authority in Cambodia (UNTAC) was mandated, among other things, to enforce "an immediate cessation of all outside military assistance to all Cambodian parties."[2] A UN arms embargo of South Africa, mandatory since 1977, was only recently lifted.

While the effectiveness of UN arms embargoes have varied, all have been non-proliferation measures that have prevented, or at least slowed, arms transfers to a party or conflict. Each UN resolution to embargo military trade is a directive to the international community that there are circumstances under which trade in weapons must cease and that no amount of domestic political or commercial pressure can justify sales. Improvements are needed however, including better definitions of the goods subject to embargo, greater willingness to report

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[1] Stockholm International Peace Research Institute, *Yearbook 1994* (Oxford: Oxford University Press, 1994), 450-451. The Uganda program, which involved the World Bank and ten bilateral and multilateral donors, is cited as a model. See also "Downsizing Armies is Difficult, Costly" *Washington Post*, 23 July 1994.

[2] Quoted in Krause, "Controlling the Arms Trade Since 1945," 1032.

infractions, and consistent commitment to an agreed set of sanctions. This last problem is amply illustrated by the eventual erosion of American (and others) support for the embargo of the former Yugoslavia. Open questioning of the impact of the embargo on the Bosnian government, has among other things, facilitated the Iranian supply of large quantities of weapons without international condemnation.[1]

The Register of Conventional Arms

Originally proposed in the First Committee of the United Nations General Assembly by Malta in 1965, the UN Register of Conventional Arms eventually emerged from a 1991 General Assembly resolution (Appendix 6.1) approved by 150 members with no dissenting votes. The end of the Cold War had provided a more fertile environment for multilateral measures to enhance the transparency of conventional arms transfers. But it was the second Gulf War, and the political attention that it drew to the arms trade, that spurred adoption of the register. In the war's aftermath, transparency "began to surface as a purposeful effort," and France, Germany Bulgaria, Czechoslovakia and the Soviet Union all published previously unreleased arms export data.[2] A panel of governmental experts, appointed by the UN Secretary-General to study the "ways and means of promoting transparency in international transfers of conventional arms on a universal and non-discriminatory basis," submitted a report in September 1991 that called for the creation of an arms transfer register under the auspices of the United Nations.[3] By that time proposals for reporting and monitoring international arms transfers had been put forward by, among others, Canada, Japan, Germany, and Britain, and had received endorsements from the UN Security Council permanent five, the Group of Seven (G-7), the European Economic Community, and the foreign ministers of the CSCE.[4]

The Register came into effect from January 1992 and member states were requested to report by April 1993 their 1992 imports and exports of seven categories of conventional weapons: battle tanks, armoured combat vehicles, large-calibre artillery systems, combat aircraft, attack helicopters, warships, and missiles and missile launchers. In recognition of the discrimination concerns of arms recipient countries (who noted that the register would impose more transparency on importing nations than on countries with substantial domestic industries), participating states also were encouraged to submit information on their military holdings and domestic procurement, although this was to be treated mainly in the "further development" (second stage) of the register.

The Register has published two reports based on submissions for the calendar years 1992 and 1993. From the standpoint of the volume of trade in the seven weapons categories, the Register has been quite successful; in both years, more than 90 percent of the estimated export trade was reported. Participation of member states has been far less successful; as of February 1995, 91 states reported for calendar year 1992 and 86 for 1993, less than half of the UN membership (almost all of the major suppliers reported, thus ensuring comprehensive coverage). Despite this, the Register is generally recognized to be an important, if modest, initiative. Participation is voluntary, and based on political agreement rather than international legal convention. The Register is a confidence-building measure designed to demonstrate that the benefits of submission of arms trade

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[1] "Iran Supplies Arms to Bosnian Muslims", *Manchester Guardian Weekly*, 23 April 1995.

[2] Edward J. Laurance, *The United Nations Register of Conventional Arms: Options and Proposals for Enhancement and Further Development*, Research Report for the Non-Proliferation, Arms Control and Disarmament Division, Department of Foreign Affairs and International Trade Canada, Ottawa, September 1994, 7. This report also contains detailed proposals for enhancing and improving the register, which will not be repeated here.

[3] "International Arms Transfers", UN General Assembly Resolution 43/75 I, 7 December 1988, para. 5.

[4] Ernie Regehr, "The United Nations Arms Register," *The Arms Trade Today*, (Geneva: World Council of Churches, 1993), 143.

and procurement data outweigh the drawbacks. Other Register objectives contained in the 1991 UN resolution include transparency and openness, universal participation, the prevention of excessive and destabilizing accumulations of conventional arms, a strengthening of regional peace and security, and trade restraint.[1]

The movement towards further achievement of Register objectives has, however, been slow. A second group of national experts to study the UN Register was appointed by the UN Secretary-General in February 1994 to consider the further development of the Register, in light of its first two years of operation, including the addition of new weapons categories and the inclusion of national holdings and procurement. The biggest reporting weaknesses include: the omission of certain categories (such as light weapons), too-loose definitions of missiles and missile launchers, and a lack of information that could be used to assess the sophistication or importance of the transfer (the sale of a World War II tank to a military museum is reported identically to the transfer of an M1A1 tank!). Although the expert group was unable to reach consensus on any substantial changes, proposals to expand the Register likely will be revisited.[2] Elsewhere, a non-governmental initiative led by the British-American Security Information Council (BASIC) is examining ways to establish an international register of small arms. BASIC's "Project on Light Weapons" is hoping to provide parallel data to that of the UN Register by drawing on information available to academic and non-governmental arms trade researchers.

The most pressing problem for the UN Register may be the lack of participation from a number of significant recipients, however. Increased participation is needed, not only to preserve international political momentum to sustain the Register, but also to establish a multilateral norm of transparency and openness which in turn could foster the development of other norms related to conventional proliferation. Non-participants, especially some of the largest recipients of conventional weapons, must be encouraged to report, perhaps (as suggested in the American Code of Conduct proposal), by refusing sales to states that do not report to the register.

Inhumane Weapons Convention

The profound impact of anti-personnel landmines on civilians and civilian areas has generated public and diplomatic attention to the use and proliferation of a single small arms system. Uncleared landmines are now recognized as a pressing humanitarian issue, as tens of thousands of civilians are killed or maimed each year by the estimated 110 million anti-personnel landmines laid in more than 60 countries. As many more are estimated to be stockpiled around the globe.

The UN Department of Humanitarian Affairs has initiated coordination programs designed to assist national capacities for mine clearance. The UN has also established a voluntary trust fund for mine clearing activities, and UN General Assembly resolutions have called on member states to impose mines export moratoria. Nevertheless, mines continue to be laid faster than they are removed; the U.S. State Department estimates that the ratio may be 25 to one.

The use of landmines is governed by the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which May Be Deemed to Be Excessively Injurious and to Have Indiscriminate Effects (also known as the Inhumane Weapons Convention or the Convention on Certain Conventional Weapons (CCW)). The Convention's Protocol on Prohibitions or Restrictions on the Use of Mines, Booby Traps and

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[1] Laurance, 15-18.

[2] See "Panel Endorses Flawed Register," *Defense News*, 24-30 October 1994.

Other Devices (the Landmines Protocol) restricts the indiscriminate use of anti-personnel mines and prohibits their use against civilian targets.

A conference to review the widely-accepted shortcomings of the Convention was held in late 1995, and failed to come to any consensus. Likewise, a January review conference made little headway, although a compromise document was prepared for consideration at the final session in April 1996.[1] Along with several nations proposing improvements, Canada (which ratified the Convention in June 1994), has announced a unilateral ban on the export, production and use of land mines, and argued at the conference for a requirement that all mines be detectable, for the inclusion of verification and enforcement procedures, and for the addition of internal conflicts to the scope of the Convention.[2] In view of the current limited membership, Canada is also urging other countries to sign and ratify the CCW.

Elsewhere, the International Campaign to Ban Landmines, led by human rights and humanitarian non-governmental organizations, has called for a global ban on the production, stockpiling, transfer and use of anti-personnel landmines. The international campaign, whose objectives have been echoed by the International Red Cross and the UN Secretary-General, argues that only a complete landmines ban will adequately respond to the humanitarian crisis. They fear that the legitimization of mines embodied in the Convention will extend their indiscriminate use. Part of the difficulty stems from the fact that the CCW is part of the "laws of war" (which condone as well as sanction the use of various weapons and attempt to make distinctions among them), rather than an arms control measure.

Despite differing objectives, the international landmines campaign and countries like Canada that are working to strengthen the CCW all face resistance from states that view measures to control or ban mines as discriminatory or unwelcome intrusions into internal security matters. These concerns are not unique to initiatives on landmines - all global initiatives have faced or will face suspicion and resistance to some degree. Understandable reluctance of those states that may be most affected by global constraint measures suggests that how the measures are introduced may be as important as the measures themselves. It reinforces the importance of confidence-building, especially through universal transparency initiatives like the UN Register from which all states may benefit as well as contribute. It also indicates that some sensitivity to concerns about discrimination and sovereignty should be reflected in all measures to constrain conventional proliferation.

Conclusion

This general survey of past and current measures to constrain conventional proliferation illustrates the wide range of mechanisms that are in place, and highlights some major inadequacies in the existing "regime." While these measures perhaps do not form a coherent regime to constrain conventional proliferation, it is possible to underscore several common features that seem to be reflected in measures that cover a diverse range of functional, geographic and organizational areas, and that suggest some general principles that could be used to advance the constraint agenda.

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[1] See "UN Land Mine Conference Makes Little Headway," *Deutsch-Press Agentur*, 19 January 1996; Robert Evans, "Governments Struggle for Accord on Land Mines," *Reuters World Service*, both in Lexis-Nexis, file News/Curnws.

[2] See "Canada Declares Moratorium on Land Mine Use, Sale," *Reuters World Service*, 17 January 1995, in Lexis-Nexis, file News/Curnws; see also Backgrounder to Government of Canada news release, "Canada Announces Program of Action on Land Mines," 5 July 1994.

First, many measures to constrain conventional proliferation rest upon a broader conception of security than the more traditional arms control measures which preceded them. In addition to the concern with inter-state and regional conflicts, many national export control systems make reference to human rights concerns; the P-5 and OSCE principles governing arms transfers make reference to the economic and human costs of arms transfers, and the CCW discussions concern the humanitarian dimension of armed conflicts. This shift echoes a major concern of this report, which is that national and multilateral policies need to be evaluated and promoted in light of a conception of security that takes into account its internal, economic, political and social dimensions.

Second, most conventional constraint measures can be more accurately described as *processes*, rather than *instruments*. The dominant mode of participation is voluntary, and involves coordination, transparency and confidence-building, rather than formal treaty-based measures that involve verification and compliance monitoring. This is perhaps a reflection of the underdeveloped nature of most measures in this field, but it does place some important limitations on the kinds of measures that could be realistically proposed in the short- or medium-term future. In particular, the prospects for formal, multilateral, treaty-based regimes are not strong. The most formal of the non-nuclear measures, the Chemical Weapons Convention (CWC) and the Missile Technology Control Regime (MTCR) are also both undergoing complex processes of implementation and revision, and may provide important lessons in the future for the conventional proliferation agenda.[1] On the other hand, a focus on processes rather than instruments need not necessarily be a weakness, especially in light of the need for measures that take into account internal conflicts and other aspects of security, which come close to the heart of sovereign states' prerogatives.

Third, unlike most elements of the traditional arms control agenda, conventional proliferation measures unfold in a North-South and regional context. The shift from East-West to North-South is not a surprise, but it raises difficulties that were not present when two relatively small groups of states with a strong degree of (enforced or voluntary) internal cohesion confronted each other on questions of arms control and confidence-building. The players are more numerous, the constellations are shifting, and the interests are cross-cutting. A Southern state that may have a strong security interest in particular constraint measures (such as regional restraint in ballistic missiles), may also have strong economic development interests in open access to civilian space launch technologies. A Northern state with a strong interest in constraining proliferation threats on its borders may also face economic imperatives to export advanced military technologies. Perhaps more significantly for the future, the range of measures that can be imagined that have a truly global scope are few in number. Most of the interesting and important initiatives will have either to be designed within, or tailored to, a specifically regional context. How regional measures can be kept consistent with more global "umbrella" measures, and how lessons can be transferred from one region to another, are questions to which no clear answers have yet emerged.

Finally, the focus of conventional proliferation constraint has shifted from a nearly-exclusive concern with supply-side measures, to a process in which suppliers and recipients must be engaged together. This can be witnessed most clearly in the efforts to broaden the MTCR to include states such as Argentina and Brazil, which see clear advantages (access to technology) from being "within" the emerging club, and in the efforts to establish a post-CoCom New Forum. Purely supply-side measures are becoming increasingly difficult to design and implement (and are less desirable), because suppliers face economic imperatives to export arms, because most conventional weapons incorporate "mature technologies," because there are usually several channels of supply, because the blurring of the line between civilian and military technologies makes

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[1] And Canada is promoting the transformation of the MTCR into a global treaty that bans all intermediate range ballistic missiles. *International Defense Review*, May 1995.

constraints more economically costly, and because the relative balance of power between suppliers and recipients has shifted towards the latter. All of these factors suggest that measures to constrain conventional proliferation should rest on some form of cooperative or reciprocal bargain between suppliers and recipients. In this light, initiatives such as the Canadian-sponsored core group, which brings together a diverse range of states, regions and interests, might be the most fruitful avenue for pursuing new instruments and mechanisms.

The next chapter will discuss, in light of these considerations, several possible future constraint measures that could be imagined, and present an informal assessment of the "costs and benefits" of some of them, in order to provide a "menu of options" for Canadian policy-makers.

VII Options For Constraining Conventional Proliferation: Unilateral Measures, Basic Norm Building, Multilateral Opportunities

Introduction

To this point, this report has outlined the contours of the problem of conventional proliferation, to provide a better understanding of the ways in which proliferation can be constrained. This chapter addresses constraint measures directly, presenting in particular a "menu of options" that could be pursued unilaterally, or in various multilateral forums.

Given Canada's capacities and interests, as well as its location in the global arms production and trading system, there will be little that it can do unilaterally. But since the thrust of Canadian non-proliferation and arms control policy has been towards broad multilateral efforts that recognize the importance of building norms to underpin those efforts, this focus should carry over, perhaps with greater emphasis, into the issue of conventional proliferation. Canada's efforts should therefore recognise that it has little direct leverage over the arms trade, but that it does have skills, experience and some influence in multilateral arms control and non-proliferation forums.

Previous chapters in this report outlined several dimensions of the process of conventional proliferation. The four dynamics driving conventional proliferation (supply, demand, technological and political) were identified in the introduction, and examined more fully in chapter three. The three potentially adverse consequences of conventional proliferation (its impact on inter-state conflict; on internal or "ethnic" conflicts, and on democratization, good governance and social and economic development) were discussed in chapter five, in light of the broader understanding of security examined in chapter two.

