7. Military expenditure data: a 40-year overview

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1. Introduction

Systematic gathering of data on the resources committed to military activities by a large number of countries did not start until the late 1960s. SIPRI was one of the pioneers of this important endeavour. The aim of the SIPRI Yearbook, as stated in the first edition, was to bring together in one place 'an account of recent trends in world military expenditure, the state of the technological arms race, and the success or failure of recent attempts at arms limitation or disarmament'.[1] The rationale for establishing SIPRI and, by implication, its Military Expenditure Project was to produce a 'factual and balanced account of a controversial subject—the arms race and attempts to stop it'.[2] Collection, standardization and analysis of impartial and accurate data were a necessity if this objective was to be achieved and they have remained at the heart of the Military Expenditure Project. Through its regular publication of military expenditure data for a large number of countries in all the geographic regions of the world, SIPRI not only helped point out the dangers inherent in accelerating military spending during the cold war years but also made possible the large-scale testing of propositions regarding the relationship between security and development in the developing world.[3] In addition, up-to-date worldwide study of military expenditure trends in different geographic regions became feasible, which facilitated discussions between states about meeting their common security needs and helped researchers of peace and defence economics to articulate their views.

Military expenditure is primarily an economic indicator since it is a measure of economic input. It is a means of measuring the economic resources devoted by states to military activities. As such, it can be used for assessing relative government priorities between military and non-military sectors, for showing the economic burden of military spending and for indicating the opportunity costs of investing in the military. The relationship between military expenditure and military output is at best indirect, owing to a number of intervening variables. There is no clear relationship between the input of economic

[1] Neild, R., 'Preface', *SIPRI Yearbook of World Armaments and Disarmament 1968/69* (Almqvist & Wiksell: Stockholm, 1969), p. 5.

[2] Neild (note 1).

[3] West, R. L., 'Background note on military expenditure: sources and price conversion procedures', eds G. Lamb with V. Kallab, *Military Expenditure and Economic Development: A Symposium on Research Issues*, World Bank Discussion Papers no. 185 (World Bank: Washington, DC, 1992), pp. 147–51.

resources and military strength or military activity. The link between military expenditure and security is naturally even weaker since security depends on the broader security environment, not just on military expenditure, military strength or even military security.[4]

One of the main challenges that data-gathering organizations face in gathering, analysing and reporting military expenditure statistics is how to standardize the data produced by different countries with different definitions and different bureaucratic traditions. A number of organizations have developed standardized definitions of military expenditure, the most common being those of the North Atlantic Treaty Organization (NATO),[5] the International Monetary Fund[6] and the United Nations (UN) Department for Disarmament Affairs.[7] These definitions are in many ways similar to each other, the major difference being the inclusion or exclusion of military aid, paramilitary forces and military pensions.[8] While large international organizations like these have the authority to request standardized data from their member countries, research institutes such as SIPRI, the International Institute for Strategic Studies (IISS)[9] and World Priorities,[10] which do not have that authority, depend largely on information in open sources, including budgets and other official statistics from national governments and the international organizations.[11] It is difficult, and in most cases impossible, for these research institutes to apply a common definition of military expenditure to all countries because of weaknesses inherent in the data. Furthermore, it is unclear whether, when reporting to international organizations, countries are able to apply the appropriate definitions in detail. Military expenditure data are therefore not suitable for close comparison between individual countries and are more appropriately used for

[4] On the concept of military expenditure and its relationship to military output see Brzoska, M., 'World military expenditures', eds K. Hartley and T. Sandler, *Handbook of Defense Economics*, vol. 1 (Elsevier: Amsterdam, 1995), pp. 46–67; and Sköns, E. et al., 'Military expenditure and arms production', *SIPRI Yearbook 1998: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, 1998), pp. 187–88.

[5] See Brzoska (note 4); and Stålenheim, P. 'Sources and methods for military expenditure data', *SIPRI Yearbook 2005: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, 2005), p. 373.

[6] International Monetary Fund (IMF), *Government Finance Statistics Manual 2001* (IMF: Washington, DC, 2001), pp. 82–83.

[7] United Nations, 'Objective information on military matters, including transparency of military expenditures', Report of the Secretary-General, UN document A/53/218, 4 Aug. 1998, URL <http://disarmament.un.org/cab/milex.html>.

[8] For a useful table of the coverage of the respective definitions see Brzoska (note 4), pp. 48–49. See also Brzoska, M., 'The reporting of military expenditures', *Journal of Peace Research*, vol. 18, no. 3 (1981), pp. 261–75.

[9] The IISS publishes *The Military Balance* annually. International Institute for Strategic Studies, *The Military Balance* (Brassey's: London, 1992–1994; Oxford University Press: Oxford, 1996–2004; Routledge: Abingdon, 2005–).

[10] World Priorities published 16 editions of its report on military and social expenditures. Sivard, R. L., *World Military and Social Expenditures* (World Priorities: Washington, DC, 1974–96).

[11] On the problems faced by data-gathering organizations in accessing military expenditure data from many countries and the inherent weaknesses that diminish the quality and utility of the available data see chapter 6 in this volume,

comparisons over time and as an approximate measure of the economic resources devoted to military activities.[12]

Some of the general problems of military expenditure data that have been pointed out in the literature include: (*a*) lack of uniformity in the definition of military expenditure owing to individual country preferences or budget traditions; (*b*) lack of detail in some of the data, especially those from developing countries;[13] (*c*) deliberate manipulation of data by countries (including off-budget spending); (*d*) the use of resources assigned a cost below their market value (e.g., conscripts) or at no monetary cost (e.g. direct allocation of natural resources), which is a special case of off-budget allocation; and (*e*) exchange rate conversion for comparisons in dollar terms.[14] The weaknesses are related to various aspects of the data, especially collection and standardization.

There is a broad range of users of military expenditure data, including military planners, defence analysts, academics, policy makers, peace activists and, recently, donors of economic aid. The data are used for a number of purposes and in a number of different contexts by these groups. The most common are: (*a*) for making threat assessments; (*b*) as an approach to disarmament; (*c*) in the context of international development cooperation; (*d*) for the purpose of transparency; (*e*) for academic research on their determinants and economic and political impact; and (*f*) for national defence planning. Some of these users acknowledge that military expenditure is simply an input of economic resources to finance military establishments. Other users interpret military expenditure data as indicating output in terms of military capability or military strength, even though there is no close relation between monetary allocations and military output.

This chapter examines the use of military expenditure data in different political contexts and some of the consequences of misuse and misinterpretation of the data. It focuses on use for international comparisons or by the international community and examines how data availability and quality have evolved in the past four decades. It does not cover the use of military expenditure data in the context of academic research or in defence planning and programming, except for some international purposes such as measuring burden sharing. The chapter highlights what has and has not changed, with a view to assessing the relevance of military expenditure data for the analysis of peace- and security-related issues in a changing security environment.

The analysis is divided into three periods: the cold war period (section II), the post-cold war period (section III) and the period since 11 September 2001 (section IV). Conclusions are given in section V.

[12] 'Sources and methods for the world military expenditure data', *World Armaments and Disarmament: SIPRI Yearbook 1979* (Taylor & Francis: London, 1979), p. 58.

[13] Brzoska (note 8); Goertz, G. and Diehl, P. F., 'Measuring military allocations: a comparison of different approaches', *Journal of Conflict Resolution*, vol. 30, no. 3 (1986), pp. 553–81; Brzoska (note 4); and Ball, N., *Security and Economy in the Third World* (Princeton University Press: Princeton, N.J., 1988).

