

# Arms reduction: Economic implications in the post-Cold War era

## **Note to the reader from the UNU**

The UNU programme on Future Global Change and Modelling is a response to far-reaching transformations in the perception and structure of the world's policies, economics, demography, technology, ecology, and ethics. Under this programme, the UNU seeks to evaluate such changes, their implications, and necessary adjustments.

This volume is based on the proceedings of the 1992 Tokyo Conference on "Arms Reduction and Economic Development in the Post-Cold War Era" – the second in a series of UNU conferences on Future Global Change and Modelling. The objectives of this project are three-fold: (1) to examine global trends and patterns of military expenditure; (2) to explore possible arms reduction scenarios and examine their impacts on the world economy with special attention to developing countries; and (3) to stimulate policy dialogue on alternative approaches to achieving arms reduction. By bringing together the views of opinion leaders and experts involved in arms reduction research, this project seeks to create awareness in the world community about coping with this common global issue in an increasingly interdependent and complex world.

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and Warwick J. McKibbin



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## Arms reduction

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## An overview

Warwick J. McKibbin

The end of the Cold War presents an unparalleled opportunity for global disarmament. In order to examine the economic, social, and political implications of global reductions in military spending, a conference was organized by the United Nations University in November 1992. To achieve three goals, the conference brought together opinion leaders and experts involved in research on military disarmament from various parts of the world:

1. to examine global trends and patterns of military expenditure;
2. to explore possible arms reduction scenarios and examine their impacts on industrialized and developing countries;
3. to simulate policy dialogue on alternative approaches to achieve a significant and sustainable reduction in the degree of global militarization.

With these three aims in mind, this overview will summarize the major issues raised by conference participants. It is hoped that by stimulating dialogue and bringing together important research and views on the question of military disarmament, this will help clarify the issues facing political leaders who must grasp the unique opportunity for global demilitarization.

The conference was held against the backdrop of the Japanese

government's official announcement that Japan's Official Development Assistance (ODA) would be tied to the amount of military expenditures undertaken by recipient countries. This position was outlined in detail at the conference by Mr. Takao Kawakami of the Ministry of Foreign Affairs. The Japanese Official Development Assistance Charter of June 1992 particularly states that, in addition to following the principles of the United Nations Charter, Japan's ODA would also take into account four additional principles:

- (1) Environmental conservation and development should be pursued in tandem;
- (2) Any use of ODA for military purposes or for aggravation of international conflicts should be avoided;
- (3) Full attention should be given to trends in recipient countries' military expenditure, their development and production of weapons of mass destruction, weapons and missiles, their export and import of arms, etc., so as to maintain and strengthen international peace and stability, and from the viewpoint that developing countries should place appropriate priorities in the allocation of their resources for their own economic and social development;
- (4) More efforts should be paid to the promotion of democratisation and the introduction of a market-oriented economy, and the situation to secure basic human rights and freedoms in the recipient country.<sup>1</sup>

### Trends in military spending and arms trade

Two of the leading sources of data on military expenditures and arms trade are the Stockholm International Peace Research Institute (SIPRI), which publishes the *SIPRI Yearbook*, and the US Arms Control and Disarmament Agency (ACDA), which publishes the *World Military Expenditures and Arms Transfers*. Leading researchers from these institutions presented papers outlining the recent global trends in military spending and arms trade.

In "Military expenditures and arms trade: Trends and prospects" by Saadet Deger (SIPRI) and "Trends in world arms trade and spending and their implications" by Daniel Gallik (US ACDA), the authors document emerging trends over the recent decade that have been dominated by the decline in the former Soviet Union. The upward trend in world military expenditures during the 1980s began to reverse by 1988 and looks to continue to fall through 1992 and 1993. Although this largely reflects the dominant position of the United States and former Soviet Union, a similar trend occurred in develop-

ing countries (adjusting for the Gulf War). In addition, imports of major conventional weapons by developing countries halved from the peak in 1987 to 1990 and continued to fall through 1991. Deger argues that rather than being the result of a concerted effort to reduce arms by international treaties, this reflected tight fiscal constraints facing countries. This was particularly true in the former Soviet Union, where there have been substantial cuts in all categories of defence expenditures. In the United States on the other hand the cuts to date have been focused on procurement with defence R&D expenditures being cut by relatively much less. In Western Europe, military outlays have also fallen but only slowly. As with the United States the largest cuts have been in procurement. In Eastern Europe the cuts have been far more dramatic, reflecting the economic crises in these countries.

An important aspect of the arms trade data is that the arms trade is highly concentrated. Five suppliers (former USSR [42.4 per cent] United States [22.1 per cent], France [8.4 per cent], China [7.2 per cent], and United Kingdom [7.1 per cent]) supplied 87 per cent of the arms exports between 1987 and 1991. Only 15 developing countries imported 80 per cent of total arms imported by the third world over this period.