When these dynamics and consequences are combined, conventional proliferation can be seen not as one, but as three, distinct problems:

- The problem of interstate conflict must be tackled with measures that deal with major weapons systems and military technologies, and concentrate on arms control, transparency, and confidence-building;
- The problem of internal and "ethnic" conflict must be tackled with measures that deal with light weapons, and concentrate on micro-disarmament, demilitarization, conflict resolution, and post-conflict peace-building.
- The problem of the impact of arms acquisitions and military spending on "good governance," and social and economic development must be tackled through international development assistance policies (bilateral and multilateral), and through strategies that build governmental capacities and promote civil society.

As the previous chapter suggested, the majority of measures currently in place to constrain conventional proliferation are aimed at the first problem. There are two reasons for this. First, major weapons systems and associated technologies are *relatively* easy to monitor and control. Second, a focus on the internal, social and economic dimensions of conventional proliferation is a recent development, the result of several factors that have emerged at the end of the Cold War. This suggests that the last two sets of problems may be the most fruitful arenas for policy initiatives.

This chapter presents and examines three sets of possible initiatives for Canada to constrain the proliferation of conventional arms and promote the goals of good governance and greater social and economic welfare.

In the first part of the chapter, it focuses on Canada's own export control policy, and suggests a reformulation of the basis of control (from restricting trade by technology or recipient to directing trade to those states that meet Canada's criteria). The second part concentrates on the basic norms that sustain efforts to constrain conventional proliferation. Since a normative consensus on the legitimate scope and limits of the arms trade will be essential for the success of long-term efforts, we adduce the common principles that seem to be supporting many of the initiatives discussed in chapter six, and suggest ways of developing these into a set of principles to govern the arms trade that could be circulated and promoted by Canada as a means of fostering a greater normative consensus. In the final section, we explore a number of specific practical opportunities to advance conventional constraints that Canada can pursue within existing processes and institutions. In each instance, we suggest in broad strokes what the potential costs and benefits of these measures might be.

Changes to Canadian Arms Export Guidelines

As chapters three and four demonstrated, Canada is neither one of the world's principal arms producers, nor a particularly important arms trader. Canada's share of world arms production is about two percent, and its non-U.S. military trade is between one and two percent of the global arms trade. This means that Canada has little *direct* leverage on the issue of constraining conventional proliferation. For example, the American adoption of the proposed Code of Conduct (appendix 6.2) would have a significant impact, by reducing substantially the number of states who would have access to American arms. A similar code adopted by the Canadian government would have little impact on the arms trade globally, whatever its impact on our arms exports.

Nevertheless, Canada enjoys a high reputation as a responsible exporter, so unilateral actions taken by Canada would reinforce any multilateral initiatives Canada might pursue, and would have the indirect effect of promoting global norms on the arms trade, despite their small direct impact. In addition, the existing policy has not been closely reviewed in light of the changes since the end of the Cold War. We thus begin by exploring the possibilities for unilateral actions Canada could take, with an eye to revealing the possible implications for broader norm-building and the promotion of multilateral efforts.

Four general considerations shape the future parameters of Canada's arms export policy:

- its partnership with the United States, its commitment to the NATO Alliance, and its obligations to the United Nations;
- the component and dual-use nature of its military production;
- the desirability of maintaining some measure of defence industrial capability (especially in high-tech sectors) in Canada;
- the dependence of its defence, and especially high-tech aerospace, industries on exports, and on integration into the broader American market.

Given these considerations, the complete prohibition of Canadian military exports is neither wise nor desirable. In addition, given Canada's role in the global arms trade, a comprehensive ban on Canadian arms sales would have mostly a symbolic value, although it would clearly establish Canada's credentials in the field of conventional arms proliferation.

There are, however, four issues Canadian policy could address that would reinforce the existing arms export policy while taking into account the above considerations: alter the basis of Canada's arms exports from restricted to directed trade, amend the 1986 export control guidelines, undertake and support efforts to improve information-gathering and transparency of military goods exports, and redirect support away from

export-dependent and defence-dependent (as opposed to civilian-oriented) industries. The most important of these are the first two, which concern the formal criteria of Canada's arms export policy.

From Restricted to Directed Arms Exports

The shift from *restricted* to *directed* transfers - from a presumption of sale to a presumption of denial - is an important element of Senator Hatfield's draft Code of Conduct, and of the set of principles discussed below. Such a move would shift the "burden of proof" (that a given sale would enhance security) to those proposing the sale, rather than forcing opponents to demonstrate that a sale may diminish security. The shift to directed transfers also recognises that there is no duty or obligation to sell arms, and would in practice require identifying those states to which Canada is willing to sell military goods. It could also require a sort of "impact assessment" to be a formal (if not public) part of the export decision process.

In fact, a directed guideline is already part of Canada's export control system. The "Automatic Firearms Country Control List (AFCCL)" makes Canada's transfers of automatic firearms directed rather than restricted. The basic statement of control reads:

> Automatic firearms may be exported only to countries with which Canada has intergovernmental defence, research, development and production arrangements. Those countries are listed on the AFCCL.[1]

In addition to providing a directed rather than restricted trade in this area of conventional armaments, the AFCCL also provides strong criteria for directed transfers: specific intergovernmental defence, research, development and production arrangements. This restriction could be extended to other areas of Canada's arms trade; one way to do this would involve replacing the 1986 policy guidelines with a variation of the AFCCL paragraph:

> Military goods and technology (presently ECL Group 2 and ECL Item 5500) may be exported only to countries with which Canada has intergovernmental defence, research, development and production arrangements. Those countries are: Australia, Belgium, Denmark, France, Germany, Italy, Netherlands, Norway, Saudi Arabia, Spain, Sweden, United Kingdom, United States.

In practical terms this also makes sense, as it would direct trade to those states with whom Canada maintains some sort of more durable defence production or R&D relationship. Rewriting Canada's export controls in this way would represent a change in the nature of Canada's participation in the arms trade, and would provide substantial symbolic benefit in the international arena.

A second, less dramatic, means to move toward directed sales would be to revise the 1986 Cabinet guidelines as follows:

> Military goods and technology **may not be exported**, except to countries whose governments:
>
> - pose no threat to Canada or its allies;
> - are not involved in or under imminent threat of hostilities;
> - are not under United Nations Security Council sanctions; and
> - respect and protect fundamental human rights, and do not have a record of seriously violating the human rights of their citizens.

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[1] Government of Canada, *Canada's Export Controls* (Ottawa: Department of Foreign Affairs and International Trade, April 1994), v.

While the restrictions conform closely to present guidelines (with some changes to the human rights clause, discussed below), this reformulation would shift the nature of control from a presumption of export to a presumption of denial. It would bring our policy in line with that of other restrictive suppliers, such as Japan, but would probably result in some restriction on the pursuit of export contracts in parts of the developing world (which in 1992-93, apart from shipments to AFCCL-member Saudi Arabia, represented about ten percent of the export sales of Canada's defence industry).

Amendments to Canada's 1986 Arms Export Guidelines

Much has changed since the most recent enunciation of Canadian arms export guidelines in 1986. They require updating, if only because they make reference to restrictions on exports to the Soviet Union and Warsaw Pact, the existence of CoCom, and the embargo on South Africa.[1] One amendment and three additions to the criteria of the 1986 guidelines could also be suggested. These suggestions would simply make these guidelines consistent with other officially stated Canadian foreign policy goals or policies, and are not intended to advance significantly new restrictions.

Respect for Human Rights

The amendment (noted above) would be to the human rights clause of the existing guidelines. As noted in chapter four, the current focus on the possible use of the exported goods against the civilian population of the recipient state ("countries whose governments have a persistent record of serious violations of the human rights of their citizens, unless it can be demonstrated that there is no reasonable risk that the goods might be used against the civilian population") does provide a loophole. It implies that arms can be sold to governments that violate the human rights of their citizens as long as the goods in question will not be used against them. This was consistent with the Cold War logic of security (in which supporting repressive governments often took priority in the struggle against communism), but it does seem somewhat inconsistent with the broader post-Cold War goals of Canadian foreign policy in this area.

The suggested amendment (countries which "respect and protect fundamental human rights, and do not have a record of seriously violating the human rights of their citizens") has three benefits and one cost. It is consistent with existing government policy and its emphasis on "respect for human rights, democracy, the rule of law"; it takes account of the broader dimensions of security invoked in chapter two; and it addresses the hitherto neglected consequences of conventional proliferation (internal, social and economic) sketched in chapter five.[2] The cost would be foregone export sales to certain states, almost all of which would be in the developing world. Any estimate of the magnitude of the cost depends entirely on a projection of the competitiveness of Canadian defence exports and the size of the future market. As chapter four illustrates, competition for exports has intensified, and large Canadian export sales to the Third World are the product of unique opportunities, rather than a sustained market penetration. Based simply on past performance, Canadian exports to the developing world (not all of which would of course be affected by this measure) were about $200 million annually.

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[1] As a result, Canada cannot even circulate the 1986 statement in various multilateral forums!

[2] The quotation is from the government statement, *Canada in the World* (Ottawa: Government of Canada, 1995), ii.

Participation in the UN Register

An addition that Canada could make to its export control guidelines would be to allow arms exports only to those states which participate fully in the UN Register of Conventional Arms. Such an addition (also found in the draft Code of Conduct in the US Senate), would signal Canada's commitment to the Register as a central element in a regime to constrain conventional proliferation. This addition could be phrased in either a weak or strong form. The weak form would require only that states report transfers in the eight categories as required by Resolution 46/36L, and could be phrased as follows:

> • *participate fully in the UN Register of Conventional Arms;*

The weak version also imposes some costs on Canadian arms exports: in 1994, Canada exported military goods (albeit not necessarily goods that required reporting to the Register) to 18 states that did not report to the Register, for a total value of $289.8 million.[1] If Canada were to be strongly committed to the expansion of the Register to include procurement and holdings, and wished to make a policy shift that had major costs attached, then it could adopt a strong version, as follows:

> • *participate fully in the UN Register of Conventional Arms, including voluntary reporting of military holdings and procurement through national production;*

Such a step would be analogous to the requirement of applying "full-scope safeguards" to nuclear exports that Canada adopted before these were generally required by most states. Clearly, however, this would represent a much greater disruption to Canada's military goods exports, given that very few states presently report information on military holdings and procurement. In addition, it might be argued that not participating in a voluntary exercise is no reason to deny states access to military technology, and that Canada by itself does not have enough "weight" to create momentum towards the expansion of the Register with such as step. In the end, it is probably a step that could only be pursued in tandem with other suppliers, perhaps in the Organization for Security and Cooperation in Europe (OSCE) or other multilateral forums.

Participation in Regional Security Forums

In keeping with the belief that collective defence and security-building should be emphasised over unilateral defence and self-help, Canada could impose a further qualification on recipients: that they participate insofar as possible in regional security organisations. The weakest version of this would require that recipients be members of some multilateral or bilateral military or security forum:

> • *participate in local or regional cooperative measures for their security and defence;*

Such forums could include the OSCE, the ASEAN Regional Forum (ARF), the Organization of American States (OAS) and the Middle East peace process. Since regional confidence and security-building processes are not the only way in which cooperative security can be achieved, Canada could also require recipients of its arms be involved in collective defence efforts wherever appropriate. A version of this requirement is found in the P-5 Guidelines, which commits the P-5 to considering whether transfers will enhance the capacity of

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[1] Figure from Department of Foreign Affairs and International Trade, *Export of Military Goods from Canada*, annual report 1994.

the recipient to engage in collective security efforts (such as UN peacekeeping operations). The impact of such an addition to the guidelines on Canadian exports would probably be minimal (depending on which organizations are included), given that most recipients already participate in some regional security arrangements.

Democratic governments

Given Canada's commitment to democratization, to transparency in military matters, to guaranteeing respect for human rights, and to preventing abuses of military power, a third direction in which the qualifying criteria for arms transfers might be amended would be to make explicit the emphasis in Canadian policy on promoting democratic institutions. This is already indirectly addressed in the 1986 guidelines by the requirement that states not be engaged in systematic human rights violations. Again, in light of the consequences of conventional proliferation elaborated in chapter five and the changed post-Cold War security context, such a step would simply make concrete the shifts in Canadian conceptions of security. The simplest statement would require that recipient governments:

- *are chosen by and permit free and fair elections;*

Free and fair elections represent the minimum, verifiable standard of democracy. One could add further institutional requirements; however, the greater the institutional detail, the more such definitions tend to reflect the European liberal democratic experience and can justifiably be attacked as interfering with the right of peoples to choose their own form of government. Nevertheless, there is one additional criterion which Canada might wish to include: with respect to the link between conventional proliferation and good governance, the key factor is subordination of the military to civilian control. This could be added (borrowing from the draft Hatfield code), as follows:

- *are chosen by and permit free and fair elections, and which have civilian institutions controlling the policy, operation, and spending of law enforcement and security institutions and the armed forces;*

Taken together, these changes would bring Canada's arms export policy up-to-date with changes in the post-Cold War international security environment. They shift the balance of expectation regarding exports from a presumption of permission to a presumption of denial, and they (or some combination of them) permit a more clear specification of the requirements to be met for arms transfers that would be less likely to pose proliferation concerns or to result in the negative consequences detailed in chapter five. They also fit within the parameters for Canadian policy outlined at the outset, although they do impose some potential costs. The rewritten guidelines, in their minimal and maximal versions, would appear as presented in Figure 7.1. The minimal version amends the human rights clause and adds three other conditions; the maximal version shifts the preamble from restricted to directed trade, amends the human rights clause, and adds stronger versions of the three other conditions.

No set of arms export guidelines is perfect, and ultimately the practical issue is not how they are written, but how they are interpreted. Although Canada can rightly pride itself on a relatively restrictive arms transfer control regime, there have been occasions on which other countries have taken more restrictive actions than Canada. To some groups, the guidelines concerning Canadian military exports appear to be regularly overruled, or at least interpreted rather loosely. There is always room for disagreement over interpretation

FIGURE 7.1

Possible Amendments to Canada's Arms Export Guidelines

Minimal version	Maximal version
Canada will closely control the export of military goods and technology to those countries which:	Military goods and technology may not be exported, except to countries whose governments:
• pose no threat to Canada or its allies;	• pose no threat to Canada or its allies;
• are not involved in or under imminent threat of hostilities;	• are not involved in or under imminent threat of hostilities;
• are not under United Nations Security Council sanctions;	• are not under United Nations Security Council sanctions;
• respect and protect fundamental human rights, and do not have a record of seriously violating the human rights of their citizens;	• respect and protect fundamental human rights, and do not have a record of seriously violating the human rights of their citizens;
• participate fully in the UN Register of Conventional Arms;	• participate fully in the UN Register of Conventional Arms, including voluntary reporting of military holdings and procurement through national production;
• participate in local or regional cooperative measures for their security and defence; and,	• participate in local or regional cooperative measures for their security and defence; and,
• are chosen by and permit free and fair elections.	• are chosen by and permit free and fair elections, and which have civilian institutions controlling the policy, operation, and spending of law enforcement and security institutions and the armed forces.