[14] On the problems with exchange rate conversions see appendix 8E in this volume.

II. Military expenditure during the cold war

In the cold war period, 1947–89, characterized by rivalry between the Soviet Union and the United States, world military expenditure grew rapidly and reached an unprecedentedly high level.[15] More economic resources were used for military purposes after World War II than ever before; during the 1980s the level of world military spending was more than 10 times higher than in the period 1925–38.[16] This was primarily because of the trends in military expenditure by the two superpowers and, to some extent, by their respective allies. By the end of the cold war, the Soviet Union and the USA accounted for 20 and 36 per cent, respectively, of total world military spending.[17] Trends in military spending in the developing world were also affected by the cold war in that each bloc supported its partners in other regions and supplied them with weapons. Demand from the developing world for arms imports during the cold war was mostly fuelled by conflicts, but aspirations for the status of a regional power and the domestic status of the military were also important factors.[18] For all these reasons, total arms imports by developing countries increased greatly, especially during the 1970s. In particular, the Middle East became a large and expanding arms market in the 1970s and 1980s owing largely to: the rise in oil incomes after 1973–74, which generated an abundance of foreign exchange in many countries; a number of intense conflicts in the region; and strong interest and increased involvement in the region by the Soviet Union and the USA.[19] Arms imports by developing countries were to a great extent made possible through the superpowers' widespread credit financing of such imports, which subsequently aggravated the debt burden of these countries.[20] Nevertheless, while some arms imports were financed with large amounts of military aid, more were paid for from the budgets of the developing countries themselves, as reflected in their surging military expenditure.

Availability of data

During the cold war, the newly established independent data-gathering organizations suffered from a significant dearth of military expenditure data from developing countries, not because such information was not published, but because of the difficulty of accessing it. Instead, most information on these

[15] A 1949–85 time series of SIPRI military expenditure data is presented in Thee, M. (ed.), 'Arms and disarmament: SIPRI findings', *Bulletin of Peace Proposals* special issue, vol. 17, nos 3–4 (1986), p. 229.

[16] Sköns, E., 'Trends in military expenditure and arms transfers', eds R. Thakur, R. and E. Newman, *New Millennium, New Perspectives: The United Nations, Security and Governance* (United Nations University Press: Tokyo, 2000), p. 80.

[17] The data are for 1990. Sköns et al., 'Tables of military expenditure', *SIPRI Yearbook 1998* (note 4), pp. 214, 223, 226.

[18] Brzoska, M. and Ohlson, T., SIPRI, *Arms Transfers to the Third World, 1971–85* (Oxford University Press: Oxford, 1987), p. 36.

[19] Brzoska and Ohlson (note 18), especially chapter 2.

[20] Brzoska, M., 'The military related external debt of Third World countries', *Journal of Peace Research*, vol. 20, no. 3 (1983), pp. 271–77.

countries came from secondary sources. Data availability for developing countries increased gradually towards the end of the cold war as data-gathering organizations became more established and better equipped to gather statistics on distant countries. However, access to primary data was still limited.

Quality of data

The quality of the data was a more serious problem than the availability. Reliance on national governments for data, the countries' politicization of data on military spending and a lack of independent means of verifying data were identified in the literature as some of the main problems affecting data quality during the cold war.[21] These were problems over which the data-gathering organizations had no control.

The problems were different for different categories of country, although all tended to manipulate military expenditure data to suit their specific needs. Most attention was devoted to the quality of data on the Soviet Union, which published only a figure for its total defence budget without providing any further detail about its content or coverage. Furthermore, the size of the official Soviet defence budget was so low that it could not credibly represent total Soviet defence spending. The same was true, although to a lesser extent, for other members of the Warsaw Treaty Organization (WTO). This lack of credibility and the lack of information on the Soviet defence budget gave rise to a virtual science in methodologies for estimating Soviet military expenditure (see below).

There were also problems in the quality and comparability of data for the NATO countries. The need to meet the financial obligations demanded by membership of the alliance had consequences for military expenditure data as countries presented different data to different constituencies. For example, the Federal Republic of Germany (West Germany) published different military expenditure figures for domestic use, for NATO and for the Conference on Security and Co-operation in Europe (CSCE),[22] while the United Kingdom did not include the cost of major programmes in its defence budget.[23] Although this was a potential source of problem for data-gathering organizations, it was resolved by using the data published by NATO, which at least was based on a common definition.

While the above examples show that data manipulation was not confined to developing countries, it was certainly more widespread there than in industrialized countries.[24] It can be argued that this manipulation was largely a

[21] Brzoska (note 8); Goertz and Diehl (note 13); Brzoska (note 4); and Ball (note 13).

[22] Brzoska (note 8).

[23] Blackaby, F. and Ohlson, T., 'Military expenditure and the arms trade: problems of the data', ed. C. Schmidt, *Economics of Military Expenditures: Military Expenditure, Economic Growth and Fluctuations* (Macmillan: Basingstoke, 1987), pp. 3–24.

[24] Ball, N., 'Measuring Third World security expenditure: a research note', *World Development*, vol. 12, no. 2 (Feb. 1984), pp 157–64.

result of bureaucratic preference when categorizing expenditure items[25] and a lack of appreciation of the importance of proper record keeping,[26] rather than a deliberate attempt at manipulation.[27] The fact that during the cold war the two superpowers directly and indirectly encouraged their allies among the developing countries to invest in military hardware meant that the former had little motive to probe the details of military expenditure data. Moreover, the internal pressure for reduced military spending in developing countries was not strong enough during this period to warrant any manipulation of data. Whatever the motive, the lack of detail in the budgets was a major limitation in the utility of the data.

Uses of data

During the cold war, one of the most common uses of military expenditure data was as a tool to assess military potential in the arms race between the two superpowers and their respective allies. The data were also used as a basis for disarmament negotiations in the context of the UN's call for reductions of military budgets and as a tool for monitoring 'militarization' in developing countries.

Threat assessments

There was a contentious debate during the cold war about the reliability of the official military expenditure data of the Soviet Union and other WTO countries, as discussed above. In the absence of credible official data for the Soviet Union, there were efforts to estimate actual military expenditure. The main estimates were those produced by the US Central Intelligence Agency (CIA)[28] and the US Defense Intelligence Agency (DIA), which were subsequently reported to the US Congress,[29] and the US Arms Control and Disarmament Agency (ACDA).[30] These estimates were used by the USA and its allies to justify increased military spending in response to perceived increased spending by the WTO countries.

[25] Brzoska (note 4), pp. 49–50.

[26] Ball (note 13), p. 84.

[27] Looney, R. E., 'The political economy of Third World military expenditures: impact of regime type on the defence allocation process', *Journal of Political and Military Sociology*, vol. 16, no. 1 (spring 1988), pp. 21–39.

[28] E.g., Central Intelligence Agency (CIA), *A Dollar Cost Comparison of Soviet and US Defense Activities, 1967–77*, SR78-10002 (CIA: Washington, DC, Jan. 1978); and CIA, National Foreign Assessment Center, *Estimated Soviet Defense Spending: Trends and Prospects*, SR78-10121 (CIA: Washington, DC, June 1979).

[29] E.g., US Congress, *Allocation of Resources in the Soviet Union and China—1979*, Hearings before the Subcommittee on Priorities and Economy in Government of the Joint Economic Committee (Government Printing Office: Washington, DC, 1979).