Deger argues that because the cut-backs in arms trade have been due to severe economic problems in importing countries, any rise in growth in these countries will be likely to lead to a rise in arms imports. However, because the suppliers of arms exports are relatively concentrated, placing limits on arms exports should be only a matter of political will by the five members of the Security Council (who also happen to be the major arms exporters). Despite the possibility of cutting arms trade by focusing on the arms exporters, it is still true that the arms trade is a symptom of regional insecurity. Therefore any attempts to make the current trend decline in military expenditures, a permanent feature of the global economy, will require solutions of the underlying regional problems.

By cutting domestic demand for military equipment an incentive is created for governments or arms exporters within countries to find foreign markets for their excess production. This is particularly severe in countries of Eastern Europe and the former Soviet Union. Selling military equipment is a way for these countries to generate desperately needed foreign exchange. But this is not only a problem in these distressed economies. Gallik points to a recent rising trend in agreements to deliver arms to developing countries by the United

States and United Kingdom. This highlights a problem resulting from attempts to scale back defence budgets. It is not only sufficient to scale back government demand for weapons but careful consideration must be given to preventing export of these weapons to other countries. A coordinated effort must be made to limit both military budgets and arms trade. But in addition, the underlying causes of the militarization need to be addressed and these relate to issues of regional security and development.

Monitoring the military expenditures of countries is crucial, especially if proposals to tie development assistance to military spending are implemented. What are the links between development assistance and defence budgets? There are many ways to analyse the data. Paul Armington and Jalaleddin Jalali in "Military spending in developing countries and official development assistance" pool together a comprehensive array of data from a variety of sources including SIPRI and ACDA. The authors then calculate three measures of the degree of militarization: military expenditures relative to GNP; military expenditures as a share of general government expenditures; and military imports as a share of total imports. They compare these three measures of militarization for 114 low and middle-income developing countries, with the receipts of official development assistance (ODA) by these countries.

The authors rank countries by these measures compared to ranking of countries in terms of ODA over the period from 1978 to 1989 and the sub-periods 1978 to 1983 and 1984 to 1989. Countries are classified according to the calculated ratios relative to the median of countries in the sample. The authors find that eight out of the 13 very high military spenders are also in the top half of ODA recipients. The three top ranked receivers of ODA between 1979 and 1989 were India, Syria, and Egypt. The latter two countries were also classified as very high military spenders in the study. Respectively, they spent 67 per cent and 50 per cent of general government expenditures on the military over this period.

Although only a first step, collating and improving data on a variety of measures of military outlays is crucial for monitoring trends and implementing proposals to significantly reduce military budgets.

### **Economic and social consequences of demilitarization**

The reduction in military budgets in many countries affected by the end of the Cold War is likely to be followed by a difficult period of adjustment. As a number of authors have stressed, it is not a simple

and cost-free exercise to reduce military expenditures. Production facilities for military equipment tend to be regionally concentrated. Military bases tend to be economically important to the region in which they are located. The resources that are released by scaling back these facilities may be difficult to absorb immediately into the private economy, either due to the slow process of retooling capital equipment or because it takes time to retrain workers to develop the skills for private sector production. In addition to the micro-economic problems to be faced, there is also the need to understand the national and international macroeconomic consequences of the potentially large adjustments to production, saving, and investment that substantial military cut-backs entail.

Papers at the conference focused on this range of issues from regional impacts in particular countries to global impacts. The many issues involved in conversion from military to civilian production are discussed by Lawrence Klein in "The economics of arms reduction." The extent of possible US cut-backs is documented and a comparison is drawn between the conversion over the next decade and the conversion undertaken at the end of World War II. During the earlier period, conversion was achieved over a five-year period but in conditions that differ from those today. Most significant was probably the extent of suppressed demand built up during the war. In the case of the former Soviet Union, Klein sees the prospects for conversion as less encouraging. In the midst of an economic collapse, the ability of the economy to absorb the resources released from the military sector is very limited. Klein argues that for most countries, the costs of disarmament are substantial and will be incurred in the early years, whereas the gains are also potentially substantial but are realized in future years. This observation is supported by simulation evidence from studies reported below.

In "Defence reductions in the United States in the 1990s," Murray Weidenbaum explores the regional impacts of expected cuts in defence expenditures in the United States. He points out that the regional and economic impacts of reduction in the military budget are uneven within the United States. First, the defence industry is highly concentrated in a small number of firms (in 1988, 25 firms accounted for 50 per cent of defence contracts). Secondly, the major firms supplying defence contracts have a high degree of regional concentration (66 per cent of defence jobs in 10 states in 1988). Thirdly, the cut-backs are not uniform, with weapon systems being cut more than operations and these more than research and development.

Weidenbaum also draws a comparison between conversion prob-

Warwick J. McKibbin

lems facing firms after the Cold War versus the ends of previous wars. He notes in particular that in previous wars, manufacturers shifted from civilian production into military production for the duration of the war, and then were able to shift back again to civilian production relatively easily. But in the current situation the major firms have been specializing in defence contracting for a substantial period and have not had to develop skills in marketing, distribution, and large-scale, low-cost production that typifies firms that produce civilian goods. He points to attempts by big military contractors to diversify into civilian production in the last decade that have uniformly met with failure. Although facing a significant conversion problem, Weidenbaum argues that the solution to the conversion problem is not to subsidize the large defence firms and keep them large but to subsidize general research and development, which will enable the scientists and technicians in these corporations to be absorbed elsewhere in the economy.