(what constitutes a repressive regime, or will dual-use goods find military applications, or how severe are human rights violations), but in general it is important to have a clear and consistently applied policy that will satisfy both the needs of the defence industry for legitimate export markets and reliable policy guidelines, and the overall goals of Canadian foreign policy. It is also important to ensure that Canadian guidelines are consistent with its initiatives to develop cooperative partnerships with states (especially in the developing world) that respect the rights of all states and peoples to determine how they govern themselves, and how they strive to achieve security.

In the end, however, Canada can achieve little with unilateral changes to its arms export guidelines. Even with respect to decisions over national "embargoes," Canada should consult with its partners in NATO and the OSCE (and with other like-minded states), to ensure that as far as possible national export control systems share common understandings and are not working at cross-purposes. Several specific measures to achieve this will be explored below.

Efforts to Improve Information-Gathering and Transparency

Greater transparency and better information-gathering mechanisms are perhaps the most pressing issues for the multilateral arena, but they depend on the development of national procedures that can then be held up as examples and shared with other states. In recognition of this, Canada took the initiative in 1990, as part of its effort to promote the creation of the United Nations Register of Conventional Arms, to publish annual details of its exports of military goods. This report details the dollar volumes, destinations, and equipment categories (in general terms) of Canadian military exports, exclusive of exports to the United States.

Yet beyond the trade in major weapons systems, which is adequately captured in official (UN Register and national reports) and non-official (SIPRI, IISS and other publications) sources, we have a poor grasp of the nature and scope of the global arms trade. In this respect, there are three initiatives that Canada can undertake to improve its own information-gathering and transparency instruments, as a first step to the development of greater international transparency.

First, the government could resume tracking military goods exports to the United States. As noted in chapter four, these figures were collected informally by the government (in order to keep track of the balance of defence trade between the two countries) and released publicly. No figures have been released since 1991, however, and officials with the Department of Foreign Affairs have claimed that the Department no longer has the capacity to request and compile these figures. As a crucial step to a more complete accounting of Canadian exports, the government should collect and release these figures. It should be stressed that without such an accounting (perhaps also presented in the annual report on the Export of Military Goods), it is difficult (and perhaps somewhat hypocritical) for Canada to advance a credible case for greater international transparency. The costs of this measure are primarily administrative, and could be estimated by reexamining the work required to compile such figures in 1991, when they were last released.

Related to this, Canada could explore means by which greater information on existing exports could be made public, without compromising considerations of commercial confidentiality. Aggregate dollar values reveal nothing about the nature of the material exported, and in particular do not allow any evaluation of whether or not it represents new or destabilizing technologies, or can be used to repress human rights, or would enhance regional security. Likewise, at the level of the UN Register, aggregate numbers of weapons in a given category feature the same weaknesses. Industry involvement in the development of reporting and disclosure mechanisms will be vital, given that the intensely competitive arms market makes even the most

straightforward information occasionally sensitive. Again, the costs associated with this are primarily administrative.

Second, the government could explore the ways and means of developing a multilateral system for tracking dual-use exports (not all the information of which would be for public dissemination). Canada is well placed to investigate this issue: our defence production is relatively sophisticated, our production base is large enough to be relevant, and the nature of our exports (components and dual-use goods) captures well the complexity of the changing nature of the conventional weapons trade that was detailed in chapter three. As noted by one author, one of the principal challenges for multilateral policy in the technological realm "is to develop a series of preventive safeguards that allow the uninhibited flow of dual-use items and technology, while at the same time ensuring its civilian application." Canada should therefore, in keeping with its emphasis on cooperative North-South relations, contribute to the development of monitoring mechanisms that ensure a high degree of transparency, and that permit "effective monitoring of the source, quantity, foreign destination, user and purpose of dual-use items."[1] Perhaps this could be coupled with the development of multilateral triggering or "early-warning" mechanisms in the "New Forum" or elsewhere (see below).

Third, Canada could support efforts to improve mechanisms for tracking the trade in small arms and light weapons. These systems, which include heavy machine guns and medium-calibre weapons, anti-aircraft guns, and some surface-to-surface or surface-to-air missiles and rockets, play a crucial role in most current wars. Yet they are poorly captured by existing export control statistics, which were designed primarily to deal with major weapons systems, and secondarily to stem the flow of advanced technologies. There are two quite different aspects of the problem. First, on the technical side, improved monitoring could facilitate greater control, since in principle the trade in light weapons is no more difficult to track than the global trade in many other commodities. As Aaron Karp points out, a false analogy is often made with the drug trade by those who argue that the trade in light weapons will be extremely difficult to monitor and control. Yet militarily-significant quantities of light weapons are not easy to conceal or transport, and must pass through recognized and well-known customs ports, in ships, transport aircraft or trucks. Further, most of the major production points are well-known. [2] Improved monitoring will not eliminate the illicit trade in weapons, but it might provide policy-makers with some instruments of control. The second, more political, aspect is more difficult to manage, however. Here the problem is not black market transfers (those made without the consent of any recognized authority), but the so-called "grey market" trade that is authorized by states (or officials) but kept from public scrutiny. Such grey market transfers are unlikely to be captured by any improved multilateral monitoring system, although it might increase the likelihood of their detection (and hence the potential cost of being exposed).

As noted in chapter three, many non-governmental projects are under way to address this problem, although few have received official governmental support or assistance. Given the increasing importance of light weapons and small arms, especially in conflict zones in which Canadian peacekeepers have been and will be deployed, improvements in this area are urgent, and directly relevant to Canadian policy.

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[1] Both quotes from Wolfgang Reinicke, "Cooperative Security and the Political Economy of Nonproliferation," in Janne Nolan, ed., *Global Engagement: Cooperation and Security in the 21st Century* (Washington: Brookings Institution, 1994), 182-183. One such initiative, a computerized on-line export data collection system (KOBRA), has been put in place in Germany. The system currently covers *more than 70 percent* of all German exports!

[2] Aaron Karp, "Small Arms - The New Major Weapons," in Jeffrey Boutwell, Michael Klare and Laura Reed, eds., *Lethal Commerce: The Global Trade in Small Arms and Light Weapons* (Cambridge, MA: American Academy of Arts and Sciences, 1995), 26. See also Swadesh Rana, *Small Arms and Intra-State Conflicts*, Research papers 34 (New York: United Nations Institute for Disarmament Research, 1995), which lists about 52 states and 300 firms that manufacture small arms.

The Evolution of Canadian Defence Production

The Canadian defence production base is already diversified between civilian and military production, integrated into the continental market, and focused on dual-use and component production. Global defence industries are, however, suffering from great over-capacities with the collapse of demand since the end of the Cold War, and the entire industry is undergoing a difficult restructuring process. Most producing states are actively pursuing increased exports, but this is widely recognized as a stopgap solution, since few (if any) will succeed in maintaining export levels without large direct and indirect government subsidies to industry.

The future of government policy towards the Canadian defence industrial base is beyond the scope of this report. There are, however, some areas in which these policies can conflict with the goals of constraining conventional proliferation, at least in the short-term. This has been recognized by the former Minister of Foreign Affairs, who has acknowledged that "in the medium to long term, the objective of the government is to assist [defence] companies to convert to other activities. But in the short term, we just can't deny them prospective sales...for the short term there is a contradiction here."[1]

As a general policy goal, the government should ensure that its policies of support for the defence industrial base (whatever form these may take) do not create future dilemmas for (or contradict outright) its conventional arms export policy. The lesson of St. John Shipbuilding is an important one: given the small Canadian demand for naval vessels, the efforts to create "an enduring capability to indigenously design and produce frigates" has resulted in a need to pursue exports in order to preserve jobs, in an environment of intense competition and global shipbuilding over-capacities.[2] Shifts in government policy that undercut long-term investments made by industry are to be avoided if at all possible.

Support should be extended (if otherwise deemed desirable) to efforts: that facilitate the restructuring of particular firms or sectors (which can include a transition from defence to civilian production, or other forms of restructuring); that have a clear spin-off to the civilian economy (of the sort one finds in the aerospace sector, for example); that have an assured national or continental market and thus do not rely upon a large non-continental export market; and that do not simply postpone the inevitable (and inevitably painful) restructuring that is occurring in all major defence-producing states. Government will need to work closely with industry to explore the ways and means by which these goals could best be accomplished.

From a broader macro-economic perspective, it will be important to gain a better understanding of the role and scope of defence production in the Canadian economy, and in particular in its high-tech sectors. Few econometric (or other) studies exist that could assess any of the following questions:

- what are the economic returns and spin-offs from investments in domestic defence production, and are they equal to or greater than returns from alternative investments in high-tech industries?
- in what ways (if any) does defence high-tech production act as an engine for the high-tech sector of the Canadian economy?
- what are the economic costs and benefits of domestic defence production, compared to reliance on imports to meet Canadian defence needs?

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[1] Minister of Foreign Affairs, André Ouellet, quoted in "Canadian Arms Sales Like Dabbling in Arson," *Toronto Star*, 8 April 1995. See also "Canadian Officials Step Up Export Support; Industry Cheers Shift Away from Conversion Effort," *Defense News*, 27 February 1995.

[2] Former Department of National Defence Assistant Deputy Minister (Materiel), Ed Healey, quoted in "Awaiting Export Approval," *Jane's Defence Weekly*, 2 July 1994.

Relative to other Western industrial states (in particular the U.S., Britain and France), the Canadian defence sector is well positioned to move efficiently into the twenty-first century. It will still be important, however, to make decisions that do not leave Canada saddled with an excessively large or uncompetitive defence firms, or that tie the economy's engines of future growth to obsolescing industries.

Multilateral Norm-Building Concerning Conventional Arms Transfers

Conventional weapons differ from weapons of mass destruction, as their possession and use is deemed legitimate under certain circumstances. If effective action is to be taken at the international level against conventional proliferation, a common understanding of the nature and limits of this legitimacy is essential. Canada could therefore contribute actively to the development of a set of principles outlining the limits to the legitimacy of the arms trade. Canada has had an earlier success in devising and promoting a document on the "Principles of Verification," which was ultimately adopted by the United Nations. It could draw on that experience to develop a similar set of principles concerning conventional arms production and trade, which could be advanced through the United Nations or various multilateral forums.

The *enunciation* of a set of principles could (depending on their content and the support they garner) be an important step in efforts to control conventional proliferation, as they would provide common benchmarks against which states' policies could be scrutinized. However, even the discussion of these principles in various international forums would be beneficial to long-term norm-building, even if efforts to achieve a consensus on an agreed set of principles proved to be impossible or premature.

A number of important sources for possible elements of such a statement of principles have already been discussed in the previous chapter; four of them have been reprinted in this report, in the appendices and elsewhere (the P-5 Guidelines for Conventional Arms Transfers, the UN General Assembly resolution that established the Register of Conventional Arms (46/36L 1991), the bill before the U.S. Congress to establish a Code of Conduct for U.S. arms transfers, and the OSCE Principles Governing Conventional Arms Transfers).

The first two of these are perhaps the foundation stones for any future initiatives, representing as they do a preliminary consensus on the legitimate scope of the arms trade among the major arms suppliers, and among the assembled nations of the world. In many ways, despite the collapse of the P-5 process, its statement is the most important, since it represents the minimalist position, and can thus be taken as the best extant statement of the norms concerning the arms trade that enjoy a broad consensus in the international system.

A set of principles concerning the arms trade and conventional proliferation would encompass two broad themes or purposes:

- the identification of the nature and limits of the problems associated with the conventional arms trade and with proliferation;
- the identification of more particular limitations on arms transfers.

With respect to the first, efforts to constrain conventional proliferation must acknowledge the right of states to defend themselves, and to acquire the means for that defence. Nevertheless, the fact that conventional proliferation is seen as a problem, and that governments are considering means to constrain it, suggest that this right has limits. Thus the first purpose of a set of principles would be to identify in broad terms the limits to the rights of arms acquisition, and the consensual understandings of the international community of the problems posed by the proliferation of conventional weapons.

With respect to the second, there is currently no international consensus on when arms transfers should be permitted and when they should be denied. There are a number of ways of expressing such norms. One means of identifying impermissible transfers is to focus on the *character* of the weapon or system involved. Hence weapons of mass destruction (or their components, or delivery systems) are presumed not to be transferred by the norms of the nuclear non-proliferation regime, the Chemical Weapons Convention (CWC), and the Missile Technology Control Regime (MTCR). There may be certain conventional weapons whose characteristics similarly would prohibit their legitimate transfer *tout court* (as, for example, some argue should be the case with landmines).

A second means is to identify those *recipients* to whom transfers are not permitted. This is the thrust behind the effort to identify "rogue states" to which "New Forum" members would not export military technologies, or behind United Nations embargoes. An interesting variation on this theme is to identify those recipients to whom transfers *are* permissible. A third method is to identify the *use* to which weapons may or may not legitimately be put. Finally, the *circumstances* under which transfers are and are not permissible can be identified. The various embryonic codes of conduct engage in both of these broad purposes, and make use of a number of the particular methods of distinguishing permissible and impermissible trade.

For example, the P-5 guidelines give some content to the concept of "excessive and destabilising" transfers, by effectively defining excessive transfers as those which go beyond the needs of self-defence and are beyond the financial means of the recipient state (large and threatening accumulations are militarily destabilizing; overly excessive arsenals are socially destabilizing). The UN Register echoes the P-5 guidelines by speaking of the problems of exacerbating conflict, and of the concerns over the diversion of resources from human development. In its emphasis on *transparency*, it also adds another condition to the legitimacy of the arms trade: that it be open and transparent. Hence arms transfers which tend to create "excessive and destabilising" accumulations of arms are illegitimate, but so too are transfers carried out in secret, or by those who are not legally authorized to do so.

These two documents, the P-5 Guidelines and the resolution establishing the Register, embody the normative consensus as it stood in 1991. The proposed code of conduct for American arms sales (which has *not* been endorsed by the current Administration) goes well beyond that base consensus, but provides suggestions for where norm-building might be focused. In both the P-5 Guidelines and the UN arms register resolution, normative limits tend to be phrased in terms of the uses and characteristics of the weapons and the circumstances into which the arms were to be introduced. By contrast, the primary focus of the Code of Conduct is on the nature of the recipients: a state must be democratic and it must respect the basic rights of its people. While the American view of what constitutes democracy and respect for human rights might not be transferable to the multilateral level, the principles themselves may be.

A Draft Set of Principles

Using these (and other) documents as a basis for discerning an international consensus on the legitimacy of the arms, Figure 7.2 sets out a draft set of Principles Governing Conventional Arms Transfers. This list can be seen as a starting point, which could be promulgated through a variety of forums with the aim of identifying, building upon and ultimately codifying a global consensus.