[30] The ACDA published these in its annual report, *World Military Expenditure and Arms Transfers* (WMEAT). Since 2000 WMEAT has been published by the US Department of State's Bureau of Verification and Compliance; see URL <http://www.state.gov/t/vci/rls/rpt/wmeat/>.

The method used for estimating Soviet military expenditure was the so-called 'building-block' method.[31] This approach was not universally accepted as being methodologically sound, the critique being that it used US costs and thus also relative prices to estimate the costs in the Soviet Union, where cost conditions and relative prices were fundamentally different. It was argued that this produced an exaggeration of Soviet military spending because of the so-called 'index number' problem.[32] As SIPRI argued in those years, 'There is no doubt that the process of valuing Soviet military output at US prices is, by itself, a wholly invalid procedure for making any sensible comparison of US and Soviet military effort. Yet this invalid procedure is the basis of the statement, which is widespread among political commentators in Western countries, that it is a "known fact" that Soviet military expenditure exceeds that of the United States.'[33]

A second, more complex, issue is how the economic analysis of Soviet military expenditure figures was used to suggest a much increased threat when it actually suggested the opposite. Initially, the CIA assumed that the Soviet arms industry had a much higher level of productivity and general efficiency than the civil sector. In 1976 it changed this assumption and decided that there was, after all, no big difference in productivity. As a consequence, the CIA's estimate of the Soviet military sector's share of Soviet national output went up from 6–8 per cent to 10–15 per cent.[34] There was no change in the CIA estimate of the size of the Soviet Union's military effort nor of its military spending: the change in the estimate of productivity simply implied that the military burden on the Soviet economy was much greater than had previously been assumed. The clear conclusion is that the Soviet Union was weaker, not stronger, than previously thought. As a former SIPRI Director noted, 'The message that reached the public, and the legislators, was the exact opposite of this—that the CIA had doubled its estimate of Soviet military expenditure.'[35] With hindsight it may well be that, although the USA overestimated Soviet military strength, the economic burden of Soviet military spending was underestimated.

Those exaggerated and misinterpreted figures were then used to demand an increase in military spending in the West. They formed part of the basis for

[31] For a description of the building-block methodology see, e.g., US Arms Control and Disarmament Agency (ACDA), 'Soviet military expenditure', *World Military Expenditures and Arms Transfers 1968–1977* (ACDA: Washington, DC, Oct. 1979), pp. 13–15.

[32] Holzman, F. D., 'Are the Soviets really outspending the US on defense?', *International Security*, vol. 4, no. 4 (spring 1980), pp. 86–104; and Holzman, F. D., 'Soviet military spending: assessing the numbers game', *International Security*, vol. 6, no. 4 (spring 1982), pp. 78–101.

[33] 'World military expenditure', *SIPRI Yearbook 1979* (note 12), pp. 29–30.

[34] The revised estimate was produced by CIA Team B, which was appointed by the CIA Director, George H. W. Bush (with Paul Wolfowitz on its advisory panel) to revisit the CIA assessments of Soviet military strength, including its military expenditure. Hessing Cahn, A., *Killing Détente: The Right Attacks the CIA* (Pennsylvania University Press: University Park, Pa., 1998); and Hessing Cahn, A., 'Team B: the trillion-dollar experiment', *Bulletin of the Atomic Scientists*, vol. 49, no. 3 (Apr. 1993), pp. 24–27.

[35] Blackaby, F., 'How SIPRI began', *SIPRI: Continuity and Change, 1966–1996* (SIPRI: Stockholm, 1996), p. 37.

decisions by the administrations of US presidents Gerald Ford, Jimmy Carter and Ronald Reagan to massively increase US military spending from the mid-1970s to the mid-1980s.[36] They also led to NATO's decision in 1977 to call for a 3 per cent annual real increase in the defence expenditures of its members,[37] a target which NATO retained throughout the 1980s.[38]

The lesson to be learned from this episode in the use of military expenditure is that, when data on military expenditure are used as a measure of output in terms of military strength or threat, there are reasons to be sceptical, if not suspicious, of the conclusions drawn.[39]

Disarmament

Military expenditure was used in disarmament discussions throughout the cold war period, but with few practical results. Beginning in the 1950s, proposals were made in the UN General Assembly for the reduction of military budgets, based on the conviction that such measures would facilitate the disarmament process and help release resources for economic and social development. This was in line with Article 26 of the UN Charter, according to which member states committed themselves to measures '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 first UN General Assembly resolution to use reduction of military budgets as an approach to disarmament was adopted in 1973, based on a proposal by the Soviet Union for a 10 per cent reduction in the military expenditure of the permanent members of the UN Security Council and the transfer of 10 per cent of the money saved to international development programmes.[40] The 10th Special Session of the UN General Assembly, in 1978, which was entirely devoted to disarmament, agreed a comprehensive programme of action to implement the principles and goals of disarmament that had been defined in a number of UN resolutions during the previous 30 years.[41] One of the many approaches to disarmament agreed was to consider 'Gradual reduction of military budgets on a mutually agreed basis, . . . particularly by nuclear-weapon States and other militarily significant States' in order to 'contribute to the curbing of the arms race and . . . increase the possibilities of

[36] 'World military expenditure and arms production', *World Armaments and Disarmament: SIPRI Yearbook 1982* (Taylor & Francis: London, 1982), pp. 103–109.

[37] 'World military expenditure, 1979', *World Armaments and Disarmament: SIPRI Yearbook 1980* (Taylor & Francis: London, 1980), p. 21.

[38] Deger, S. and Sen, S., SIPRI, *Military Expenditure: The Political Economy of International Security* (Oxford University Press: Oxford, 1990), pp. 8–9.

[39] In 1983 the CIA revised its assessment of the growth trend in Soviet military expenditure, but this had no major impact on US and NATO threat perceptions. Rather, it produced a controversy between the CIA and the DIA, which disputed the revised CIA estimates. Sköns, E. and Tullberg, R., 'World military expenditure', *World Armaments and Disarmament: SIPRI Yearbook 1984* (Taylor & Francis: London, 1984), pp. 88–94.

[40] United Nations, General Assembly Resolution 3093 (XXVIII), 7 Dec. 1973, URL <http://www.un.org/documents/ga/res/28/ares28.htm>.

[41] 'The UN Special Session on Disarmament: an analytical review', *SIPRI Yearbook 1979* (note 12), pp. 490–523, especially 'Reduction of military expenditures', pp. 507–509.

reallocation of resources now being used for military purposes to economic and social development, particularly for the benefit of the developing countries'.[42]

However, it was not until December 1980 that the UN General Assembly introduced the UN system for standardized reporting of military expenditure.[43] It was based on the recommendations of a group of experts in the field of military budgets, which had developed a detailed definition of military expenditure and designed an elaborate standardized matrix, the Instrument for Reporting Military Expenditures. Since then, the UN Secretary-General has annually requested all UN member states to report their military expenditure to the Department for Disarmament Affairs. However, reporting of military expenditure data remained relatively low during the cold war period, averaging 23 countries annually.[44]

International development cooperation

During the cold war military expenditure data were also used to estimate the extent of resources that developing countries committed to arms acquisition, which was thought to be fuelled by the arms race between the superpowers.[45] Many developing countries had begun to build their military forces to reflect their new status as independent states from the 1960s and 1970s. At the same time they faced enormous development challenges for which their limited resources were inadequate. The military expenditure of developing countries grew at a much higher rate than that of industrialized countries. Between 1960 and 1987 military expenditure in the developing countries grew at an average annual rate of 7.5 per cent, compared with 2.8 for the industrialized countries.[46] Most of the money was believed to have been spent on arms bought from the major powers.[47]

Since the structure of the international economic order was believed to be the source of the developing world's problems, there were calls by developing countries and well-meaning individuals and groups in the developed world for

[42] United Nations, 'Final document of the Tenth Special Session of the General Assembly', UN document A/RES/S-10/2, 30 June 1978, section III, 'Programme of Action', paragraph 89. Reproduced in *SIPRI Yearbook 1979* (note 12), p. 537.