### **Global economic consequences of reductions in military spending**

Three papers used multi-country simulation models to focus on the global macroeconomic implications of reductions in military outlays over the next decade. The models include the McKibbin-Sachs Global model (MSG2), maintained at the Brookings Institution in Washington, D.C., the MULTIMOD model maintained at the International Monetary Fund, and the Project LINK model simulated by a team at the United Nations in New York. The advantage of using a modelling framework for analysing this complex issue is the ability to focus on the short-run demand consequences of significant defence cuts and the medium-term supply responses after factors of production are reallocated. A surprising outcome in the three very different models was the degree of consensus that there are costs to conversion in the short run, but the medium-term economic gains to cutting defence spending are significant. Where the models differed most was in the timing of adjustment and the role of announcements of credible future defence cuts in offsetting some of the short-run negative impacts.

In "The impact on the world economy of reductions in military expenditures and military arms exports," Warwick McKibbin and Stephan Thurnman use the MSG2 multi-country model to explore the impacts of multilateral expenditure cuts within the OECD. They also

focus on the impacts of an embargo on shipments of military weapons to developing countries. The authors simulate a gradual reduction in military expenditures in the OECD with the United States gradually cutting outlays to 3.2 per cent of GDP by 1997 and the other OECD countries cutting outlays to 2 per cent of GDP. The policies are explored with and without any change in monetary policy. The authors find that the impact in the first year of the spending cuts may well be positive because of the fall in long-term interest rates that accompanies the credible reduction in fiscal deficits throughout the OECD. As long-term interest rates fall, private investment rises and there is a strengthening of the global economy before the actual cuts in spending are implemented. The stimulus is quickly offset by the cuts in demand by government in the years from 1994 to 1997. With-out any monetary response, industrialized countries lose about 1 per cent of GDP by 1997. With an easing of monetary policy during the period of largest cuts this can be reduced to about 0.5 per cent of GDP. By the turn of the century, the negative effects are dissipated and the world economy grows to reach a higher level of GDP than would have otherwise been experienced.

The authors also consider an embargo on exports of arms from the major arms exporters to developing economies. The global implications of this policy are much smaller and can easily be offset by changes in other macroeconomic policies within the industrial economies.

In "Economic consequences of lower military spending: Some simulation results," Tamim Bayoumi, Daniel Hewitt, and Jerald Schiff use the IMF's MULTIMOD multi-country model to trace the global impacts of a phased-in cut in world military expenditures of 20 per cent from 1993 to 1997. The authors consider a base-case scenario in which the standard MULTIMOD model is used to evaluate the global impacts of the cut-back in military expenditures. They then test the sensitivity of their results to assumptions about the determinants of private investment and the productivity of military expenditures. The authors also consider the implications of a unilateral cut in military expenditures in the United States. Under each assumption, GDP falls on impact but quickly recovers and then rises over time. In the long run there is a clear economic gain from the reduction of military outlays. Private consumption and investment both rise immediately the policy is announced because of the anticipation of higher future output. Present value calculations of future changes in consumption clearly indicate that the policy of reducing

military budgets leads to positive benefits. In addition, the authors find that global coordinated cuts in military spending lead to higher welfare for individual countries than achieved by the same cuts made on a unilateral basis.

In "Some macroeconomic aspects of reductions in military expenditure," Simon Cunningham and Kenneth Ruffing focus on the costs and benefits of the peace dividend. The authors argue that the costs of disarmament will be incurred over the next few years, with the benefits being in the longer term. These costs are varied and relate to: the direct regional impacts of closing production and military facilities; cleaning up environmental damage due to defence-related production; the non-trivial costs of weapon destruction with minimal environmental impact; and monitoring arms-reduction agreements. On the problem of short-term conversion, in contrast to the pessimistic assessment of Weidenbaum that conversion was likely to be difficult, the authors point to a number of successful conversions of military bases into industrial and office parks and educational establishments. These conversions resulted in a net increase in employment.

The medium-term effects of disarmament are assessed using the Project LINK global macroeconomic model. Cut-backs in military spending of 1 per cent of GDP in the United States and 2 per cent of GDP in the United Kingdom, France, and Germany phased in from 1993 to 1996 were simulated. Without any other policy offsets, the spending reduction lowers global GDP over the period by up to 0.7 per cent. The authors then attempt to offset the losses with coordinated interest rate reductions in the Group of Seven (G7) economies, increased transfers to developing countries, and a shift of the revenue saved from military production to investment in export sectors of developing countries. Although it is possible to reduce the adjustment costs with policy responses, there are none the less still some short-term losses.