Figure 7.2

Principles Governing Conventional Arms Transfers

Preamble

The proliferation of conventional weapons and of weapons of mass destruction poses a significant threat to international peace and security. The acquisition and transfer of arms and military technology of all kinds are implicated in conflict and instability. The Members of the United Nations are committed to the establishment and maintenance of international peace and security, with the least diversion of the world's resources towards armaments. As a contribution to the elimination of the threat to international peace, security and human development posed by the proliferation of arms and military technology, the Members of the United Nations accept the following principles to govern the transfer and trade of those arms and technology:

Principles

1 All states have the right to individual and collective self-defence, and the right to acquire arms with which to defend themselves.

2 No state has the right to acquire arms beyond the needs for its own defence, which threaten its neighbours or international peace and security, or which are for use in any way that contradicts the Purposes of the United Nations.

3 All states have the responsibility not to transfer weapons of mass destruction, or materials that are destined to be used to produce such weapons.

4 States have neither an obligation nor a responsibility to sell or transfer arms to other states, except as required by the collective defence provisions of the UN Charter.

5 The production and acquisition of arms should consume the fewest possible of the world's human and economic resources.

6 The production and acquisition of arms must be measured against the contribution they make to international and regional peace and security.

7 Arms should be transferred in as open and transparent manner as possible, consistent with the requirements of national security and commercial confidentiality.

8 Arms transfers should not prolong or aggravate an existing armed conflict, either international or civil.

9 Arms should only be transferred to states that have a representative and legitimate government that respects fundamental human rights, including adherence to and respect for international human rights treaties and agreements.

10 Arms transfers should promote the recipients' participation in UN and other collective security and defence arrangements.

11 No arms shall be transferred to states under a United Nations embargo.

12 No arms shall be transferred to states for use against their civilian populations in ways that would violate international human rights treaties and agreements.

The preamble recognises the three forms of the conventional proliferation problem, making reference to conflict and stability, to its drain on resources, and to the need for human development. The principles aim to develop these themes, with the goal of placing limits on the legitimacy of the arms trade, and recognising (at point three) the relationship between conventional arms and weapons of mass destruction.

Of particular note are points nine and ten. Point nine attempts to set arms transfers into the context of good governance, by requiring states to meet minimal governance criteria for arms transfers, which include a legitimate and representative government and respect for basic human rights. Point ten draws attention to the need to promote multilateral and cooperative arrangements and operations to guarantee international security, either in a regional or global context. The phrasing does not deny the legitimacy of transfers of arms to individual states, outside of regional security structures, but it does highlight the importance of managing the arms trade in such a way as to promote collective (preferably multilateral) commitments "to regulate the size, technical composition, investment patterns, and operational practices of all military forces by mutual consent for mutual benefit."[1]

Taken as a whole, this set of draft principles provides the foundation for efforts to constrain conventional proliferation: a strong normative consensus concerning the limits of the legitimate arms trade and the scope of efforts to constrain conventional proliferation. Clearly, a list of principles cannot by itself create a consensus. However, by promoting such a list within the appropriate forums, Canada could help to generate the debate that is essential to developing, identifying and ultimately codifying such a normative consensus.

Potential Initiatives in Existing Processes

A number of initiatives to reinforce existing constraints on conventional proliferation present themselves currently to Canada. Most involve the development of existing institutions and constraint mechanisms, some can be pursued more or less as unilateral initiatives, others require partnerships, still others involve nothing more than Canada's contribution to a larger process over which Canada has little influence. We have not tried to classify initiatives according to those which appear to offer the greatest "return" for Canada's "investment" of time, effort and resources, but have attempted to indicate some of the potential costs and benefits of each option. We have classified the initiatives (mostly for analytic convenience) into four groups:

- improving and harmonizing multilateral export control systems;
- enhancing publicly-available information and transparency mechanisms;
- creating supplier-recipient linkages, especially on technology transfer issues;
- addressing demand-side issues related to regional and internal conflicts, and military expenditures.

Most of the measures that will be sketched below are examined in light of the details presented in chapter six (and previous chapters); the discussion below presumes some acquaintance with the overall thrust of the report.

Improving and Harmonizing Multilateral Export Control Systems

As was noted in chapter six, the now-defunct CoCom has been resurrected into a post-Cold War "New Forum" for supply-side controls of sensitive conventional or dual-use technologies. The New Forum aims to be a broader nonproliferation effort, and it will likely include a wider range of states, but possess a weaker

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[1] Ashton Carter, William Perry and John Steinbrunner, *A New Concept of Cooperative Security* (Washington: The Brookings Institution, 1992), 6.

set of controls, than CoCom. Nevertheless, effective measures to constrain conventional proliferation will have to be managed multilaterally, and the New Forum is to date the most likely forum for such management.

The problem of harmonizing national export control systems looms large in several respects. First, the export control systems of many (especially new) states in East-Central Europe and the Former Soviet Union are weak, and their state monitoring capacities are limited. Second, there is no clear consensus on the nature of the targets of export controls, and the "least common denominator" list of proscribed states is likely to be short. Third, there is no consensus on the nature of the technologies that need to be controlled, and the commercial pressures for relatively open trade are strong. On the positive side, the membership of the New Forum will increase (and will likely include Russia), and it may include a wider range of states that supply military goods.

The most likely structure for the New Forum will be a tiered set of control lists, with varying degrees of sensitivity, that are subject to different levels of export control. Assuming that the New Forum becomes the focus for supply-side efforts to constrain conventional proliferation (and perhaps the *only* multilateral venue with facilities in which one can discuss the details of non-proliferation export controls), it should be given some emphasis. Of course, the measures discussed here could apply equally to other supplier-side technology control regimes. If Canada becomes a charter member and is engaged in the discussions on its development, there are a number of measures that should be pursued.

First, Canada continue to ensure that the New Forum is open to a wide membership, with as large as possible initial membership and strong incentives to join. As other research has made clear, supply-side controls of military technologies among a limited group of states are of diminishing utility, and hence the New Forum should be built on the basis of a wide membership aimed at the cooperative management of the trade in military goods. While it is vital that all the major suppliers of advanced weapons or technologies are members, membership should include at least the third (and perhaps even some members of the fourth) tier of possible suppliers identified in Figure 1.1: those that can supply some advanced weapons systems or components for such systems. Including the first three tiers of states would require a membership for the New Forum of at least 18 states, although it would clearly be desirable to include as many of the 34 as are identified in the first four tiers.

One should be careful here to match the membership of supplier regimes to the nature of the materials controlled. Since the main concern of the New Forum will be advanced or sophisticated technologies, it should avoid initiatives which encompass technologies that are so widely available that they would require a nearly-global multilateral arrangement in order to be effective. The measures that might be required to deal with certain kinds of dual-use technologies that have widespread and growing civilian applications (such as advanced communications or information-processing equipment) should be dealt with in more cooperative supplier-recipient arrangements, and will be mentioned below.

Second, Canada should promote a balance in New Forum controls between the focus on the *character* of the weapons (ie: the restricted lists) and the *nature of the recipient* (the controlled destinations). The key will probably be *not* the abstract determination of whether or not a particular item is dual-use and could have military applications (its character), but whether a particular export of an item risks contributing to conventional proliferation (its probable or potential uses). It is likely going to be much easier to achieve consensus on the character of items (and how they should be organized in lists) than on the nature of the recipient or the means to evaluate potential uses of technologies. The CoCom experience required no debate over these latter issues, and there are no real multilateral precedents or experiences (other than United Nations embargoes) to draw upon.

Canada should ensure that the criteria implicitly or explicitly invoked are not driven by the concerns of one or two states, and that they can take into consideration the broadest range of consequences of conventional proliferation that this report has outlined in chapter five, rather than simply focusing on the potential for interstate conflict. The problem of harmonization is a critical one: a recent study of the export control systems of four major industrialized states (Germany, Japan, Britain and the United States) found that of the 72 sensitive countries designated by one or more of the four states, almost half of them appeared on only one or two lists and only 38 appeared on three or four lists.[1]

Insofar as New Forum controls will involve supplier control lists that are implemented by national export controls, Canada should thus also promote the standardisation of lists of controlled items and sensitive destinations across all members of the New Forum; information-sharing mechanisms among the members and transparency in export decisions (both decisions to export and decisions to deny export); a shift (as far as possible) from restricted to directed trade (as outlined above); and the promotion of the norms for conventional transfers that were outlined above.

One possible such mechanism has been mentioned above in the context of national export control systems: the development of a computerized multilateral data base on exports of sensitive technologies (perhaps similar to the German KOBRA system). Aside from allowing better coordination of national policies, such a system would allow the identification of countries of proliferation concern, through the development of early warning or "trigger" systems. The necessity for this was amply demonstrated in the acquisition process behind the Iraqi nuclear weapons program.[2] In the conventional field, alerts could be triggered (and consultations conducted) when certain combinations of technologies appeared to be destined for the same recipient, and obtained from multiple suppliers. The best analogy for this is the complex system used to track stock market transactions, which triggers alerts when unusual price movements or volumes of share trading are identified. The system (Stock Watch Automated Tracking - SWAT) tracks 150,000 trades and 40,000 price quotes *daily*. One analyst has suggested the establishment of an analogous Automated Technology Transfer Registry (ATTR), which would specify that all companies engaged in specified technology transfers would have to register them with the ATTR and specify the destination, recipient and end-use of the technologies in question.[3] The ATTR would then check against the proscribed product and destination list of the New Forum, and check for "piecemealing" by which certain systems could be assembled with components obtained from a number of suppliers.[4]

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[1] Sixteen appeared only once; 18 appeared twice. Further, there was great disparity among the lists, and many omissions that were difficult to explain (eg: Sierra Leone and Burundi appear on no lists; Rwanda and Zaire do). Saferworld/Deltac Limited, *Proliferation and Export Controls: An Analysis of Sensitive Technologies and Countries of Concern* (London: Saferworld/Deltac Limited, 1995).

[2] David Kay, "Denial and Deception Practices of WMD Proliferators: Iraq and Beyond," *Washington Quarterly*, 18:1 (Winter 1995), 85-105.

[3] This example is sketched in detail in Reinicke, 186-189.

[4] As the Saferworld report notes with respect to former CoCom controlled goods, "even within the context of current multilateral control it may be possible for potential proliferators and countries in regions of tension to be refused access to some sensitive technologies by one exporter government only to be granted them by another." *Proliferation and Export Controls*, executive summary.

The possible complexity or cost of such a system is often raised as an argument against its viability, either on a national or multilateral level. This is, however, a problem of political will, not a technical problem.[5] There is nothing intrinsically more complicated about tracking arms and military technology transfers, compared to the complex systems in place for tracking global commodity trades, stock market activities, and other questions of national and international accounts. The question of commercial secrecy is important, but safeguards can be put in place (as they have been in the stock market). The question of national security is more important, but since measures in this area are intended to build confidence, the resulting information-sharing and transparency is a long-term means of enhancing security. Further research on the possible modalities of an ATTR should be undertaken.

One final minor measure that Canada should continue to pursue unilaterally are its investments in reinforcing the capacities of the export control systems of the newly-democratizing arms producing or exporting states of Central or Eastern Europe, through the provision of training, equipment, or other assistance. This follows the recommendation of the OSCE Principles Governing Conventional Arms Transfers that member-states should "consider mutual assistance in the establishment of effective national mechanisms for controlling the transfer of conventional arms and related technology." Obviously, efforts should be concentrated on those states that are the most prominent potential technology exporters, and should be tailored to existing Canadian bilateral partnerships and initiatives in this area.

There are few immediate costs associated with Canada promoting any of these measures, since the future of the New Forum (or other supply-side arrangements) depends mostly on American, Russian and West European policy decisions. It appears, however, that improvements to the emerging New Forum will require the attention and participation of officials at higher levels than are currently engaged in the process. It is also unlikely that the New Forum will result in strong multilateral export restrictions on goods or markets that are presently open to Canadian exporters. On the other hand, benefits could include the creation of a more comprehensive forum for the constraint of conventional proliferation; the promotion of standardisation and transparency, and the promotion of a shift from restricted to directed trade (which is important for the long-term constraint of conventional proliferation).

Enhancing Publicly-Available Information and Transparency Mechanisms

The UN Register of Conventional Arms is the most important global instrument concerned with constraining conventional proliferation. It was created in the "window of opportunity" presented by the Gulf War, and seems to have fallen somewhat into abeyance with the passing of that moment. Canada has been committed, not only to the continuation of the Register, but to the extension of the process to include military procurement and holdings. It is one of the few countries to report procurement and holdings, and perhaps the only country to report fully.

Given the present drop in momentum in the Register process, the most apparent opportunity for Canadian involvement in the control of conventional proliferation is to work in whatever way possible for its reinvigoration and extension, to ensure that it does not become a partial instrument, partially adhered to. This can be achieved in the medium term through the promotion of five measures, two of which are purely technical: the furnishing of additional information, the addition of categories of weapons, the promotion of

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[1] And in fact, the cost of the NASDAQ stock system, with its 33.5 billion annual share trades, is only $191 million (U.S.) a year. Since an ATTR would be much less complex, it would cost vastly less, although the start-up costs, and the cost (in time) to firms of supplying information to it, would be somewhat greater. *Ibid.*, 188.

national transparency measures, the development of statistical skills and the provision of a common reporting form for national holdings and procurement.[1]

Additional Information

The General Assembly, in creating the Register, invited "Member States, pending the expansion of the Register, also to provide to the Secretary-General, with their annual report on imports and exports of arms, available background information regarding their military holdings, procurement through national production and relevant policies."[2] This information was to be included in the expanded Register, but the process of expansion has stalled. Canada has, however, been one of the few states to provide a full account of its procurement, holdings and relevant policies; this provides it with the credentials necessary to continue to push for future expansion. Canada should continue to press for universal reporting to the Register and for the mandatory inclusion of national procurement and holdings.

The costs of this step are negligible, as Canada is essentially pursuing this policy at present. The mandatory reporting of holdings and procurement would improve the Register process in two important ways. First, it would fulfil the goal of transparency for the reduction of threat. States are not threatened by other states' imports, but rather by their arsenals. Second, it would make the Register a much less discriminatory instrument. Reporting only imports and exports means that the transparency of small states that rely on imports is much higher than that of large, powerful states which procure weapons mainly (or partly) from their national production.

Additional Categories

The Register records only seven of conventional weapons: battle tanks, armoured combat vehicles, large calibre artillery, combat aircraft, attack helicopters, warships and missiles or missile systems. Resolution 46/36L foresees the possible expansion of the Register to other categories of weapons, but this process has similarly stalled. As the only global instrument concerned with the constraint of conventional weaponry, the Register will in effect anchor any comprehensive approach to constraining conventional proliferation. It is thus important that the full range of conventional arms be included. Canada should work to see the expansion of the Register to cover a greater range of military equipment, including both light weapons and small arms. The first step in such a process would be for Canada to report to the Secretary General all of its military imports, exports, production and holdings, while issuing a call for others to follow.