[43] United Nations, General Assembly Resolution 35/142, 12 Dec. 1980, URL <http://www.un.org/documents/ga/res/35/ares35.htm>.

[44] Statistics on reporting are available on the website of the UN Department for Disarmament Affairs, URL <http://disarmament.un.org/cab/milex.html>. See also United Nations, Department for Disarmament Affairs, 'Transparency in armaments: United Nations Instrument for Reporting Military Expenditures, global and regional participation 1981–2002', New York, N.Y., 2003, URL <http://disarmament.un.org/cab/milex.html>, p. 8; and Sköns, E. and Nazet, N., 'The reporting of military expenditure data', *SIPRI Yearbook 2005* (note 5), p. 380.

[45] Luckham, R., 'Militarization in Africa', *World Armaments and Disarmament: SIPRI Yearbook 1985* (Taylor & Francis: London, 1985), pp. 295–328.

[46] United Nations Development Programme, *Human Development Report 1994: Capturing the Peace Dividend* (Oxford University Press: New York, N.Y., 1994), URL <http://hdr.undp.org/>; and West, R. L., 'Patterns and trends in the military expenditures of developing countries', eds Lamb with Kallab (note 3), pp. 19–34.

[47] Sen, S., 'Debt, financial flows and international security', *SIPRI Yearbook 1990: World Armaments and Disarmament* (Oxford University Press: Oxford, 1990), p. 210.

a reordering that paid attention to the needs of developing countries.[48] Military expenditure statistics served to point out the increasing resources that developing countries were committing to the military at a time when they were faced with great developmental challenges and were calling for an increased resource flow from the developed world. Already in 1961, the US Foreign Assistance Act was amended to make it mandatory for the US president to consider a country's level of military expenditure and amount spent on military acquisitions before granting economic assistance. Such data were produced by the US Agency for International Development (USAID) for this purpose.[49] However, military expenditure data are not the best indicator of the amount of resources committed to arms imports by developing countries, as such spending is rarely included in the military budget.[50]

At the same time, military assistance played a critical role in the relationship between the major powers (not just the superpowers) and their supporters in the developing countries during the cold war. As noted above, a large part of the increase in foreign debt in many of these countries was caused by repayable military aid.[51]

Transparency

Military expenditure data were little used in the context of transparency during the cold war, although transparency in military expenditure began to be seen as a confidence-building measure (CBM) during the period. CBMs are usually defined as tools that adversaries can use to reduce tensions and avert the possibility of military conflict. These tools include communication, constraints, transparency and verification measures.[52] In Europe, CBM negotiations initially focused on prior notification of military manoeuvres and movements and the occasional presence of military observers.

CBMs are most often used in a regional or bilateral context. During the cold war the CSCE conducted long and difficult negotiations on CBMs for Europe. The first rudimentary CBMs were contained in the 1975 Helsinki Final Act within the framework of the CSCE (in 1995 renamed the Organization for

[48] To address the problem of economic imbalance and poverty in the developing world, the Brandt Commission, an independent commission headed by former West German Chancellor Willy Brandt, was set up in 1977. Among other recommendations, it called for a redirection of resources from the arms race to development in the developing world. Brandt, W. (chairman), *North–South: A Programme for Survival*, Report of the Independent Commission on International Development Issues (Pan Books: London, 1980).

[49] E.g., US Agency for International Development (USAID), *Implementation of Section 620(s) of the Foreign Assistance Act of 1961, As Amended: A Report to Congress for 1984* (Department of State: Washington DC, Nov. 1985).

[50] This has been shown by a number of studies, e.g., Ball (note 13), pp. 107–108.

[51] Brzoska, M., 'Military trade, aid, and developing country debt', eds Lamb with Kallab (note 3), pp. 79–111.

[52] Meek, S., 'Confidence-building measures as tools for disarmament and development', *African Security Review*, no. 1, vol. 14 (2005), URL <http://www.iss.co.za/pubs/ASR/14No1/Cmeek.htm>.

Security and Co-operation in Europe, OSCE),[53] and the first major agreement on confidence- and security-building measures (CSBMs) was included in the 1986 Document of the Stockholm Conference on Disarmament in Europe, which focused on regulating the activities of military forces.[54] Neither of these made any reference to military expenditure.

Military expenditure as an indicator for burden sharing

Within military alliances, military expenditure data were used to show how military spending was shared among the allies. While there was no transparency in the burden-sharing system of the WTO, burden sharing was a prominent topic in NATO political debate on resource allocation. Collection of standardized military expenditure data was, and remains, an integral part of defence planning in NATO and subject to review at the annual meetings of NATO defence ministers. NATO has published these data since 1963. When new defence strategies were being adopted and allocations increased as a consequence, burden sharing was a contentious issue and data on military expenditure inevitably figured in the debate. This was the case with the adoption in 1978 of the Long-Term Defence Programme, which involved a commitment by NATO member states to increase their military expenditure at the rate of 3 per cent annually in real terms.[55]

III. Military expenditure in the post-cold war period

With the end of the cold war in 1989 there was a dramatic change in the security environment and in perceptions of security threats. Initially, there were high hopes for far-reaching disarmament after the disintegration of the Soviet Union and the dissolution of the WTO and the consequent vanishing of the Soviet military potential from Western threat perceptions. There was a change in focus towards arms reduction and the conversion of resources and facilities from military to civil use, with the expectation of a major peace dividend. There were discussions of a new world order and whether it should be characterized by uni- or multipolarity. Global systemic changes were on the agenda, in the political sphere with the spread of democratization and in the economic sphere with the spread of the market economy. Focus also gradually shifted from the North to the South. Measures to stop or prevent armed conflict in developing countries were discussed, such as peace missions and military intervention for humanitarian purposes. At the same time, some new external threats were identified. The perception of a threat from a militarily growing China remained a concern of the USA. Eventually, other threat

[53] Darilek, R. E., 'The future of conventional arms control in Europe, a tale of two cities: Stockholm, Vienna', *World Armaments and Disarmament: SIPRI Yearbook 1987* (Oxford University Press: Oxford, 1987), p. 340.

[54] Darilek (note 53), p. 341.

[55] Greenwood, D., 'NATO's three per cent solution', *Survival*, vol. 23, no. 6 (Nov.–Dec. 1981), pp. 254–55.

scenarios were brought onto the agenda, under the USA's rubric of 'rogue states'.