A surprising aspect of these three model-based papers was the overall consensus on the magnitude of effects of similar cut-backs. In the short run the anticipated cut in military outlays may be slightly positive to slightly negative. In the medium term there is likely to be a slow-down of the world economy relative to where it otherwise would have been. However, by the turn of the decade, the returns for shifting resources out of the military sector into the private sector begin to be realized. The adjustment phase requires some other

modifications of policy to dampen the negative demand consequences of the shift.

### **The political economy of sustainable reductions in military spending**

The papers that explored the economic impacts of reductions in military spending and cuts in arms exports to developing countries did not address the many political problems to be encountered in achieving the cuts. A number of other papers presented at the conference raised the global, regional, and national political issues that need to be faced in the next few years. Some authors pointed to the need for international institutions to adapt to a new and evolving international order. Institutional reform should not only focus on the immediate situation at the end of the bipolar world but reform should be planned in the context of the multipolar world that is likely to evolve over the next few decades. With localized conflicts such as the problems in former Yugoslavia, the world is not rid of security problems, but the nature of these problems, and therefore the focus of political actions, has changed dramatically. Regional security issues are now at the forefront. These regional problems need to be tackled while, at the same time, the funds that were previously channelled into the Cold War need to be redirected into solving the development problems still facing many countries.

Robert McNamara in "A new international order and its implications for arms reductions" is a strong proponent of the argument that international institutions should be adapted now to meeting the needs of the next century. McNamara argues that the basis for lasting peace is to ensure collective security. This can be done by creating a mechanism for resolving regional conflicts, setting up a basis for guaranteeing security for each nation state as well as minorities within nation states, by ceasing the flow of military support to conflicts in developing regions, and by increasing the flow of development assistance to raise the living standards within these regions. To facilitate the move to greater global security, McNamara argues for greater leadership in negotiating the complete removal of nuclear weapons, tight limits on the proliferation of other weapons of mass destruction, substantial reductions in military outlays, and substantial reductions in arms transfers between the developed and the developing world. In relation to the last issue, McNamara highlights the

social cost in many developing countries of maintaining large military forces at the expense of other social programmes. He strongly argues for the linking of financial assistance by the multilateral institutions to levels of military expenditures in recipient countries. This aspect of the paper was perhaps the most controversial primarily due to the practical problem of who decides what is reasonable for a country to spend on defence. Any evaluation must take into account the perceived threats facing a given country. Traditionally the international aid agencies have resisted tackling the domestic priorities of countries, especially in terms of military outlays.

The policy of using persuasion by international agencies in reducing global military budgets was also a theme in the comprehensive paper on "Enhancing peace and development: Foreign aid and military expenditure in developing countries" by Nicole Ball of the Overseas Development Council. Ball points out that the confluence of events such as the end of the Cold War and the shortage of funds for development purposes means that military imbalances in the budgets of many developing countries need to be rectified. In order to focus on improving both security and development within developing countries, Ball presents a detailed account of the types of leverage available to lenders to accelerate military reform in a variety of different categories of countries.

In reforming the role of the military in many countries, the key aspect that Ball highlights is not only the need to eliminate wasteful expenditures and reduce the size of military outlays but to increase the transparency of military budgets and in the process make governments accountable for their budgetary decisions. Like McNamara, Ball also highlights the need for collective security measures. By tackling the problem of regional security at the same time as assisting governments in managing their military budgets, there is a chance to raise the prospects for increased security and development.

Ball also argues that it is important to distinguish countries where the desire of governments within those countries is to reform their military establishments. It is much easier to instigate a successful programme of military reform if the government is willing to cooperate. In some cases, external pressure can be helpful to governments that would like to undertake reform but due to domestic political considerations cannot commence the process without some external assistance. In particular this can be important for civilian governments that are attempting to restrict the power of an entrenched military élite.

The form of intervention depends on the country considered, but Ball suggests three broad categories of approaches to promote military reform. These differ between unilateral and multilateral aid agencies. The main categories are persuasion, support, and pressure.

By 1989 the IMF and the World Bank began talking of the link between military outlays and development finance. Although these agencies are technically prevented from dictating military budgets, they can and have signalled a change in attitude to military spending that has important implications for the behaviour of unilateral donors. Countries can be persuaded to undertake military conversion if offered financial, technical, and diplomatic support. They can also be subject to specific conditionality in which an economic benefit is tied to meeting specific targets for military outlays. Or they can be rewarded for moving in an appropriate direction. The latter approach has been and is likely to be followed given that donors are usually reluctant to specify exact targets for military spending given the difficulties of evaluating external threat. Again this approach is likely to be effective for countries that already have a commitment to reform.

Ball notes that to date the approach to reducing military budgets has largely been indirect. She makes a number of proposals that directly tackle the reform of military establishments in developing countries. Included in these proposals are: active promotion of military reform by the international community including aid agencies; coordination of efforts by international political and development institutions to promote reform; developing norms for security assessment tied to development assistance; promoting transparency and accountability in military budgeting; that bilateral donors should undertake the same military reforms as those advocated for developing countries; that bilateral donors should support efforts by international financial institutions to promote military reforms.