It is perhaps most important that such an expansion include small arms and light weapons (even if not immediately). As was argued in previous chapters, small arms and light weapons are as much if not more of a problem than major weapons systems. Transparency in light weapons and small arms will not produce the sort of threat reduction which is the goal of the transparency in Register categories. Nevertheless, transparency is an important step to greater constraints. Ed Laurence has suggested, for example, that including small arms and light weapons in the Register opens the possibilities for NGO pressure on national governments, provides the basis for the development of consultative mechanisms on these weapons, and

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[1] For an excellent survey of the Register, its operation, and proposals for enhancement, see Edward J. Laurance, *The United Nations Register of Conventional Arms: Options and Proposals for Enhancement and Further Development*, Research Report for the Non-Proliferation, Arms Control and Disarmament Division, Department of Foreign Affairs and International Trade Canada, Ottawa, September 1994, *passim*.

[2] United Nations General Assembly, Resolution 46/36L, paragraph 10.

provides an important resource for United Nations peacekeepers who may be required to undertake post-conflict disarmament measures in the aftermath of conflicts.[1]

The cost of such a step would mostly lie in the gathering and disseminating of data on small arms, light weapons and other military exports. As has already been noted, there are a number of projects under way by non-governmental organizations to explore mechanisms to collect such data, and Canada should offer concrete support to such efforts. Such an expansion of categories would also go some way to making the Register a transparency instrument that addressed the internal, social and economic consequences of conventional proliferation.

National Transparency

Transparency is a national as well as international issue. The sources of demand for arms are domestic as well and inter-state, and the negative consequences are felt internally as well as regionally. Hence greater openness has a role to play here, especially in the encouragement of "good governance" and the overall reduction of resources devoted to armaments or the military. Canada could promote, either via the UN Register or other mechanisms, the development of public or legislative reporting procedures that would be analogous to the Canadian annual reports on the export of military goods. This effort would involve few costs or resources, but could be pursued in conjunction with bilateral and multilateral development assistance policies.

Statistical Skills

One of the problems countries (particularly in the Third World) face is a lack of capacities to gather national statistics, and the Register itself suffers from the absence of a consensus on how available information should be presented. Even Canada (as noted in chapter four) suffers from some confusions: no formal records are kept of military goods exports to the United States, and the commodity codes used by Statistics Canada to track military exports do not correspond to the Export Control List item numbers used by the Department of Foreign Affairs for its figures, hence the figures are not broadly comparable.

Canada is, however, recognised as a leader in the gathering, organisation and analysis of statistical data, and one small measure that might be undertaken would be the development of a coherent single system for national reporting that could be disseminated to other states, along with the skills and instruments for proper statistical analysis. While our concern is with the promotion of the Arms Register, such measures could have implications beyond the field of arms control. Adequate statistical skills will also help Third World states in their relations with the international financial institutions, or their participation in a wider range of multilateral instruments. Thus, there is the potential for bridge-building within the Canadian bureaucracy, between the Departments of Foreign Affairs and National Defence, Statistics Canada and CIDA, for work in this area.

The cost developing a consistent national reporting system is impossible to estimate; the cost of a relatively small, inter-departmental project to developing a statistical training package will be limited, although there is a potentially greater cost associated with providing training and expertise to countries who want to make use of the package. The benefit would be more accurate and comparable reports provided to the Register, with possible spin-offs in other areas through an increase in the capacities of states to participate in multilateral reporting exercises.

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[1] Edward Laurence, "Addressing the Negative Consequences of Light Weapons Trafficking: Opportunities for Transparency and Restraint", in Boutwell, Klare and Reed, *Lethal Commerce*, 154-155.

Improvements to the Reporting Form

Because it proved politically impossible to include domestic procurement and holdings in the initial Register, it was also impossible to develop a common form for the voluntary reporting of these elements. As a result, those states that have reported national holdings and procurement are doing so on forms of their own devising. In gathering the holdings and procurement through national production in 1993, Malcolm Chalmers and Owen Greene noted that "no standard format was specified for the submission of this information, and it varies considerably in scope and layout."[1] Such variation diminishes the utility of the information, and makes it more difficult for states wishing to report to know what to report and how to do so.

Since Canada does report its holdings and national procurement and has largely impeccable credentials in the area, it would make sense for Canada to develop and disseminate a standard form. Any country that wanted to report information over and above the existing requirements should be offered the Canadian form, which ideally would be simple, clear, computerized and modular, so that it could be tailored to specific non-Canadian requirements. Again, the costs of such a measure are negligible, and the benefits of a common reporting form are readily apparent, as it might facilitate the fulfilment of the Register's transparency function.

All of these measures to improve the Register assume that it will continue to play a role, however small or large, in multilateral efforts to constrain conventional proliferation. Obviously, the amount of resources that should be devoted to promoting any of these measures depends on the degree to which the Register is judged to be an important contribution to constraining conventional proliferation. The primary obstacle at present to the expansion of the Register (indeed to its full functioning even in its present form) is political: military capabilities are considered to be highly sensitive information, and states are not yet comfortable with the norms of transparency.[2] Hence the further development of the Register process is a medium- or long-term goal. However, windows of opportunity to develop global processes do occasionally appear, and moving through these windows can be facilitated by anticipation.

A number of examples of this are evident in arms control and non-proliferation efforts. The East-West Mutual and Balanced Force Reduction (MBFR) negotiations, as fruitless as they were, provided the two blocs with years to sift through the complex data of each others' arsenals to develop a shared understanding of the nature and number of their weaponry. This allowed the Conventional Forces in Europe (CFE) talks, which grew out of the MBFR, to achieve a treaty far more quickly than would otherwise have been imaginable. Similarly, the Register itself was facilitated by the Persian Gulf War: the UN was studying the "ways and means of promoting transparency in international transfers of conventional arms" when the war opened a window for just such a mechanism. Thus, if the political will emerged for broadening the Register, Canada would be well placed to promote the various steps outlined above.

Creating Supplier-Recipient Linkages

Two recurrent themes of this report inform this set of possible measures. First, exclusively supply-side constraints on conventional proliferation may be reaching the end of their utility (notwithstanding the possible development of the New Forum) because of the "maturing" of many conventional weapons technologies.

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[1] Malcolm Chalmers and Owen Greene, *Taking Stock: The UN Register After Two Years*, Bradford Arms Register Studies 5 (Boulder: Westview Press, 1995), 211.

[2] As Shannon Selin points out, in some contexts, the "very word `transparency,' when translated into regional languages, implies `nakedness' or `vulnerability' to some." Shannon Selin, *Asia Pacific Arms Buildups*, part two ("Prospects for Control"), working paper 7 (Vancouver: Institute of International Relations, UBC, 1994).

Second, the new political and security environment of the post-Cold War world requires efforts to bridge the gap between suppliers and recipients (which is often a North-South gap as well).

Hence the goal of mixed measures to constrain conventional proliferation is to bridge the gap between supply-side and demand-side measures in order to overcome the resistance to exclusively supply-side measures that recipient states have argued are discriminatory and unfair.[1] In the emerging global arms market sketched in chapter three, purely supply-side controls will become increasingly difficult to exercise, because suppliers face economic imperatives to export arms, because alternative channels of supply exist, and because the relative balance of power between suppliers and recipients has shifted in favour of the latter. These factors suggest that measures to constrain proliferation must also rest on some form of cooperative "bargain" between suppliers and recipients.

Although there are no easy ways to overcome the tension between discriminatory supplier-based measures and non-discriminatory supplier-recipient arrangements, there are two general measures that could be explored. The first, the development of *conditional technology access* regimes, would constrain proliferation by encouraging potential suppliers of military technology to participate in "robust" export control systems and information sharing mechanisms (analogous to the Australia group or MTCR). The expansion of the MTCR (and its possible transformation into a global treaty) has highlighted a number of difficult issues that surround technology transfer restrictions.[2] While adhering to the goal of constraining the transfer of advanced military technologies, Canada should continue to push for the expansion (or transformation) of such regimes into collaborative supplier-recipient arrangements that are not perceived as discriminatory by the majority of developing states.

Conditional technology access regimes will require strong national verification and compliance monitoring mechanisms to allow other member-states to query national policies or their practical implementation. Possible dual-use technologies of proliferation concern include the computing, electronics, communication, aerospace, precision-machining and materials sectors. A conditional technology access regime would be analogous to a "members' club" with three simple rules: specified high-technology goods will be traded freely among the members of the club; these goods will not be used militarily against other members of the club; and these goods will not be traded outside of the club. The second of these rules suggests that such a regime would have to be embedded within broader security guarantees in regions such as the Middle East, Northeast Asia, Southeast Asia or Latin America.

The economic and industrial benefits gained from access to high-technology products for civilian economic development will almost always outweigh the potential short-term benefits to be gained from their export, and hence the creation of conditional technology access regimes is limited by the ability of states to create adequate national export control systems, by the number of participants (which increases the complexity), by the nature of the technologies in question (with such things as software being virtually impossible to control, while items such as precision machine tools being relatively easier to control), and by overall patterns of security cooperation.

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[1] This section draws upon Keith Krause, *The Maturing Conventional Arms Transfer and Production System*, report for the Non-Proliferation, Arms Control and Disarmament Division, Department of Foreign Affairs and International Trade Canada (September 1994), 35-37.

[2] See *International Defense Review*, May 1995.

Conditional technology access regimes are, however, better suited to controlling dual-use technologies and components than actual weapons systems; the latter can probably only be addressed in exclusively supply-side controls as outlined above. It is politically problematic to link the trade in weapons, which is implicated in national security and alliance relationships, to the economic benefits of access to critical technologies. Some of the acrimony in the Chinese-American relationship, for example, stemmed from the linkage of Chinese arms export policies to the extension of most-favoured nation (MFN) status for international trade.[1] It is easier, on the other hand, to participate in a restraint regime if it concerns dual-use technologies and components, is less politically visible, and is part of an ongoing multilateral process of consultation.

The second type of measure, *conditional technology assistance* relationships, would focus attention on potential recipient/producers or states of proliferation concern. For the industrialized first and second-tier states that are produce advanced conventional military technologies, enhanced *access* to high-technology goods is sufficient to encourage restraint in military technology transfers, because the public or private sector can make use of this access to facilitate investment and economic growth. The benefits of access to technology are tangible and immediate (as are the costs of curtailed access), in the competitiveness of industrial sectors and the development of national infrastructures (telecommunications, high speed data analysis and transmission, supercomputer applications). But for other states in the developing world, simple *access* is not a sufficient inducement to guarantee their participation in technology control regimes: these states may gain nothing from increased access without *assistance* to use and profit from the technologies made available.

There is an important perceptual gap here between the North and the South that complicates the task of designing effective conventional non-proliferation measures.[2] From the Southern perspective the important issues are national security concerns and the right of self-defence, the perceived "right of access" to high-technology as part of economic development assistance, and the transparency of restraint regimes. Most of these concerns can be addressed, but they require a different sort of bargain than that which informs technology *access* measures, where participating states share certain common goals and perceptions, and where the linkages that make the regime work do not extend to other issues areas (such as development assistance). As a result, conditional technology assistance relationships will have to link technological development assistance to strong end-use guarantees, or to participation in universal or regional proliferation constraint measures (the UN register, for example) and regional confidence and security-building processes.

The legitimate desire to participate in high-tech efforts (such as space programs, or advanced electronics and communication) should not be hindered by such technology restraint regimes. Likewise, greater diffusion of many of the technologies in question (in particular information and communications technologies) may also contribute to greater governmental and societal openness, as evidenced by the tight controls that authoritarian states often put on access to such items. Canada should thus seek ways (perhaps in the core group, or in the MTCR itself) to ensure that such regimes do not hinder economic development, but that recipient states understand that their access to high technology goods is contingent on the use of such technologies for peaceful purposes. Forums for information sharing and compliance monitoring also need to be developed.

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[1] For a good overview see R. Bates Gill, *The Challenge of Chinese Arms Proliferation: U.S. Policy for the 1990s*, report of the Strategic Studies Institute, U.S. Army War College, 31 August 1993.

[2] Evidence of this has emerged from the 1993-94 discussions in the Disarmament Commission on draft guidelines on the "role of science and technology in the context of international security, disarmament and other related fields."

Addressing Demand-Side Issues

It is clear that conventional proliferation is both demand and supply-driven, and that the negative consequences are felt primarily at the regional and domestic level. Inter-state conflicts are likely to begin, and be largely managed or resolved, regionally. Questions of good governance are often couched in regional terms, and neighbouring states often face similar challenges concerning social and economic welfare. Conventional proliferation must, therefore, be seen largely in the context of regional processes for establishing and guaranteeing security. But as chapter five points out, the linkage between conventional proliferation and conflict is particularly thorny and not subject to simple generalizations, especially since arms transfers can be a legitimate means of obtaining security in some contexts.

This last dimension of constraining conventional proliferation presents some of the potentially most innovative or important initiatives, but also the least fully worked out. Insofar as Canada has some comparative advantages in this area, it should concentrate on these issues, which will also be less likely to receive attention from the major arms suppliers. At least three issues could be looked at closely, only the first of which has been explored to date:

- the development of regional transparency, confidence-building and information-sharing measures;
- exploration of the linkage between military and armaments spending, the promotion of human rights, and social and economic development;
- promotion of practical early-warning and post-conflict disarmament measures;

Regional Transparency, Confidence-Building and Information-Sharing

The principle of transparency underlying the UN Register applies equally (and perhaps more strongly) in the regional context. As most military threats are perceived in a regional, not global, context, regional processes of transparency will target the demand for arms more directly than does the UN Register. In addition, regional processes to develop shared understandings of such things as "excessive and destabilizing arms buildups" would represent a step towards the development of the global norms outlined above.

The OAS and the ASEAN Regional Forum are already considering regional registers, and the UN has held some regional sessions designed to improve reporting to its register. Such registers by themselves will not necessarily provide much additional information, and they probably should not be pursued in isolation from other confidence-building or transparency mechanisms, or unless they represent advances over existing information. The idea of an OSCE Register, for example, appears to enjoy little support, would not greatly improve our base of knowledge, and given the existence of the CFE treaty and other CSBMs, offers few incremental benefits. On the other hand, the possibility of greater monitoring of illicit or light weapons transfers, the reporting of national holdings and procurement, or the development of a regional code of conduct within the OAS might represent an improvement over existing mechanisms.

The OSCE is an appropriate regional forum within which Canada can pursue greater coordination of export control policies, especially given the 1995 exercise in which member-states submitted details of their national policies and practices. This information, if further analyzed and made publicly available to researchers, could be extremely valuable in harmonizing policies, and could be integrated into some of the other measures suggested above (especially those concerning the New Forum). Three particular steps could be important here. First, the information already gathered could be analyzed to present the extent and detail of items on national control lists, and the way in which sensitive destinations are determined. The goal would not be to compare national policies, but to present a composite picture of the range and type of items and destinations

that are controlled, as a step towards greater harmonization of policies. As noted above, even the national policies of four major industrialized states (Germany, Japan, Britain and the United States) show wide variations and present potential loopholes.[1] One of the largest problems, however, is that the OSCE itself has limited analytic and research capacities; these perhaps would need to be reinforced.