During the first 10 years after the cold war, 1989–98, world military spending fell by more than one-third in real terms.[56] It was a period of disarmament, marked by the downsizing and restructuring of the armed forces in many countries in combination with cuts in arms procurement. However, there was a wide variation between regions and countries. The deepest cuts took place in Russia and other former WTO countries. By 1998 the military expenditure of Russia and the other former Soviet republics had fallen to 6 per cent of that of the Soviet Union in 1989. Substantial reductions in military expenditure also took place in Africa (cuts of 25 per cent) and the Americas (30 per cent, primarily in the USA) during the first post-cold war decade. In Western Europe the reduction during the same period was only 14 per cent, while military spending continued to rise in Asia (by 27 per cent) and the Middle East (by 17 per cent).[57]

Gradually, new pressures emerged for increased military expenditure, motivated by the development of military technology in the context of the 'revolution in military affairs' and the transformation of military forces as they became increasingly involved in peacekeeping and peace enforcement. World military expenditure began to increase again from 1999.[58]

Availability of data

Data availability problems eased slightly after the end of the cold war as data on the former WTO countries were now available more regularly. This was due in part to the new openness in these countries but more to the aspiration of some of those countries to join Western organizations. Countries in the developing world remained more problematic since data-gathering organizations had limited access to government publications, including budget documents. The problem of access was caused by the fact that most of the countries did not give publicity to the published data through the media. Thus, the data were never reported in the West, which is where most of the data-gathering organizations at this time were located, and the researchers did not have the means to visit the countries to obtain published data. This problem was compounded by the increased use of data on military expenditure to determine eligibility for aid, as explained below. As a result, although a number of developing countries produced budget documents, these were exclusively for government use and did not represent significant progress in transparency.

[56] Sköns, E. et al., 'Military expenditure', *SIPRI Yearbook 1999: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, 1999), p. 269.

[57] Sköns et al. (note 56), pp. 269–70.

[58] See appendix 8A in this volume.

Quality of data

The problem of data quality, which existed during the cold war in all parts of the world, became increasingly a problem of the developing countries in the post-cold war period. One reason for this was the political significance that aid donors gave to the data from developing countries when judging the recipients' degree of good governance. The impact was a further reduction in the quality, and by implication the utility, of data through deliberate manipulation, especially through resort to off-budget expenditure, by either hiding defence expenditure under other budget headings such as internal affairs or not reporting it at all.[59] Some countries presented the defence budget only as a one-line budget item when other categories of expenditure in the budget were disaggregated. In this way, while being ostensibly open, these countries provided as little information on defence as possible. In addition, during this period military expenditure data continued to suffer from a lack of proper classification. Although this was not a deliberate attempt to manipulate data, it nonetheless diminished the validity of the data as the amount of resources used by defence was not fully captured.

A more important problem for data availability and quality in the immediate post-cold war period was the increased number of states experiencing intra-state conflict. These countries' input of financial resources into war efforts could not be captured by military expenditure data. A large part of the direct and indirect costs of such conflicts are excluded from military budgets, owing in part to the nature of the means of financing, both orthodox and unorthodox, that are adopted during wars, especially in some of the more recent ones.[60] Most of these means are clearly off budget and are sometimes outside the official economy. Some attempts have been made to estimate the costs of armed conflict in a way that captures all these factors,[61] but much research remains to be done. Furthermore, the fact that intra-state conflicts involve a large number of non-state armed actors means that government data on military expenditure do not reflect the overall picture of resources consumed for armed conflict.

[59] On such practices see Hendrickson, D. and Ball, N., 'Off-budget military expenditure and revenue: issues and policy perspectives for donors', Conflict, Security and Development Group Occasional Papers no. 1, King's College, London, Jan. 2002, URL <http://www.grc-exchange.org/info_data/record.cfm?Id=295>.

[60] For some unorthodox means of financing wars see Ballentine, K. and Sherman J., *The Political Economy of Armed Conflict: Beyond Greed and Grievance* (Lynne Rienner: Boulder, Colo., 2003); Berdal, M. and Malone, D. M. (eds), *Greed and Grievance: Economic Agendas and Civil Wars* (Lynne Rienner: Boulder, Colo., 2000); and Cooper, N. et al., *War Economies in a Regional Context: Challenges of Transformation* (Lynne Rienner: Boulder, Colo., 2004).

[61] Brown, M. E. and Rosecrance, R. N. (eds), *The Costs of Conflict: Prevention and Cure in the Global Arena* (Rowman and Littlefield: Lanham, Md., 1999); Collier, P. and Hoeffler, A., 'The challenge of reducing the global incidence of civil war', Copenhagen Consensus Challenge Paper, Apr. 2004, URL <http://www.copenhagenconsensus.com/Default.asp?ID=221>; and Bohnstedt, A., 'Why civil wars are costly—and what could be done to reduce these costs', World Markets Research Centre, London, Nov. 2004. These attempts are summarized in Sköns, E., 'Financing security in a global context', *SIPRI Yearbook 2005* (note 5), pp. 294–95.

In developed countries, new approaches to public procurement—for example, private financing initiatives (PFIs) as a means of public–private partnership—and changes in government budget accounting (from a cash basis to a resource basis) that began to be introduced during the 1990s may also have had an impact on the quality of military expenditure data. Under PFIs, with the aim of increasing efficiency and reducing costs, private companies pay for the production of an asset and then rent the finished product to the public sector.[62] However, while PFI deals may allow the government to procure new goods and facilities at a lower cost in the short term, they can incur a higher cost over a longer time period. As well as making government accounts less transparent and more difficult to interpret, the use of PFIs disrupts traditional accountability structures.[63] Resource-based accounting is founded on the principle of including in annual accounts the resources consumed during the year, rather than the actual cash outlays and thus does not reflect annual spending.

There was an improvement in the quality of data in one respect. As several countries in Europe replaced conscript forces with professional forces, data on military spending better reflected the true cost of military personnel.

Uses of data

With the end of the cold war, the role of military expenditure data was reduced in the context of threat assessments and disarmament, while they continued to be used as measures of transparency and confidence building. In the changed security environment, it was also gradually deemed legitimate for donor countries to raise military-related issues with developing countries in the context of development cooperation. The increased focus on armed conflict in developing countries also led to efforts to develop models of early warning of conflict, of which military expenditure data constituted one element.

Threat assessments

Since the end of the cold war the pre-eminence of the USA as the world's only superpower has not been contested. However, in spite of this acknowledgement and the great disparity in military technology and spending between the USA and its allies on the one hand and China on the other, the latter has been a major concern for the USA and other Western powers. The use of military expenditure data for threat assessment in the immediate aftermath of the cold

[62] An example of a military PFI project is the contract awarded in 2003 by the British Ministry of Defence to the French company Thales to provide management and support of combat aircraft training at 10 RAF sites over a 13-year period, including about 20 simulators and 64 part-task trainers. Thales, 'Focus: PFI (private finance initiative)', 2005, URL <http://www.thales-is.com/services/home_market_focus.html>.

[63] Gosling, T., 'Openness survey paper', Institute for Public Policy Research, London, Feb. 2004. URL <http://www.ippr.org.uk/uploadedFiles/projects/Openness survey final.pdf>. See also Penman, D., 'IPPR: PFI failing schools and hospitals', *The Guardian*, 10 Dec. 2002, URL <http://politics.guardian.co.uk/thinktanks/story/0,10538,857519,00.html>.

war has thus continued, especially in the case of China. Since official Chinese data are believed to underreport the actual military expenditure of China,[64] governments and researchers have produced estimates of Chinese military expenditure, some of which are three times higher than the official figure.[65]

It has also been suggested that, in post-conflict states, military expenditure often serves as a signal of central government's commitment to implement agreed peace settlements.[66] Where military expenditure rises, it could be seen by rebel groups as a sign of the government's intention to rearm while peace is being maintained or while rebel capabilities are weak; whereas low military expenditure would signal the government's intention to adhere to the terms of the peace settlement. This use of military expenditure to explain government intention is simplistic since post-conflict states need to re-equip the military, rebuild military infrastructure damaged during the war and demobilize some of their forces, all of which will, at least temporarily, boost military expenditure. Nonetheless, it is significant that military expenditure data are used in such cases as a measure of the extent of threat that former protagonists in a war constitute. By and large, the use of military expenditure for threat assessment declined significantly after the end of the cold war.