The issue of how to persuade countries to undertake substantial military reform was a recurring theme in many of the papers presented at the conference. In "Economic incentives for demilitarization," Somnath Sen uses a more formal approach, based on concepts from game theory, to consider the incentives facing countries and how best to change those incentives to achieve the goal of greater global security. He stresses that most recent major military reforms have not resulted from treaties but have been due to large changes in economic circumstances. This is clearly illustrated in the economic collapse of Eastern Europe and the former Soviet Union. In many other cases the cut-backs that have been seen to date have been due

to binding budgetary constraints. As these are relaxed it is crucial to have a set of incentives in place to discourage countries from reversing the current trend of demilitarization. The paper focuses on whether economic incentives can be used to promote the goal of greater security as well as enhancing economic development.

Sen constructs a framework in which there are two players, the major powers and the developing countries. He assumes that incentives will be provided by the major powers, while the demilitarization is focused on the developing countries. The trade-off facing countries is between the goals of development and security. The dilemma arises because individual countries are assumed to be concerned only with their own security, where their security is diminished if other countries raise their military spending. With all countries spending more on security, each perceives a greater external threat and therefore spends more on security. The equilibrium is a global overspending on security, which is a similar outcome to that in a classic "prisoner's dilemma." By providing a credible coordinated reduction in military outlays, there can be a global improvement in welfare. Resources are freed for development purposes and overall security is not diminished. The problem is how to structure incentives facing countries that achieve the same overall result. Sen considers a range of possible incentives based on criteria of optimality, efficiency, equity, affordability, and existence.

One economic incentive is via direct foreign aid. In applying this approach of limiting aid to countries that undertake excessive militarization, Sen argues that there is a danger that the general population of that country will suffer without changing the behaviour of the government. From an equity point of view such a policy would be inadvisable. In addition it is important to realize the limitations of using a limited number of targets and instruments, especially when the targets may be difficult to define. Sen argues that concentrating only on military expenditures could be a suboptimal way to proceed. A wider range of policies such as direct payments for good behaviour, trade concessions, in addition to foreign aid should be employed to create the incentives for countries to devote more resources to their own development.

If aid is to be targeted based on some measure of militarization, then Sen proposes that there is a need to create a demilitarization index so that donors can monitor countries. There was a good deal of debate on this issue as well as the use of indicators to tie foreign aid directly to degrees of militarization. It was pointed out that indicators

proposed do not take into account the perceived external threat, which is crucial in deciding if some measure is excessive.

The end of the Cold War has shifted focus towards regional conflicts. The Middle East is one area where regional tensions remain high despite recent developments. Amin Hewedy outlined the major issues facing this region in a paper entitled "Arms reduction in the Middle East: Between credibility and illusion." In a pessimistic assessment of the prospect of regional disarmament, Hewedy considers this issue in the context of the regional implication of the old bipolar world versus the new international order. He argues that in a bipolar world it was only possible to change the global balance of power at the margin and therefore regional conflicts were used as proxies of the larger global conflict. The result was massive arms transfers to developing countries. In the new world order it is not possible to cut arms transfers instantly in a discriminatory way to the Middle East because there continue to be arms suppliers such as the former Soviet Union and China. These countries are motivated to transport arms for economic rather than political incentives. Hewedy argues that before a lasting resolution of the problems in the Middle East can be found there must be a cut in all arms transfers to the region rather than selective cuts. In addition there must be enforcement and adherence to UN Security Council resolutions by all countries in the region and a resolution of the underlying political conflicts based on a balancing of interests.

Japan's policy on linking ODA to military expenditures was outlined in a paper by Takao Kawakami entitled "Japan's ODA policies for a peace initiative." A major reason for the new policy is related to the likely scarcity of funds for development assistance in the foreseeable future and the amount of funds that are allocated for military purposes in developing countries (approximately \$160 billion in 1991). The Japanese policy is argued to be in the interests of the Japanese taxpayers, the recipient countries, and the region. For Japan, which is the largest provider of ODA, to be able to continue to redirect taxpayers' funds to ODA requires public support. This support is difficult to maintain when the money is perceived to be used for military purposes rather than for enhancing economic development. The recipient countries gain by freeing up some of their own resources for development. In addition reduced military spending contributes to overall regional security.

Kawakami cites a number of issues that he personally argues are crucial in using ODA for encouraging reform of military outlays.

First, there should be monitoring of trends in the size of military expenditures and the allocation between military and non-military domestic spending. The monitoring role could be undertaken by the IMF and the World Bank as part of public expenditure reviews. Secondly, there needs to be greater transparency of military budgets. The United Nations could play a role here in improving data as well as using data from the newly established UN register of Conventional Arms Transfers. Thirdly, policy dialogue is required to encourage diplomatically, as well as through direct means, reductions in military spending. Fourthly, global cooperation between bilateral donors and multilateral institutions is important. The Development Assistance Committee (DAC) of the OECD could play a role in facilitating such cooperation and dialogue. Finally, there needs to be coherence between the behaviour of the donors and the requirements placed on recipient countries. Donors should scale back their own military expenditures, military exports, and military export credits to developing countries.