Second, OSCE member-states should be asked to provide information concerning the way in which national export control legislation and policies embody the intent of the OSCE principles governing conventional arms transfers, and in particular how they make judgements concerning such issues as respect for human rights or what constitute "excessive and destabilizing arms buildups." Again, the goal would not be invidious comparisons, but a move towards greater harmonization, and to giving practical meaning to the principles embodied in the OSCE code of conduct.

Finally, the Secretariat should be given permission by member-states to publish the information on national export control systems or to make it available to non-governmental organizations such as SIPRI or Saferworld, which are conducting ongoing work to promote harmonized multilateral export control systems.[2]

To the degree that arms acquisitions are driven by perceptions of threat, regional confidence and security-building measures (CSBMs) can also reduce that demand by reducing threat.[3] Because CSBMs are so closely tied to the CSCE experience, however, any Canadian action in this area must be carefully applied. There is tremendous risk of initiatives being dismissed as attempts to apply the European experience to inappropriate regional contexts. Nevertheless, as with regional registers, processes to develop transparency and increase military-to-military contact within regions may serve to reduce threat perception and thereby reduce the demand for conventional arms.

Finally, while Canada can suggest the use of regional registers, or other regional confidence-building or information-sharing measures, it can do little more than that. Regional security processes of any kind must be regional processes in order to be effective, they cannot be imposed from the outside. Canada's involvement in the promotion of any security initiatives within regional security contexts other than Europe, the Americas and various Asia-Pacific forums risks being seen as an attempt at such imposition. The benefits of functioning regional security processes, on the other hand, cannot be over-stated. With the end of the Cold War, local and regional contexts are the most important ones for almost all states. Ultimately the demand side of conventional proliferation may be best addressed (indeed, it is possible that they may *only* be addressed) at the regional level.

Military and Armaments Spending, Internal Conflict, and Social and Economic Development

The problems of reducing military spending, encouraging democratization and the transition from authoritarian rule, and fostering economic and social development are all implicated indirectly in processes of conventional proliferation, but are difficult to tackle with the traditional measures of proliferation control.

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[1] Saferworld/Deltac, *Proliferation and Export Controls.*

[2] The problem here is a technical one. The material submitted by member-states is not confidential, but in the absence of a formal directive from the OSCE Forum for Security Cooperation, the Secretariat will not make available the material to outsiders, while at the same time many member-states appear to assume that such access is already provided.

[3] See Jim Macintosh, "Non-Proliferation: The Role of Confidence-Building," in David Mutimer, ed., *Control But Verify: Verification and the Non-Proliferation Agenda* (Toronto: York Centre for International and Strategic Studies, 1994), 195-214.

In addition, the stabilization of many regional conflicts has often been achieved only at the expense of increasing levels of armaments and larger armed forces. The result has often been high levels of domestic repression, an overly-great role for the military in political life, and the suppression of the development of civil society. At a minimum, mechanisms should be developed that allow official attention to be drawn not only to the inter-state dimensions of conventional proliferation, but also the internal dimension, on which the success of our overseas development assistance policies depend.

With respect to internal conflict and democratization, the most important steps will promote the practices of good governance *within* states, through practical measures such as reforming the organization of the armed forces, demobilizing soldiers after conflicts, or ensuring civilian control of the armed forces. Similarly, the problems of social and economic development call for strategies usually considered far removed from arms and proliferation control. Indeed, the standard non-proliferation response - supplier controls on arms and technology transfers - might actually have a negative effect on economic development in two ways. Controls will tend to increase the cost of arms for the recipient state, and hence could result in a greater diversion of resources to armaments; restrictions on the transfer of technologies with civilian applications could also slow economic growth. Rather, constraint must be achieved by reducing the perceptions of threat in the recipients, by increasing domestic transparency and accountability, and by building the capacities of the state and civil society.

The link between conventional proliferation and economic and social development also deserves closer attention. To date, few conclusions can be drawn for a general relationship between arms, military spending, and economic and social development. One of the initiatives suggested in chapter five would be further study into the quantitative and qualitative measures (perhaps tailored to specific regional or local contexts) that could be used to help identify states that were devoting disproportionate resources to the armed forces. The goal would not be to produce a simplistic or universal index, but to develop general criteria that could be used in conjunction with other information to build an international consensus on regions or countries of particular concern.

Canadian policy could take the lead by adopting a targeted approach that focused on specific states with which Canada has long-standing partnerships, or which already stand out on various indices as devoting a disproportionate amount of resources to the armed forces. Measures to be explored could include working:

- with governments in newly-democratizing states to help them reduce the burden of the armed forces on society, via retraining programs for former soldiers, the construction of housing, or the expansion of "national service" into civilian realms.
- to ensure that development assistance did not facilitate the diversion of resources into the military or armaments, and to ensure a proper balance of spending on the military and social and economic welfare.
- to help develop government capacities for transparency and accountability in military and armaments spending (by improving expenditure data, for example), and to foster institutions and organizations within civil society to act as a check on arbitrary or secretive policies.

Some of these policies are being explored by multilateral financial institutions, which have underlined the importance of a cooperative rather than confrontational approach to these issues. It is clear, however, that there are many willing partners in the Third World, whose democratization projects could easily fail for want of assistance from the international community in the security realm.

Practical Early-Warning and Post-Conflict Disarmament Measures

The small arms and light weapons that fuel local conflicts are much more difficult to track than are major weapons systems, and the problem is demand-driven to a much greater extent. Further, illicit (black and grey market) arms transfers contribute in a major way to local conflicts (as the example of the war in the former Yugoslavia illustrates). Efforts to cope with this need to promote more effective monitoring of the global flow of light weapons (perhaps in conjunction with the development of early-warning mechanisms), and to try to *remove* arms swiftly following conflict. In addition, the concerns with good governance and human and social welfare noted above are also affected by the unconstrained traffic in small arms and light weapons.

Improving transparency in the trade in light weapons and small arms, especially on a regional level, is critical. The development of regional transparency will be an essential precursor to any efforts at controlling the flow of light weapons, or at micro-disarmament. By itself, however, transparency will not ameliorate or avoid potential conflicts, unless coupled with the development of early warning systems or criteria that could bring suspicious arms buildups to the attention of the international community. The tragic examples of the genocide in Rwanda, or the civil strife in Somalia, stand out as one to be avoided at all costs in the future.[1]

An additional measure that requires some investment is direct assistance for post-conflict disarmament and demobilization measures to reduce the likelihood of new conflicts erupting into violence. Ceasefire arrangements for most internal conflicts include some form of demobilisation and disarmament of the troops of warring factions. Further investigation of ways to overcome the technical and organizational problems associated with disarmament programs (such as gun buy-back programs or simultaneous cantonment of weapons by warring factions) is crucial. Attention must also be paid to the often poor social and economic situation of demobilized soldiers, which represents a serious source of instability for the state and for local communities. Arms and violence are often perceived as the only way to meet basic human needs, especially by young men who have experienced little but violent conflict.

The critical problem of removing land mines from conflict zones is receiving a great deal of attention from the international community, and Canada should continue efforts to improve the resources available for mine clearance, and to work for changes to the CCW that would prevent similar situations from developing in the future. Finally, it would be useful to investigate ways of removing small arms and light weapons from potentially volatile situations before, rather than after, fighting has erupted.

Hence Canada is well placed to follow up on the United Nations Secretary General's proposal for micro-disarmament, by investigating the role the United Nations could play in providing support for micro-disarmament measures. In summary, these could include:

- the implementation of post-conflict micro-disarmament measures such as gun buy-back or weapons registration programs;[2]
- the development of post-conflict disarmament mechanisms and procedures to be implemented by United Nations peacekeeping or post-conflict peace-building forces;

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[1] Stephen D. Goose and Frank Smyth, "Arming Genocide in Rwanda," *Foreign Affairs* (September/October 1994), 86-96. In the years preceding the violence, "the Rwandan army spent a mere $6 million to purchase 70 light mortars, 10,000 high explosive mortar shells, 2,000 RPG-7 rocket propelled grenades, 450 Egyptian-made AK-47 assault rifles and three million rounds of ammunition, all of which were undoubtedly used by government forces and government backed militias in mass slayings of civilians." Boutwell, Klare and Reed, *Lethal Commerce*, 9.

[2] Some work on this has already been conducted by the United Nations Centre for Disarmament Affairs and the Monterey Institute of International Studies, and the United Nations Institute for Disarmament Research, but it is preliminary in nature.

- the exploration of "preventive micro-disarmament" measures, either through buy-back or weapons registration programs, or other measures to stem the illicit trade in light weapons.
- the offering of assistance in resettlement and demobilization of armed forces, including measures to facilitate a smooth transition from military to civilian life.
- the enhancement of measures to assist in mine clearance and rehabilitation efforts.

No attempt has been made to estimate the costs and benefits of these sorts of measures, since they are almost entirely at the exploratory or initial stages. However, the development and promotion of most of these ideas is not particularly costly for Canada (in terms of foregone military goods exports, or enhanced export control mechanisms), although some of them do require that specific resources be committed to the issue of constraining conventional proliferation, either within existing development assistance programs or the resources devoted to multilateral institutions.

Conclusion

This report has not been able to deal in detail with all of the issues surrounding the problem of conventional proliferation, nor has it been able to sketch out all of the possible measures or solutions that could be promoted or adopted. But the range of measures surveyed in this chapter can be seen as part of a relatively coherent strategy for constraining conventional proliferation. They have been summarized in an abbreviated form in Figure 7.3.

They recognize that most states, including Canada, are not in a position to effect tremendous change in the conventional arms proliferation arena through unilateral action. Canada's role in the global arms production and transfer system is small, and its general political capacity to effect change in this area is too slight. On the other hand, there remain many specific steps that Canada, solely or in conjunction with like-minded states, could take that focus on its comparative advantages, draw upon its foreign policy tradition, and take up issues that are otherwise likely to be ignored by the international community.

Given that Canada cannot have a substantial direct impact on the conventional arms trade, but that it has a strong commitment to effective action to constrain conventional proliferation, most of its policy initiatives should be focused on the multilateral arena. In particular, since Canada has recognised that effective multilateral action must be grounded in a clear and consensual set of norms, most of the measures outlined above have as a direct or indirect goal the development and promotion of norms to govern the conventional arms trade.

In addition, these proposals suggest that attention needs to be focused on the broader context within which the problem of conventional proliferation is embedded. Although most efforts to constrain conventional proliferation have addressed the problem of major weapons systems or advanced technologies of proliferation concern (and the inter-state conflict consequences), the other issues on the agenda - internal conflicts, the flow of light weapons, the demand for access to technology, the promotion of transparency - all play an equally (if not more) important role in constraining conventional proliferation.

Finally, the need for additional research on the wide range of issues connected with efforts to constrain conventional proliferation is clear. The problems are complex, and the linkages between arms production, conventional proliferation, conflict and insecurity are often poorly understood. Many important questions have been noted in this report, but four areas of research are particularly worthy of attention:

FIGURE 7.3

A Summary of Potential Initiatives to Constrain Conventional Proliferation

Changes to Canada's Arms Export Guidelines	**shift from restricted to directed trade**	
	amend the 1986 arms export guidelines by including:	• respect for and protection of human rights • participation in the UN Arms Register • participation in regional security forums • representative or democratic regimes
	improve information-gathering and transparency by:	• resuming tracking exports of military goods to the U.S. • exploring better dual-use export tracking mechanisms • supporting efforts to track the trade in light weapons
	redirect support to the defence industry to:	• lessen the dependence upon military exports of particular sectors • encourage a transition from defence to civilian production • promote civilian spin-offs
Multilateral Norm-Building Efforts	**promote a draft set of principles in the appropriate regional or global forums**	
Initiatives within Existing Processes	**promote the harmonization of multilateral export control systems by:**	• encouraging wide membership in the New Forum and a focus on the broad consequences of conventional proliferation • exploring the development of a multilateral computerized data base and tracking system for dual-use exports • reinforcing national capacities for export control
	enhance information-gathering and transparency capabilities by:	• promoting reporting of national holdings and procurement to the UN Register • advocating the addition of new categories of weapons • encouraging national transparency and reporting • harmonizing national statistics (including Canada's) and enhancing the statistics-gathering skills of developing states • harmonizing the existing reporting form for national holdings
	foster supplier-recipient linkages by:	• promoting conditional technology access regimes • promoting conditional technology assistance regimes
	address demand-side issues through:	• encouraging regional transparency, confidence-building and information-sharing • working with specific states to reduce military expenditures, retrain and demobilize military personnel, improve national accountability and foster civil society • exploring a range of practical early-warning, micro-disarmament, and post-conflict disarmament measures, including gun buy-back or weapons cantonment, mine clearance and rehabilitation, assistance to demobilized soldiers, measures to stem the illicit weapons trade, and mechanisms and procedures for UN disarmament operations.

- exploration of ways to improve the monitoring (and regulation) of the international trade in light weapons, and the associated phenomenon of illicit weapons transfers;
- investigation of the regional context for comparative measures to identify states that are devoting disproportionate resources to armaments, or to military expenditures;
- analysis of the contribution that Canada could make to building the capacities of the United Nations to engage in post-conflict or preventive disarmament efforts;
- examination of the importance and role of defence production in the Canadian economy, and in particular its high-technology sectors, with the goal of facilitating transition and restructuring efforts.

The problem of constraining conventional proliferation presents uncommonly intricate dilemmas and complex issues to policy makers. The arms trade is a legitimate part of international politics, and the security concerns of states cannot be ignored or wished away. Likewise, the economic, political and technological dimensions of arms production and export policy are perhaps unique in their complexity. Difficult policy trade-offs or choices must always be made in order to balance conflicting goals or follow a consistent foreign and domestic policy.

On a multilateral level, successful efforts to constrain conventional proliferation require simultaneously broad participation from the international community, and the focused commitment of a small number of key states. Canada's instinctive commitment to multilateralism, and its long tradition as a conflict-resolver and problem-solver mean that it should devote its resources to ensuring:

- that the participants in a range of multilateral arrangements to constrain conventional proliferation (such as the OSCE or New Forum) do not work at cross purposes;
- that new partnerships and coalitions (such as in the core group or the MTCR) are formed to break down the barriers between suppliers and recipients of weapons technologies; and
- that efforts to constrain conventional proliferation are conceived and executed against the backdrop of the broader conception of security that takes account of its human as well as state-centred dimension.