Disarmament

The high military spending associated with the cold war was widely expected to be reduced at the end of that period. Indeed, from its peak in 1987, military spending started to decline even before the actual end of the cold war. The peace dividend, as the expected savings were called, was expected to come mainly from the developed world, where over 85 per cent of world military spending was made, but also from developing countries, which in spite of their comparatively low share of world military spending bore a disproportionate share of the military burden owing to their relative poverty. The peace dividend was expected to be used for civil purposes, especially human development.[67] Military expenditure data have been useful in estimating the expected size of the peace dividend from both developed and developing countries.[68] One of the early efforts to capture the real value of the peace dividend was described in the United Nations Development Programme's (UNDP) *Human*

[64] Wang, S., 'Military expenditure of China, 1989–98', *SIPRI Yearbook 1999* (note 56), pp. 334–50.

[65] US Department of Defense, *The Military Power of the People's Republic of China 2005*, Report to Congress pursuant to the National Defense Authorization Act, fiscal year 2000 (Department of Defense: Washington, DC, 2005), URL <http://www.defenselink.mil/news/Jul2005/d20050719china.pdf>, especially chapter 6, 'Resources for force modernization', pp. 20–25. See also chapter 8 and, on international comparisions of military expenditure, appendix 8E in this volume.

[66] Collier, C. and Hoeffler, A., 'Military expenditure in post-conflict societies', Working Paper no. 2004-13, Centre for the Study of African Economies, Oxford University, 8 Apr. 2004, URL <http://www.csae.ox.ac.uk/workingpapers/wps-list.html>.

[67] United Nations Development Programme (note 46), especially chapter 3, 'Capturing the peace dividend', pp. 47–60.

[68] See, e.g., Barker, T., Dunne, P. and Smith, R., 'Measuring the peace dividend in the United Kingdom', *Journal of Peace Research*, vol. 28, no. 4 (1992), pp. 345–58; and Heo, U. and Eger, R. J., 'Paying for security: the security–prosperity dilemma in the United States', *Journal of Conflict Resolution*, vol. 49, no. 5 (Oct. 2005), pp. 792–817.

Development Report 1994: it estimated that the industrialized countries cumulatively saved $810 billon and developing countries $125 billion over the eight-year period 1987–94. The UNDP estimated that, based on an annual reduction of military spending by 3 per cent, there would be a peace dividend of about $460 billion in 1995–2000, which it recommended be spent on human development.[69]

The initial savings made in 1987–94 were thought to have gone into budget deficit reductions in most industrialized countries.[70] The strong focus in this debate on the financial side of the peace dividend has been criticized for being simplistic since, when considering the impact of military expenditure, the non-military budget items as well as the revenue side of the budget must also be considered.[71] Reductions in military expenditure do not necessarily translate into increases in other budget items. Many analysts argue that the peace dividend was much lower than expected and that the reason for this was a lack of policy to translate savings into productive investment or social welfare.[72] The peace dividend also had inherent costs caused, for example, by unemployment in parts of the defence sector or the need to reduce overall budget deficits that had been built up in the cold war years.[73]

With the ending of the superpower rivalry, the reduction of military spending became an issue in the developing world,[74] and military expenditure data became a tool for those advocating a reduced level of spending. In many post-conflict states, where high personnel costs made military expenditure a great burden, donors—especially multilateral donors such as the World Bank and the UNDP—organized demobilization programmes in conjunction with host countries to downsize armed forces. The financial costs of the programmes were borne by the donors.[75]

International development cooperation

Towards the end of the cold war, the burden that military expenditure constituted for the economies of most developing countries had already become obvious.[76] While the discussions of the peace dividend focused on the

[69] United Nations Development Programme (note 46), p. 59.

[70] Bonn International Center for Conversion (BICC), 'The peace dividend: lost or lasting', *Conversion Survey 1996: Global Disarmament, Demilitarization and Demobilization* (Oxford University Press: Oxford, 1996), pp. 43–73.

[71] Bonn International Center for Conversion (note 70), p. 61.

[72] Gleditsch, N. P., Cappelen, A., Bjerkholt, R., Smith, R. and Dunne, J. P. (eds), *The Peace Dividend* (Elsevier: Amsterdam, 1996).

[73] Bonn International Center for Conversion (note 70).

[74] Dunne, J. P., 'Economic effects of military expenditure in developing countries: a survey', eds Gleditsch et al. (note 72), pp. 439–64.

[75] Colletta, N. J., Kostner, M. and Wiederhofer, I., *Case Studies in War-to-Peace Transition: The Demobilization and Reintegration of Ex-Combatants in Ethiopia, Namibia and Uganda*, World Bank Discussion Paper no. 331 (World Bank: Washington, DC, 1996), URL <http://web.worldbank.org/servlets/ECR?contentMDK=20412470&sitePK=407546>.

[76] McNamara, R. S., 'The post-cold war world: implications for military expenditure in the developing countries', eds L. H. Summers and S. Shah, *Proceedings of the World Bank Annual Conference on Development Economics 1991* (World Bank: Washington, DC, 1991), pp. 95–125.

developed world and how to use the money saved from reduced military expenditure, there were also calls for reductions in military spending in developing countries.[77] The advocates of reduced military spending included major multilateral and bilateral donors who seized the opportunity of the end of the cold war to raise the issue of 'excessive' military expenditure in their dialogues with recipient countries.[78] At issue were the crowding out of other categories of expenditure, especially for the social sector, and the fungibility of economic aid within the budget (i.e., the risk that money given for development might release funds that could be diverted to the military).[79] The tying of development aid to low military expenditure was one major way to enforce a reduction in military spending in recipient countries that was advocated by multilateral and bilateral donors—especially the Organisation for Economic Co-operation and Development (OECD), the largest group of bilateral donors—and by an independent commission set up to look into the issue of resource flows to developing countries.[80]

The decision to make development aid conditional on low military expenditure gave a new significance to military expenditure data for both donors and recipients. While donors sought military spending statistics for developing countries when taking decisions on whether to offer assistance, recipients, who were the primary producers of the data, became politically alert to the importance of the data they produced. This had (and continues to have) implications for the quality of the data (see below). As a result, the data needed to support decisions on whether a state's military spending was 'excessive' and so needed to be curbed by means of aid conditionality were either not available or were not accurate enough to support such an important decision.

While the level of military assistance and the number of countries receiving such assistance have diminished significantly since the end of the cold war, it continues to be provided to countries and regions where the Western powers, especially the USA, have a major interest—such as the Middle East, Eastern Europe, Latin America, South Asia and Africa. In contrast to the cold war, when opposition and rebel groups were given military assistance, support in the post-cold war period has been mainly to governments. Consequently, the costs of this support are easily traceable to the donor government's military or foreign assistance budgets.