## Prospects and policies

The conference agenda covered a wide range of issues. Many participants agreed that there is currently a rare opportunity for a global reduction in military budgets and this would indeed be beneficial for all countries. All participants agreed that greater transparency in reporting military budgets and arms transfers and accountability for these budgets was essential to the process of global disarmament. In addition, better data on military expenditures and arms trade are needed for monitoring developments in countries. There was less agreement on how to encourage developing countries to reduce military budgets. On the question of whether multilateral agencies and other donors should follow the Japanese approach of directly tying aid to some indicators of the degree of militarization, there was a good deal of debate. The major point of disagreement arose because no criteria were straightforward and ultimately someone needed to undertake a complete analysis of military budgets in the context of the regional threats facing specific countries. Requiring aid agencies to undertake such an analysis may not be the most appropriate use of resources within those agencies.

In addition, there was some concern that directly restricting arms transfers or imposing military budgets through aid commitments, was only addressing the symptom rather than tackling the more funda-

mental security problem facing many countries. Direct attempts to impose military cut-backs may not be as effective as devising a system based on institutional arrangements and the use of economic incentives to affect behaviour.

The security problem could be addressed by strengthening regional institutions within a global security framework. Enhancing security through this approach would also require commitment of resources to provide the means to credibly deter military aggression within a region. Secondly, direct economic incentives could be applied to raise the cost to countries of sustaining excessive military budgets. To avoid the problems, repeatedly raised during the conference, of deciding how to define excessive military spending, several options are available. One option raised by Daniel Hewitt could be to levy a tax on countries based on military expenditures that would raise their cost and therefore give countries the incentive to cut them. An alternative that was suggested by Warwick McKibbin is to levy a tax on the exports of military arms to deter countries from exporting weapons to developing countries. The revenue from either tax could be used to strengthen the regional and global security arrangements. The advantages of this approach is that if it encouraged all countries to cut back their military expenditure just a little, then regional security would rise and there would be an incentive to cut expenditures further. Secondly, by actually providing funding for regional security measures that are credible and deter aggression between countries, there can be a further increase in the perceived security and a further cut in military outlays.

Only by focusing on reinforcing regional institutions under a global umbrella and providing incentives in terms of economic resources and greater security will there be a real opportunity to move into the next century with the prospect of greater peace.

## Note

1. From Japan's Official Development Assistance Charter, 30 June 1992, p. 2.

Part 1  
Recent trends in military  
spending and arms trade

# 2

## Military expenditure and arms trade: Trends and prospects

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### I. Introduction

World military expenditure in aggregate rose continuously almost throughout the 1980s. Such a rise was in sharp contrast to the late 1970s, when aggregate world military expenditure saw modest growth and for some groups of countries exhibited a decline. Defence spending began to slow down in the late 1980s and began falling around 1988 at about 5 per cent per annum. In 1990 world military expenditure exceeded \$950 billion (US dollars) even after having fallen for two years. The downward trend continued into 1991 in spite of the costly Gulf War. The trend is set to accelerate in 1992 and the rate of decline could approach 10 to 15 per cent during the current year.

The rise and fall of world military expenditure can be principally attributed to the behaviour of the two superpowers (the United States and the former Soviet Union, called FSU hereafter). It was their action–reaction arms race that provoked the rise of aggregate international defence spending in the 1980s. Again, the fall in the

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aggregate is attributable to the sharp cut-back of military expenditures in the FSU and the newly independent CIS states, as well as to the defence cuts following the attempt to restrain the huge US budget deficits. More fundamental structural and systemic causes are discussed below.

Third world defence spending, which is only a small share of the world total, followed a rather different pattern over the last two decades. During the 1970s the total rose very fast, principally fuelled by the oil price rise. Between 1970 and 1979, military expenditure rose by about 9.7 per cent per annum for all developing countries; 14.9 per cent per annum for OPEC; 6.2 per cent per annum for non-oil developing countries. The rate of growth slowed down but remained positive in the early 1980s. Since 1984/85 military spending of all developing countries, taken as a whole, has fallen consistently. Only in 1991, due to the exceptional military spending of Kuwait, Saudi Arabia, and the United Arab Emirates in financing the Gulf War, did the trend show an increase. Again, by 1992 the downward movement is expected to be firmly established. There are of course substantial regional variations, but the essential trend towards demilitarization is clear across regions with possibly one notable exception (see later).

The volume of arms trade to the developing world followed a similar pattern, although the rise and fall took place on a somewhat different time-scale. The data on the trade in arms should be used cautiously since they reflect a volume index and not actual monies paid or the cost of weapons transactions. Nevertheless, they indicate whether the trade is rising or not. Third world arms importation rose consistently from the early 1970s until 1987. That year saw the end of the long-running Iran–Iraq war and the boom in arms imports by developing countries taken as a whole. Since 1987 the import of *major conventional weapons* by developing countries has collapsed. In 1991 alone the volume of arms imported by the developing world fell by 26 per cent compared to the previous year. From the peak of 1987, imports of major conventional weapons halved between 1987 and 1990. In 1990 the volume of major conventional (non-nuclear) weapons imports of the developing world was almost the same as that in 1971 – 20 years ago. The long cycle was complete.