There are no short-term panaceas to the causes and consequences of conventional proliferation, but there are some innovative solutions on the table. As many of these as practical should be pursued by Canadian policy-makers, in order to ensure that concrete steps are taken to address the most important remaining issue on the arms control and non-proliferation agenda.

VIII Appendices

APPENDIX 5.1

Military Expenditure and Social Welfare Indicators (early 1990s)

State	HDI rank	Milex-social welfare ratio	Milex/ capita	Milex as % of GNP	Public spending on Education (per capita)	Public Spending on Health (per capita)
Canada	1	15	375	2.0	1021	1123
Switzerland	2	14	675	1.5	1392	1432
Japan	3	12	326	1.0	1107	1101
Sweden	4	16	605	2.3	1486	1554
Norway	5	22	712	3.1	1508	1375
France	6	29	781	3.5	942	1140
Australia	7	24	361	2.4	611	696
United States	8	46	1165	5.1	1095	1012
Netherlands	9	22	488	2.5	902	919
Great Britain	10	40	685	4.2	601	663
Germany	11	29	533	2.8	714	959
Austria	12	9	232	1.0	935	890
Belgium	13	20	486	2.3	799	977
Denmark	15	18	530	2.1	1467	1084
Finland	16	15	355	1.9	1190	890
Luxembourg	17	10	296	1.2	1090	1225
New Zealand	18	16	164	1.9	652	631
Israel	19	106	1094	8.6	765	179
Barbados	20	5	34	0.6	479	241
Ireland	21	12	158	1.4	550	600
Italy	22	21	361	2.1	526	841
Spain	23	18	212	1.7	382	443
Greece	25	71	387	5.5	132	201
Cyprus	26	17	580	1.3	234	127
Czechoslovakia	27	17	309	1.6	156	114
Hungary	31	18	128	2.0	139	81
South Korea	32	60	250	3.8	146	14
Uruguay	33	38	81	2.1	71	28

Russia	34	132	976	10.0	166	89
Trinidad	35	9	51	0.6	132	91
Argentina	37	51	127	3.3	87	32
Chile	38	68	83	4.8	48	33
Costa Rica	39	5	8	0.5	81	125
Malta	41	10	54	0.8	201	206
Portugal	42	32	220	3.1	206	175
Singapore	43	129	855	5.8	172	108
Brunei	44	125	1297	9.0	570	90
Venezuela	46	33	107	2.0	101	50
Panama	47	34	32	2.5	96	28
Bulgaria	48	29	172	2.8	165	114
Poland	49	30	202	2.7	72	58
Columbia	50	57	33	2.7	35	10
Kuwait	51	88	2088	6.5	797	739
Mexico	52	5	17	0.3	71	6
Thailand	54	71	49	3.5	72	12
Qatar	56	192	1896	12.5	453	--
Malaysia	57	38	107	3.1	121	29
Bahrain	58	41	546	4.7	324	179
Fiji	59	37	48	2.6	101	36
Mauritius	60	4	9	0.2	73	44
UAE	62	4	850	4.8	351	182
Brazil	63	23	46	1.7	64	46
Jamaica	65	8	11	0.7	71	41
Saudi Arabia	67	151	2230	14.0	408	229
Turkey	68	87	99	4.0	42	20
Romania	72	25	170	1.4	44	34
Syria	73	373	379	16.8	44	5
Ecuador	74	26	24	1.4	29	19
Albania	76	51	56	4.8	60	23
Libya	79	71	551	7.8	421	158
Tunisia	81	31	39	2.9	79	29
Paraguay	84	42	23	1.0	12	4
Suriname	85	27	595	3.8	na	--
Iran	86	38	109	2.1	114	42
Botswana	87	22	128	2.5	125	33
Cuba	89	125	113	12.5	82	43

Sri Lanka	90	107	26	4.8	12	7
Oman	92	293	993	16.4	187	109
South Africa	93	41	99	3.5	117	61
China	94	114	45	5.0	8	4
Peru	95	39	21	2.1	33	7
Dominican Republic	96	22	8	0.8	10	12
Jordan	98	138	130	10.6	102	39
Philippines	99	41	17	1.6	18	5
Iraq	100	271	528	16.0	79	12
Indonesia	105	49	10	1.7	14	2
Nicaragua	106	97	19	9.0	18	6
Guyana	107	21	5	1.9	16	15
Guatemala	108	31	10	1.1	14	12
Algeria	109	11	30	1.6	228	36
Egypt	110	52	27	4.0	40	7
Morocco	111	72	44	4.6	45	8
El Salvador	112	66	37	2.9	16	7
Bolivia	113	57	17	3.1	21	8
Gabon	114	51	144	4.5	160	51
Honduras	115	92	9	6.9	34	24
Swaziland	117	11	15	1.4	77	25
Lesotho	120	48	20	2.4	16	7
Zimbabwe	121	66	30	9.1	67	21
Congo	123	37	61	3.2	52	18
Cameroon	124	48	13	2.1	29	7
Kenya	125	24	6	2.3	21	7
Namibia	127	23	47	2.2	33	44
Papua New Guinea	129	41	14	3.0	34	22
Myanmar (Burma)	130	222	43	6.0	6	3
Madagascar	131	37	3	1.4	6	4
Pakistan	132	125	23	6.5	9	1
Ghana	134	12	2	0.6	15	5
India	135	65	7	3.1	11	3
Ivory Coast	136	14	10	1.2	54	9
Haiti	137	30	8	1.5	6	3
Zambia	138	63	5	3.2	7	5
Nigeria	139	33	3	0.9	4	1
Zaire	140	71	3	1.2	2	2

Yemen	142	197	149	14.4	26	5
Senegal	143	33	13	2.0	25	8
Liberia	144	47	27	3.5	17	7
Togo	145	39	12	3.2	21	4
Bangladesh	146	41	3	1.4	4	1
Tanzania	148	77	4	6.9	8	2
Nepal	149	35	2	1.6	4	2
Sudan	151	44	18	2.0	25	1
Burundi	152	42	4	2.2	8	2
Rwanda	153	25	15	1.5	11	3
Uganda	154	18	5	0.8	10	1
Angola	155	208	116	20.0	44	8
Malawi	157	24	2	1.5	5	3
Mauritania	158	40	16	4.1	23	9
Mozambique	159	121	8	13.0	4	2
Cent. Afr. Republic	160	33	8	1.8	10	7
Ethiopia	161	190	16	13.5	5	1
Somalia	165	200	1	3.0	1	1
Gambia	166	11	6	0.6	11	6
Mali	167	53	7	3.2	7	2
Chad	168	74	12	5.2	4	1
Niger	169	11	4	0.8	10	6
Sierra Leone	170	23	4	0.7	2	1
Burkina Faso	172	30	11	2.8	7	3
Guinea	173	37	5	1.3	4	5

Sources: Columns one, two and four from United Nations Development Programme, *Human Development Report 1994* (Oxford: Oxford University Press, 1994).

Column three from ACDA, *WMEAT, 1993-94*, using 1991 data, or closest available year.

Columns five and six from Ruth Leger Sivard, *World Military and Social Expenditures 1993* (Washington: World Priorities, 1993).

APPENDIX 6.1

General Assembly Resolution 46/36 (December 9 1991)

General and Complete Disarmament

Transparency in armaments

The General Assembly,

Realizing that excessive and destabilizing arms build-ups pose a threat to national, regional and international peace and security, particularly by aggravating tensions and conflict situations, giving rise to serious and urgent concerns,

Noting with satisfaction that the current international environment and recent agreements and measures in the field of arms limitation and disarmament make it a propitious time to work towards easing tensions and a just resolution of conflict situations, as well as more openness and transparency in military matters,

Recalling the consensus among Member States on implementing confidence- building measures, including transparency and exchange of relevant information on armaments, likely to reduce the occurrence of dangerous misperceptions about the intentions of States and to promote trust among States,

Considering that increased openness and transparency in the field of armaments could enhance confidence, ease tensions, strengthen regional and international peace and security and contribute to restraint in military production and the transfer of arms,

Realizing the urgent need to resolve underlying conflicts, to diminish tensions and to accelerate efforts towards general and complete disarmament under strict and effective international control with a view to maintaining regional and international peace and security in a world free from the scourge of war and the burden of armaments,

Recalling also that in paragraph 85 of the Final Document of the Tenth Special Session of the General Assembly it urged major arms supplier and recipient countries to consult on the limitation of all types of international transfer of conventional arms,

Disturbed by the destabilizing and destructive effects of the illicit arms trade, particularly for the internal situation of affected States and the violation of human rights,

Bearing in mind that, in accordance with the Charter of the United Nations, Member States have undertaken to promote the establishment and maintenance of international peace and security with the least diversion for armaments of the world's human and economic resources, and that the reduction of world military expenditures could have a significant positive impact for the social and economic development of all peoples,

Reaffirming the important role of the United Nations in the field of disarmament and the commitment of Member States to take concrete steps in order to strengthen that role,

Recalling its resolution 43/75 I of 7 December 1988,

Welcoming the study submitted by the Secretary-General, pursuant to paragraph 5 of resolution 43/75 I and prepared with the assistance of governmental experts, on ways and means of promoting transparency in international transfers of conventional arms, as well as the problem of the illicit arms trade, taking into account views of Member States and other relevant information,

Recognizing the major contribution of an enhanced level of transparency in armaments to confidence-building and security among States, and also recognizing the urgent need to establish, under the auspices of the United Nations, as a first step in this direction, a universal and non-discriminatory register to include data on international arms transfers as well as other interrelated information provided to the Secretary-General,

Stressing the importance of greater transparency in the interest of promoting readiness to exercise restraint in accumulation of armaments,

Considering that the standardized reporting of international arms transfers together with the provision of other interrelated information to a United Nations register will constitute further important steps forward in the promotion of transparency in military matters and, as such, will enhance the role and effectiveness of the United Nations in promoting arms limitation and disarmament, as well as in maintaining international peace and security;

Recognizing also the importance of the prevention of the proliferation of nuclear weapons and other weapons of mass destruction,

1. *Recognizes* that an increased level of openness and transparency in the field of armaments would enhance confidence, promote stability, help States to exercise restraint, ease tensions and strengthen regional and international peace and security;

2. *Declares its determination* to prevent the excessive and destabilizing accumulation of arms, including conventional arms, in order to promote stability and strengthen regional or international peace and security, taking into account the legitimate security needs of States and the principle of undiminished security at the lowest possible level of armaments;

3. *Reaffirms* the inherent right to individual or collective self-defence recognized in Article 51 of the Charter of the United Nations, which implies that States also have the right to acquire arms with which to defend themselves;

4. *Reiterates its conviction*, as expressed in its resolution 43/75 I, that arms transfers in all their aspects deserve serious consideration by the international community, inter alia, because of:

(a) Their potential effects in further destabilizing areas where tension and regional conflict threaten international peace and security and national security;

(b) Their potentially negative effects on the progress of the peaceful social and economic development of all peoples;

(c) The danger of increasing illicit and covert arms trafficking;

5. *Calls upon* all Member States to exercise due restraint in exports and imports of conventional arms, particularly in situations of tension or conflict, and to ensure that they have in place an adequate body of laws and administrative procedures regarding the transfer of arms and to adopt strict measures for their enforcement;

6. *Expresses its appreciation* to the Secretary-General for his study on ways and means of promoting transparency in international transfers of conventional arms, which also addressed the problem of the illicit arms trade;

7. *Requests* the Secretary-General to establish and maintain at United Nations Headquarters in New York a universal and non-discriminatory Register of Conventional Arms, to include data on international arms transfers as well as information provided by Member States on military holdings, procurement through national production and relevant policies, as set out in paragraph 10 below and in accordance with procedures and input requirements initially comprising those set out in the annex to the present resolution and subsequently incorporating any adjustments to the annex decided upon by the General Assembly at its forty- seventh session in the light of the recommendations of the panel referred to in paragraph 8 below;

8. *Also requests* the Secretary-General, with the assistance of a panel of governmental technical experts to be nominated by him on the basis of equitable geographical representation, to elaborate the technical procedures and to make any adjustments to the annex to the present resolution necessary for the effective operation of the Register, and to prepare a report on the modalities for early expansion of the scope of the Register by the addition of further categories of equipment and inclusion of data on military holdings and procurement through national production, and to report to the General Assembly at its forty-seventh session;

9. *Calls upon* all Member States to provide annually for the Register data on imports and exports of arms in accordance with the procedures established by paragraphs 7 and 8 above;

10. *Invites* Member States, pending the expansion of the Register, also to provide to the Secretary-General, with their annual report on imports and exports of arms, available background information regarding their military holdings, procurement through national production and relevant policies, and requests the Secretary-General to record this material and to make it available for consultation by Member States at their request;

11. *Decides*, with a view to future expansion, to keep the scope of and the participation in the Register under review, and, to this end:

(a) *Invites* Member States to provide the Secretary-General with their views, not later than 30 April 1994, on:

(i) The operation of the Register during its first two years;
(ii) The addition of further categories of equipment and the elaboration of the Register to include military holdings and procurement through national production;

(b) *Requests* the Secretary-General, with the assistance of a group of governmental experts convened in 1994 on the basis of equitable geographical representation, to prepare a report on the continuing operation of the Register and its further development, taking into account the work of the Conference on Disarmament as set forth in paragraphs 12 to 15 below and the views expressed by Member States, for submission to the General Assembly with a view to a decision at its forty-ninth session;

12. *Requests* the Conference on Disarmament to address, as soon as possible, the question of the interrelated aspects of the excessive and destabilizing accumulation of arms, including military holdings and procurement through national production, and to elaborate universal and non-discriminatory practical means to increase openness and transparency in this field;

13. *Also requests* the Conference on Disarmament to address the problems of, and the elaboration of practical means to increase, openness and transparency related to the transfer of high technology with military applications and to weapons of mass destruction, in accordance with existing legal instruments;

14. *Invites* the Secretary-General to provide to the Conference on Disarmament all relevant information, including, *inter alia*, views submitted to him by Member States and information provided under the United Nations system for the standardized reporting of military expenditures, as well as on the work of the Disarmament Commission under its agenda item entitled "Objective information on military matters";

15. *Further requests* the Conference on Disarmament to include in its annual report to the General Assembly a report on its work on this issue;

16. *Invites* all Member States, in the meantime, to take measures on a national, regional and global basis, including within the appropriate forums, to promote openness and transparency in armaments;

17. *Calls upon* all Member States to cooperate at a regional and subregional level, taking fully into account the specific conditions prevailing in the region or subregion, with a view to enhancing and coordinating international efforts aimed at increased openness and transparency in armaments;

18. *Also invites* all Member States to inform the Secretary-General of their national arms import and export policies, legislation and administrative procedures, both as regards authorization of arms transfers and prevention of illicit transfers;

19. *Requests* the Secretary-General to report to the General Assembly at its forty-seventh session on progress made in implementing the present resolution, including relevant information provided by Member States;

20. *Notes* that effective implementation of the present resolution will require an up-to-date database system in the Department for Disarmament Affairs of the Secretariat;

21. *Decides* to include in the provisional agenda of its forty-seventh session an item entitled "Transparency in armaments".