[77] For a review of some of these calls see Ball, N., 'Transforming security sectors: the IMF and World Bank approaches', *Conflict, Security and Development*, vol. 1, no. 1 (Apr. 2001), pp. 45–66. See also Omitoogun, W., 'The processes of budgeting for the military sector in Africa', *SIPRI Yearbook 2003: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, 2003), pp. 261–78.

[78] Ball (note 77).

[79] Deverajan, S. and Swaroop, V., 'The implications of foreign aid fungibility for development assistance', Working Paper Series no. 2022, World Bank, Washington, DC, Oct. 1998, URL <http://www.worldbank.org/html/dec/Publications/Workpapers/instnspubsect.html>.

[80] United Nations Development Programme (note 46); and Schmidt, H. (Chairman), *Facing One World: Report by an Independent Group on Financial Flows to Developing Countries* (Hamburg, June 1989). For a review of the calls to tie aid to low military expenditure see Ball (note 77).

Transparency

During the post-cold war period, the UN Instrument for Reporting Military Expenditures has been gradually transformed into a transparency instrument. The item 'reduction of military budgets' has not been on the agenda of the UN Disarmament Commission since 1990. In 1992 the UN General Assembly endorsed a set of guidelines and recommendations for objective information on military matters. These were intended to encourage openness and transparency in military matters, to facilitate the process of arms limitations, reduction and elimination, as well as to assist verification of compliance with obligations undertaken by states in these fields.[81]

With the de-linking of the UN reporting instrument from its original purpose—reduction of military expenditure as a measure of disarmament and to release resources for development—it also lost much of its political momentum and reporting continued to be low during the first 10 years of the post-cold war period, averaging 32 countries annually in 1990–99.[82] However, since transparency also constitutes a confidence-building measure, the UN reporting instrument can also be seen as a CBM or CSBM at the global level, and this is indeed one of the factors used to justify the instrument in General Assembly resolutions. Similar initiatives to exchange information on military expenditure as a CBM have subsequently been initiated regionally, including in South America between Argentina and Chile.[83] The exchange of military budget figures between members of the OSCE has been a CSBM since 1991.[84]

Transparency in military expenditure is also used as an indicator of good governance in aid recipient countries. Donors call for military expenditure statistics to be produced as part of the routine government budget process for the use of parliament in its oversight function and for the general public.

Military expenditure as an indicator for burden sharing

NATO burden sharing once more became an issue following the adoption of a new NATO strategy and the associated Defence Capabilities Initiative (DCI) at the 1999 Washington Summit.[85] While the DCI involved commitments in terms of physical resources (equipment and personnel) rather than monetary allocations, military expenditure still remained an issue in the debate. This was the case in particular when assessing the 'transatlantic gap' in military capabil-

[81] United Nations, General Assembly Resolution 47/54, 9 Dec. 1992, URL <http://www.un.org/Depts/dhl/res/resa47.htm>, section B.

[82] United Nations (note 44), pp. 8–10.

[83] For a review of CBMs in Latin America see Bromley, M. and Perdomo, C., 'CBMs in Latin America and the effect of arms acquisitions by Venezuela', Working Paper 41/2005, Real Instituto Elcano, Madrid, Sep. 2005, URL <http://www.realinstitutoelcano.org/documentos/216.asp>.

[84] This was one of the provisions of the Vienna Document 1990. The requirement remains in the Vienna Document 1999. On the Vienna Document 1999 see annex A in this volume. See also Lachowski, Z., *Confidence- and Security-Building Measures in the New Europe*, SIPRI Research Report no. 18 (Oxford University Press: Oxford, 2004).

[85] North Atlantic Treaty Organization, 'Defence Capabilities Initiative', Press Release NAC-S(99)69, 25 Apr. 1999, URL <http://www.nato.int/docu/pr/1999/p99s069e.htm>.

ities, with the general perception being that there was a strong imbalance in favour of the USA.

However, there was no consensus on the best indicator to use when making comparisons of contributions to collective defence: for example, military expenditure growth trends, its share of gross domestic product (GDP) or per capita spending. Furthermore, the changing security environment made it increasingly clear that assessments of contributions to the NATO common defence could not be based exclusively on allocations to national defence—other ways of promoting security had to be included. Third, an increasingly common issue was whether national military expenditure was a relevant measure of commitment to NATO as such—the different nature of security policies also had to be taken into account, the USA's strategy being global while its allies' strategies were not.[86] This was reflected in a 2001 report by the US Congressional Budget Office, which produced a number of alternative or complementary indicators of burden sharing, including: (*a*) military expenditure as a share of GDP, (*b*) military expenditure per capita, (*c*) military personnel as a share of the labour force, (*d*) contributions to NATO's rapid reaction forces, (*e*) contributions to peacekeeping missions and (*f*) economic aid to Central and East European countries.[87] Eventually, the debate on the measure of burden sharing changed focus from military expenditure data to the transatlantic gap in military technology and in interoperability.[88]

IV. Military expenditure after September 2001

The attacks on the USA on 11 September 2001 marked a significant turning point in the international security environment. On the one hand, they shattered the sense of security felt in most of the developed world and created the urgent need for security measures to prevent a recurrence of the attacks in either the USA or other parts of the Western world. On the other hand, the new threat provided a focus for national security strategies that had been lacking in most industrialized countries since the end of the cold war.[89]

[86] Quantitative criteria for assessing burden sharing have been critically assessed in a number of studies including Cooper, C. and Zycher, B., *Perceptions of NATO Burden-Sharing*, RAND Report R-3750-FF/RC (RAND: Santa Monica, Calif., 1989); and Sandler, T. and Murdoch, J. C., 'On sharing NATO defence burdens in the 1990s and beyond', *Fiscal Studies*, vol. 21, no. 3 (Sep. 2000), URL <http://www.ifs.org.uk/publications.php?publication_id=2205>, pp. 297–327.

[87] US Congressional Budget Office (CBO), *NATO Burdensharing After Enlargement* (CBO: Washington, DC, Aug. 2001), URL <http://www.cbo.gov/showdoc.cfm?index=2976>, pp. 1–2. The results of the comparison according to each of these indicators are summarized in Sköns, E. et al., 'Military expenditure', *SIPRI Yearbook 2002: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, 2002), pp. 255–56.

[88] The enlargement of NATO in 1999 also involved some focus on military expenditure data since NATO called for increases in military expenditure in accession countries from the mid-1990s. However, this was more as an indicator of their military commitment and modernization than in the context of burden sharing as such. Sloan, S., 'Transatlantic relations: stormy weather on the way to enlargement?', *NATO Review*, vol. 45, no. 5 (Sep./Oct. 1997), URL <http://www.nato.int/docu/review/>, pp. 12–16; and Sköns et al. (note 4), pp. 209–13.

[89] Barry, T., 'Toward a new grand strategy for US foreign policy', International Relations Center (IRC) Strategic Dialogue no. 3, IRC, Silver City, N.Mex., Dec. 2004, URL <http://www.irc-online.org/

The most immediate effect was the US-led attack on Afghanistan in October 2001. In 2002 the USA adopted a new National Security Strategy, which envisaged pre-emptive attacks on any state if it is judged to pose 'sufficient threat' to the US national security, even if 'uncertainty remains as to the time and place of the enemy's attack'.[90] The purpose would be 'to eliminate a specific threat to the United States or [its] allies and friends'.[91] The phrasing of this security strategy, which informed the attack on Iraq in March 2003, allowed for a flexible interpretation of whether and how the USA might act.