It is necessary, when analysing military expenditure shares, to note an important characteristic of the data. Both the Stockholm International Peace Research Institute (SIPRI) and the US Arms Control and Disarmament Agency (ACDA), which collect military spending information, rely on domestic budgetary data plus adjustments.

However, international comparisons are facilitated by the use of dollar values. When converting local currencies into dollars, the military expenditure data for the former socialist countries in the former WTO are changed by utilizing Purchasing Power Parities (PPPs). This is particularly important for the former USSR, where the use of official exchange rates would be meaningless in capturing the true resource cost of the military. However, for developing countries, official exchange rates are widely used for conversion (ACDA uses PPPs for China also). Since there may be considerable divergence between exchange rates and PPPs for countries with low per capita income, the aggregation of data is not precise. More specifically, the share of the developing countries in the world total tends to be underestimated.

The central purpose of the paper is to analyse the trends in world military expenditure and arms trade with special reference to the third world. Section 2 discusses defence spending trends of the major powers and the industrial countries. Section 3 analyses the trends in the third world, both for defence expenditure and arms procurement through importation, in terms of various indicators of militarization and shows the evolution during the last decade or so. It also discusses the burden of militarization using some non-traditional indices. Section 4 discusses the causes of the fall in military expenditures in the world generally as well as the reasons for the regional variations. It also briefly tackles a major issue as to whether such declines are sustainable and whether there is a scope for further significant falls. Such a prognosis of future trends is clearly fraught with major uncertainty, particularly at a time of systemic changes. Section 5 concludes briefly.

## II. Military expenditure in the industrial countries

After the rapid rise in industrial countries' military expenditure since the late 1970s, a downward trend has been discernible from the late 1980s. This *steady but slow* decline has been mainly a product of technological and economic factors rather than a product of arms control treaties and negotiations. By the second half of the 1980s, changes in sophisticated technology increased unit costs considerably for weapons systems, unless large procurement orders allowed producers to recoup the gains from increasing returns. Budgetary constraints, in an era of conservative fiscal policies, hindered countries from overspending on the military irrespective of the perceived threats. These two factors produced what may be termed a "scissors

crisis" for the proponents of defence spending. Alternatively, one could perceive such a situation as Technological and Structural Disarmament, TESD (see Deger and Sen, 1990). The features of TESD, which were particularly relevant for the major military spenders in NATO and the WTO and in somewhat different fashion for third world countries, is discussed in section 4.

Arms control treaties of the late 1980s did not have a significant additional decelerating effect i.e. over and above what constituted the core impact of TESD. For NATO the ceilings on Treaty Limited Items were high and required little disarmament *per se*, only a slowing down of defence spending. For the former WTO countries the upper limit was more seriously binding. However, at the same time economic constraints had become so adverse that it was impossible to sell the claims of military security to an impoverished nation. Arms control treaties notwithstanding, the structural changes of TESD were sufficient to reduce defence spending and arms acquisition considerably.

It was expected that the profound political transformation since 1989, the so-called end of the Cold War, would have an equally profound impact on defence spending. Spectacular claims of halving military expenditure in a few years were widely made at that time. It was believed that arms industries would face major crises, that defence R&D establishments would be shut down, that personnel would rapidly dwindle, and that military expenditure would collapse. None of these things have happened in NATO and OECD countries by 1992. Among the Central and East European Economies (CEE), including the CIS countries, rapid demilitarization has actually occurred but this has been a product of systemic change in the whole economic structure. Military spending has been drastically cut but so too have been expenditures on social welfare provisions, including other types of public goods such as education and health. For example, according to the 1992 Gaidar budget for Russia, defence spending could be one-third of total republican budgetary expenditures. The ratio is not fundamentally different from the recent past during the Gorbachev era.

In the OECD countries, military expenditure reductions, and concomitant restructuring, have yet to catch up with political changes taking place in the world. They have also failed to keep pace with the changes in military doctrines that require different forms of capability to match altered threats. The declines that are occurring are slow and steady and motivated by technology and economics rather than sys-

temic political transformation. Rather, new demands for funding alternative defence structures, compensation, and subsidies for industrial restructuring, as well as paying for better quality volunteer armed forces, are potentially expensive and could reduce the slowdown in defence spending.

The hopes of a substantial peace dividend have all but evaporated. Rather, the emphasis is on the costs of demilitarization. It is increasingly stressed that disarmament is like an investment with initial costs (both sunk and fixed costs) and little returns in the short run. However, it is also believed that the returns appear in the longer run when the disarmament dividend could be potentially large. However the crucial question as to "how long is the long run" is as yet unanswered.

There is little doubt that the decline in defence spending over the last five years or so, in most regions of the world, is irreversible. There are arguments and controversies about how quickly the restructuring will take place and what would be the optimum level of military expenditures (for various major countries and regions) when the stable plateau is reached, possibly at the millennium. But technology, economics, and politics will all contribute to a permanent reduction in global defence spending – although it will take far longer than anticipated at the dawn of the post-Cold War world.