ANNEX

Register of Conventional Arms

1. The Register of Conventional Arms ("the Register") shall be established, with effect from 1 January 1992, and maintained at the Headquarters of the United Nations in New York.

2. Concerning international arms transfers:

(a) Member States are requested to provide data for the Register, addressed to the Secretary-General, on the number of items in the following categories of equipment imported into or exported from their territory:

I. *Battle tanks*

> A tracked or wheeled self-propelled armoured fighting vehicle with high cross-country mobility and a high level of self-protection, weighing at least 16.5 metric tonnes unladen weight, with a high muzzle velocity direct fire main gun of at least 75 millimetres calibre.

II. *Armoured combat vehicles*

> A tracked or wheeled self-propelled vehicle, with armoured protection and cross-country capability, either: (a) designed and equipped to transport a squad of four or more infantrymen, or (b) armed with an integral or organic weapon of at least 20 millimetres calibre or an anti- tank missile launcher.

III. *Large calibre artillery systems*

> A gun, howitzer, artillery piece combining the characteristics of a gun and a howitzer, mortar or multiple-launch rocket system, capable of engaging surface targets by delivering primarily indirect fire, with a calibre of 100 millimetres and above.

IV. *Combat aircraft*

> A fixed-wing or variable-geometry wing aircraft armed and equipped to engage targets by employing guided missiles, unguided rockets, bombs, guns, cannons, or other weapons of destruction.

V. *Attack helicopters*

> A rotary-wing aircraft equipped to employ anti-armour, air-to-ground, or air-to-air guided weapons and equipped with an integrated fire control and aiming system for these weapons.

VI. *Warships*

> A vessel or submarine with a standard displacement of 850 metric tonnes or above, armed or equipped for military use.

VII. *Missiles or missile systems*

A guided rocket, ballistic or cruise missile capable of delivering a payload to a range of at least 25 kilometres, or a vehicle, apparatus or device designed or modified for launching such munitions.

(b) Data on imports provided under the present paragraph shall also specify the supplying State; data on exports shall also specify the recipient State and the State of origin if not the exporting State;

(c) Each Member State is requested to provide data on an annual basis by 30 April each year in respect of imports into and exports from their territory in the previous calendar year;

(d) The first such registration shall take place by 30 April 1993 in respect of the calendar year 1992;

(e) The data so provided shall be recorded in respect of each Member State;

(f) Arms "exports and imports" represent in the present resolution, including its annex, all forms of arms transfers under terms of grant, credit, barter or cash.

3. Concerning other interrelated information:

(a) Member States are invited also to provide to the Secretary-General available background information regarding their military holdings, procurement through national production, and relevant policies;

(b) The information so provided shall be recorded in respect of each Member State.

4. The Register shall be open for consultation by representatives of Member States at any time.

5. In addition, the Secretary-General shall provide annually a consolidated report to the General Assembly of the data registered, together with an index of the other interrelated information.

APPENDIX 6.2

Bill Presented to the U.S. Congress to Establish A Code of Conduct for U.S. Arms Transfers

104TH CONGRESS; 1ST SESSION IN THE SENATE OF THE UNITED STATES AS INTRODUCED IN THE SENATE

S. 326

1995 S. 326; 104 S. 326

SYNOPSIS:

A BILL
To prohibit United States military assistance and arms transfers to foreign governments that are undemocratic, do not adequately protect human rights, are engaged in acts of armed aggression, or are not fully participating in the United Nations Register of Conventional Arms.

DATE OF INTRODUCTION: FEBRUARY 1, 1995

DATE OF VERSION: FEBRUARY 3, 1995 — VERSION: 1

SPONSOR(S): Mr. HATFIELD (for himself, Mr. DORGAN, Mr. FEINGOLD, Mr. BUMPERS, and Mr. HARKIN) introduced the following bill; which was read twice and referred to the Committee on Foreign Relations

TEXT:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE

This Act may be cited as the "Code of Conduct on Arms Transfers Act of 1995".

SEC. 2. FINDINGS.

The Congress finds the following:

(1) Approximately 40,000,000 people, over 75 percent civilians, died as a result of civil and international wars fought with conventional weapons during the 45 years of the Cold War, demonstrating that conventional weapons can in fact be weapons of mass destruction.

(2) Conflict has actually increased in the post-Cold War era, with 34 major wars in progress during 1993.

(3) War is both a human tragedy and an ongoing economic disaster affecting the entire world, including the United States and its economy, because it decimates both local investment and potential export markets.

(4) International trade in conventional weapons increases the risk and impact of war in an already over-militarized world, creating far more costs than benefits for the United States economy through increased United States defense and foreign assistance spending and reduced demand for United States civilian exports.

(5) The newly established United Nations Register of Conventional Arms can be an effective first step in support of limitations on the supply of conventional weapons to developing countries, and compliance with its reporting requirements by a foreign government can be an integral tool in determining the worthiness of such government for the receipts of United States military assistance and arms transfers.

(6) It is in the national security and economic interests of the United States to reduce dramatically the $1,038,000,000,000 that all countries spend on armed forces every year, $242,000,000,000 of which is spent by developing countries, an amount equivalent to 4 times the total bilateral and multilateral foreign assistance such countries receive every year.

(7) According to the Congressional Research Service of the Library of Congress, the United States supplies more conventional weapons to developing countries than all other countries combined, averaging $14,956,000,000 each year in agreements to supply such weapons to developing countries since the end of the Cold War, compared to $7,300,000,000 each year in such agreements prior to the dissolution of the Soviet Union.

(8) In recent years the vast majority of United States arms transfers to developing countries are to countries with an undemocratic form of government whose citizens, according to the Department of State Country Reports on Human Rights Practices do not have the ability to peaceably change their form of government.

(9) Although a goal of United States foreign policy should be to work with foreign governments and international organizations to reduce militarization and dictatorship and therefore prevent conflicts before they arise, during 4 recent deployments of United States Armed Forces-to the Republic of Panama, the Persian Gulf, Somalia, and Haiti-the Armed Forces faced conventional weapons that had been provided or financed by the United States to undemocratic governments.

(10) The proliferation of conventional arms and conflicts around the globe is a multilateral problem, and the fact that the United States has emerged as the world's primary seller of conventional weapons, together with the world leadership role of the United States, signifies that the United States is in a position to seek multilateral restraints on the competition for and transfers of conventional weapons.

(11) The Congress has the constitutional responsibility to participate with the executive branch of Government in decisions to provide military assistance and arms transfers to a foreign government, and in the formulation of a policy designed to reduce dramatically the level of international militarization.

(12) A decision to provide military assistance and arms transfers to a government that is undemocratic, does not adequately protect human rights, is currently engaged in acts of armed aggression, or is not fully participating in the United Nations Register of Conventional Arms, should require a higher level of

scrutiny than does a decision to provide such assistance and arms transfers to a government to which these conditions do not apply.

SEC. 3. PURPOSE.

The purpose of this Act is to provide clear policy guidelines and congressional responsibility for determining the eligibility of foreign governments to be considered for United States military assistance and arms transfers.

SEC. 4. PROHIBITION OF UNITED STATES MILITARY ASSISTANCE AND ARMS TRANSFERS TO CERTAIN FOREIGN GOVERNMENTS.

(a) Prohibition.-except as provided in subsections (b) and (c), united states military assistance and arms transfers may not be provided to a foreign government for a fiscal year unless the president certifies to the congress for that fiscal year that such government meets the following requirements:

(1) Promotes democracy.-such government-

(A) was chosen by and permits free and fair elections;

(B) promotes civilian control of the military and security forces and has civilian institutions controlling the policy, operation, and spending of all law enforcement and security institutions, as well as the armed forces;

(C) promotes the rule of law, equality before the law, and respect for individual and minority rights, including freedom to speak, publish, associate, and organize; and

(D) promotes the strengthening of political, legislative, and civil institutions of democracy, as well as autonomous institutions to monitor the conduct of public officials and to combat corruption.

(2) Respects human rights.-such government-

(A) does not engage in gross violations of internationally recognized human rights, including-

(I) extrajudicial or arbitrary executions;

(Ii) disappearances;

(Iii) torture or severe mistreatment;

(Iv) prolonged arbitrary imprisonment;

(V) systematic official discrimination on the basis of race, ethnicity, religion, gender, national origin, or political affiliation; and

(Vi) grave breaches of international laws of war or equivalent violations of the laws of war in internal conflicts;

(B) vigorously investigates, disciplines, and prosecutes those responsible for gross violations of internationally recognized human rights;

(C) permits access on a regular basis to political prisoners by international humanitarian organizations such as the international committee of the red cross;

(D) promotes the independence of the judiciary and other official bodies that oversee the protection of human rights;

(E) does not impede the free functioning of domestic and international human rights organizations; and

(F) provides access on a regular basis to humanitarian organizations in situations of conflict or famine.

(3) Not engaged in certain acts of armed aggression.-such government is not currently engaged in acts of armed aggression in violation of international law.

(4) Null participation in united nations register of conventional arms.-such government is fully participating in the united nations register of conventional arms.

(B) Requirement for continuing compliance.-any certification with respect to a foreign government for a fiscal year under subsection (a) shall cease to be effective for that fiscal year if the president certifies to the congress that such government has not continued to comply with the requirements contained in paragraphs (1) through (4) of such subsection.

(C) Exemption.-the prohibition contained in subsection (a) shall not apply with respect to a foreign government for a fiscal year if-

(1) the president submits a request for an exemption to the congress containing a determination that it is in the national security interest of the united states to provide military assistance and arms transfers to such government; and

(2) the congress enacts a law approving such exemption request.

(D) Notification to congress.-the president shall submit to the congress initial certifications under subsection (a) and requests for exemptions under subsection (c) in conjunction with the submission of the annual request for enactment of authorizations and appropriations for foreign assistance programs for a fiscal year and shall, where appropriate, submit additional or amended certifications and requests for exemptions at any time thereafter in the fiscal year.

SEC. 5. SENSE OF THE CONGRESS.

It is the sense of the Congress that the Committee on International Relations of the House of Representatives and the Committee on Foreign Relations of the Senate should hold hearings on

controversial certifications submitted under section 4(a) and all requests for exemptions submitted under section 4(c).

SEC. 6. UNITED STATES MILITARY ASSISTANCE AND ARMS TRANSFERS DEFINED.

For purposes of this Act, the terms "United States military assistance and arms transfers" and "military assistance and arms transfers" means-

(1) assistance under chapter 2 of part II of the Foreign Assistance Act of 1961 (relating to military assistance), including the transfer of excess defense articles under sections 516 through 519 of that Act;

(2) assistance under chapter 5 of part II of the Foreign Assistance Act of 1961 (relating to international military education and training);

(3) assistance under the "Foreign Military Financing Program" under section 23 of the Arms Export Control Act; or

(4) the transfer of defense articles, defense services, or design and construction services under the Arms Export Control Act, including defense articles and defense services licensed or approved for export under section 38 of that Act.

APPENDIX 6.3

OSCE "Principles Governing Conventional Arms Transfers

1. The participating States reaffirm their commitment to act, in the security field, in accordance with the Charter of the United Nations and the Helsinki Final Act, the Charter of Paris, and other relevant CSCE documents.

2. They recall that in Prague on 30 January 1992 they agreed that effective national control of weapons and equipment transfer is acquiring the greatest importance and decided to include the question of the establishment of a responsible approach to arms transfers as a matter of priority in the work programme of the post-Helsinki arms control process. They also recall their declaration in the Helsinki Document of 10 July 19092 that they would intensify their cooperation in the field of effective export controls applicable, inter alia, to conventional weapons.

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3. The participating States reaffirm:

a) their undertaking, in accordance with the Charter of the United Nations, to promote the establishment of international peace and security with the least diversion for armaments of human and economic resources and their view that the reduction of world military expenditures could have a significant positive impact for the social and economic development of all peoples;

b) the need to ensure that arms transferred are not used in violation of the purposes and principles of the Charter of the United Nations;

c) their adherence to the principles of transparency and restraint in the transfer of conventional weapons and related technology, and their willingness to promote them in the security dialogue of the Forum for Security Co-operation;

d) their strong belief that excessive and destabilizing arms build-ups pose a threat to national, regional and international peace and security;

e) the need for effective national mechanisms for controlling the transfer of conventional arms and related technology and for transfers to take place within those mechanisms;

f) their support for and commitment to provide data and information as required by the United Nations resolution establishing the Register of Conventional Arms in order to ensure its effective implementation.

II

4. In order to further their aim of a new co-operative and common approach to security, each participating State will promote and, by means of an effective national control mechanism, exercise due restraint in the transfer of conventional arms and related technology. To give this effect:

a) each participating State will, in considering proposed transfers, take into account:

(i) the respect for human rights and fundamental freedoms in the recipient country;
(ii) the internal and regional situation in and around the recipient country, in the light of existing tensions or armed conflicts;
(iii) the record of compliance of the recipient country with regard to international commitments, in particular on the non-use of force, and in the field of non-proliferation, or in other areas of arms control and disarmament;
(iv) the nature and cost of the arms to be transferred in relation to the circumstances of the recipient country, including its legitimate security and defence needs and the objective of the least diversion for armaments of human and economic resources;
(v) whether the transfers would contribute to an appropriate and proportionate response by the recipient country to the military and security threats confronting it;
(vi) the legitimate domestic security needs of the recipient country;
(vii) the requirements of the recipient country to enable it to participate in peacekeeping or other measures in accordance with decisions of the United Nations or the Conference on Security and Co-operation in Europe.

b) Each participating state will avoid transfers which would be likely to:

(i) be used for the violation or suppression of human rights and fundamental freedoms;
(ii) threaten the national security of other States and of territories whose external relations are the internationally acknowledged responsibility of another State;
(iii) contravene its international commitments, in particular in relation to sanctions adopted by the Security Council of the United Nations, or to decisions taken by the CSCE Council, or agreements on non-proliferation, or other arms control and disarmament agreements;
(iv) prolong or aggravate an existing armed conflict, taking into account the legitimate requirement for self-defence;
(v) endanger peace, introduce destabilizing military capabilities into a region, or otherwise contribute to regional instability;
(vi) be diverted within the recipient country or re-exported for purposes contrary to the aims of this document;
(vii) be used for the purpose of repression;
(viii) support or encourage terrorism;
(ix) be used other than for the legitimate defence and security needs of the recipient country.

III

5. Further, each participating State will:

a) reflect, as necessary, the principles in Section II in its national policy documents governing the transfer of conventional arms and related technology;

b) consider mutual assistance in the establishment of effective national mechanisms for controlling the transfer of conventional arms and related technology;

c) exchange information, in the context of security co-operation within the Forum for Security Co-operation, about national legislation and practices in the field of transfers of conventional arms and related technology and on mechanisms to control these transfers.

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