Considering first the United States, currently the largest military spender in the world, during the decade of the 1980s US military expenditure rose rapidly until around 1986–1987 (depending on definition and measurement) and then began a downward fall. Since 1990 the fall has been much more marked and expenditures are expected to fall by 4 to 5 per cent per year until the mid-1990s. However, even in 1990 the value of US defence budgetary outlays was 50 per cent more than in 1980, reflecting the rapidity of rise in the first part of the decade.

The allocation of military expenditures into its constituent parts – personnel, operations and maintenance (O&M), procurement, research and development (R&D) – give an indication of threat perception and how capabilities were built up. During the expansion of aggregate budgets, procurement rose the fastest followed closely by R&D. During the downturn, procurement budgets have been cut most while R&D has been relatively protected. The share of procurement in the total budget authority fell from its peak of 32 per cent in 1986 to 22 per cent in 1991. During the same period R&D expenditures remained stable at around 12 per cent of the aggregate

budget authority. Thus, at a time when expenditures were being reduced, R&D exhibited resilience in the sense that its share was protected even though absolute amounts went down somewhat. Military personnel shares remained the most stable, while O&M shares fell during the expansionary phase and rose during the contractionary phase.

The future reveals large cuts in active and reserve forces and weapons systems as well as military personnel. In his State of the Union message to Congress, President Bush announced in January 1992 the termination of: (a) the B-2 bomber – the costliest aeroplane ever built at \$75 million a copy; (b) the Midgetman ICBM; (c) the W88 nuclear warhead for Trident missiles; (d) the Advance Cruise missiles after a minimum production run (of 640 missiles to be purchased). SDI has fared relatively better particularly after the Iraqi war and the spread of tactical missiles in the former Soviet states. There is also now a modest Tactical Missile Defence Initiative that could grow in importance given missile proliferation and regional instability.

It is clear that US military spending is moving firmly downwards. Its share of GNP, which was around 6.7 per cent in the mid-1980s, is forecast to fall to 3.4 per cent by 1997 – the lowest share since the end of World War II. The fall in defence orders has created a small crisis in the military industrial sectors and the cuts in personnel will affect unemployment, albeit modestly in terms of total labour force. However, taking a more long-term view, the period from 1980 to 1995 shows the end of a long cycle – not fundamentally unlike the end of the Vietnam War. The current long cycle has, as usual, been characterized by expansion followed by contraction. For example, even after the recent cuts, military research and development is expected to be greater by almost 50 per cent in 1995 compared to 1980. By mid-1990 it is expected that defence spending will have reached a stable plateau after the completion of the 15-year cycle. Given this relatively long period of adjustment, industrial restructuring, although painful, will not be traumatic. Since the markets have been given sufficiently long time to adjust there is little interest in “conversion” in the classical sense of the term. Rather the problem is one of industrial diversification, retraining of skilled workers, and the reorientation of military R&D towards research in other types of public goods such as environmental protection (see Deger and Sen, 1990; 1992c). President Clinton will accelerate the cuts already initiated.

We now turn to the FSU (former Soviet Union), where the transformation has been truly profound. Defence spending, and the resource cost of maintaining a large military, depends on perceptions regarding national security. In the Soviet successor states, national security is being defined in terms of a very broad set of parameters. Within this broad framework, national defence itself depends on many factors, not all of which are related to strategic considerations or foreign policy. Internal factors, ethnic unrest and civil disorder, will also affect military related spending. In the FSU, military expenditure often reflected increases in military capability but also the perceptions of the country towards threat and security. The new states will clearly have a totally different set of priorities. In particular, economic factors will become dominant in determining budgetary trends and the capacity of the state to provide for defence. In addition, economic insecurity will be a far more important factor than threat perceptions of the old type. The level of external debt, or that of foreign aid, could be more critical than new arms procured. In the new group of states the issue will become more complicated than in the past: domestic, foreign, and interrepublican influences create a complex web of relationships that will affect the trends in force and spending levels. Unlike the past, military spending will never be a matter of military security alone.

It is now well known that after a slow-down in the late 1970s Soviet military expenditure rose rapidly in the 1980s, in the process exceeding the growth of the national product, which was itself slowing down due to various factors termed “growth retardation.” The process was motivated by a variety of factors: the arms race consequent to the Reagan administration’s spurt in defence spending; modernization, high R&D, automation and new technologies, a new procurement cycle; as well as military involvement and security assistance in the third world. The military burden rose fast since defence growth exceeded economic growth. The process was halted in 1987, stabilized in 1988, and the decline in spending began earnestly in 1989. The years 1990 and 1991 were characterized by the great “build-down” and substantial reductions in all categories of forces and expenditures were carried out. The particular feature of 1991 was the chaotic nature of the cuts forced by the dissolution of the country and the inability to acquire funding for most projects particularly in defence-related research. The chaos continues in 1992 even though some systematic features are becoming clearer. For example, the invest-