The wars in Afghanistan and Iraq have been responsible for the rapid increase in the USA's military expenditure since 2001. The USA also established the Department for Homeland Security to guard against future attacks on the country. The new focus on internal security was taken up by the European Union and other regional groups and countries, highlighting in the process that defence against terrorism is best conducted by non-military means.[92] Complex implications for the role of armed forces in security matters follow from the increasing blurring of the dividing line between internal security and external defence as a result of the overlap between the tasks performed by agencies such as the US Department of Homeland Security and those of the armed forces.[93] The new conceptualization of security to cover economic and environmental challenges further highlights the diminishing importance of the military sector in tackling new security issues.

Meanwhile, in the developing countries the events of September 2001 led to the consolidation of certain trends that had already emerged. First, the calls on industrialized countries to help alleviate poverty in the developing countries, especially in conflict and post-conflict states, and to tackle the phenomenon of weak states—which had not received adequate attention in the immediate post-cold war period—received a new impetus as poverty was identified as one of the sources of international terrorism. This helped to emphasize the reality of North–South interdependence in terms of security.[94] Second, a greater number of donors, having realized that lack of security in recipient countries undermined the effectiveness of their aid, had come to accept the link between security and development. They were consequently more willing to support countries affected by internal armed conflict in re-establishing the state's monopoly of force. The majority of donors even agreed to assist in reforming the security sector of recipient countries through the Security

content/dialogue/2004/03.php>. The consensus in this discussion is that until Sep. 2001 US foreign and military policy lacked a focus.

[90] The White House, 'The National Security Strategy of the United States of America', Washington, DC, Sep. 2002, URL <http://www.whitehouse.gov/nsc/nss.html>, p. 15.

[91] The White House (note 90), p. 16.

[92] Brozska, M., 'New security concepts required', *BICC Bulletin*, no. 24 (1 July 2002), URL <http://www.bicc.de/publications/bulletin/bulletin.php>, pp. 1–2.

[93] On the blurring of the dividing line between internal and external security see Andreas, P. and Price, R., 'From war fighting to crime fighting: transforming the American national security state', *International Studies Review*, vol. 3, no. 3 (fall 2001), pp. 31–52.

[94] Bailes, A. J. K., 'Global security governance: a world of change and challenge', *SIPRI Yearbook 2005* (note 5), pp. 1–27.

System Reform framework developed by the OECD's Development Assistance Committee.[95] Third, the broadening of the concept of security also had implications for developing countries. The new focus on human security—freedom from fear and from want, which places the needs of the individual, rather than the state, at the core of security concerns—presupposes a focus on internal rather than external security. Thus, in the aftermath of September 2001, countries in both the North and the South have addressed a broader and more internally focused security agenda with either a decreasing focus on the military or a re-categorization of the military as part of the larger security sector in need of reform.

World military spending has increased rapidly since September 2001. Between 2001 and 2005 it increased by 25 per cent in real terms. Most of the increase is accounted for by the USA—which accounted for 48 per cent of world military spending in 2005—owing largely to the rapid increase in US supplementary allocations to prosecute the 'global war on terrorism'.[96]

Uses of data

Military expenditure data in the post-September 2001 period continue to be used in contexts similar to those in the earlier post-cold war period: less for threat assessment and disarmament and, in the development cooperation context, more as a measure of good governance than as a basis for aid conditionality. Such data also continue to be used as a tool of transparency.

Threat assessments

The use of military expenditure as a tool for threat assessment has diminished considerably since the end of the cold war and particularly since September 2001. Terrorists do not use traditional military methods, so military expenditure data do not help to identify the threat that they pose (nor, indeed, a country's real capacity to respond to that threat). In addition, the unreliability of the defence budget figures of states that could serve as breeding grounds for terrorist groups means that the available data on military expenditure cannot be used as a credible indicator in threat assessment for these countries.

The one instance in which military expenditure continues to be used as a threat assessment tool is in the measurement of Chinese military expenditure. This is in spite of the equally unreliable detail in the official Chinese military expenditure figures.[97]

[95] Organisation for Economic Co-operation and Development (OECD), Development Assistance Committee (DAC), *Security System Reform and Governance: Policy and Good Practice*, DAC Guidelines and Reference Series (OECD: Paris, 2005), URL <http://www.oecd.org/dataoecd/8/39/31785288.pdf>.

[96] See chapter 8 and appendix 8A in this volume.

[97] US Department of Defense (note 65). See also US–China Economic and Security Review Commission (USCC), *The National Security Implications of the Economic Relationship between the United States and China*, Report to the US Congress (USCC: Washington, DC, July 2002), URL <http://www.uscc.gov/researchpapers/2000_2003/reports/anrp02.htm>. See also chapter 8 in this volume.

Disarmament

Although the size of military budgets continues to be an issue, there have been few references to reductions in military budgets as a means of disarmament in international disarmament negotiations since September 2001. However, in 2002 there was an initiative to restore the link between reductions in military expenditure and the release of resources for development: the UN General Assembly requested the Secretary-General, with the assistance of a group of governmental experts, to prepare a report reappraising the relationship between disarmament and development in the current international context. The report, submitted in 2004, 'reiterates the importance of exercising restraint in military expenditure, so that human and financial resources can be used for the ongoing effort to eradicate poverty and achieve the Millennium Development Goals'.[98] This was the first review of this issue since the adoption of the Final Document by the International Conference on the Relationship between Disarmament and Development in 1987. A December 2004 General Assembly resolution requested the Secretary-General to take action for the implementation of the action programme adopted at 1987 conference.[99]

International development cooperation

Military expenditure data continue to be used by donors of economic aid as a tool for assessing the seriousness with which governments in developing countries address critical issues of development. While donors now recognize that developing countries have genuine security needs, some still use the lowering of military expenditure as a condition for providing assistance. This is in spite of the fact that the Security System Reform framework that members of the OECD's Development Assistance Committee have adopted as the basis of their development work in crisis states clearly argues against donor pre-occupation with levels of spending in recipient countries.[100] Instead, donor countries are encouraged to emphasize good governance in the security sector, through transparency, accountability and effective oversight, using the so-called process approach.[101] At the same time, however, the pressure to support the global war on terrorism is encouraging increased spending in areas such as intelligence and internal security and the USA has provided extra military aid in cash and kind to the states it sees as bulwarks against terrorism in

[98] United Nations, 'The relationship between disarmament and development in the current international context', Report of the Group of Governmental Experts on the Relationship between Disarmament and Development, UN General Assembly document A/59/119, New York, N.Y., 23 June 2004, URL <http://www.un.org/ga/59/documentation/list1.html>, p. 4.

[99] United Nations, General Assembly Resolution 59/78, 17 Dec. 2004. See also United Nations, 'Relationship between disarmament and development', Report of the Secretary-General, UN General Assembly document A/60/94, New York, N.Y., 5 July 2005, URL <http://www.un.org/ga/60/documentation/list.html>.

[100] Organisation for Economic Co-operation and Development, Development Assistance Committee (note 95), p. 33.

[101] See, e.g., Omitoogun, W. and Hutchful, E. (eds), SIPRI, *Budgeting for the Military Sector in Africa: The Processes and Mechanisms of Control* (Oxford University Press: Oxford, 2006).

various regions.[102] These factors reintroduce the risk of truly disproportionate spending increases and make it harder for the outside world to track them because so many relatively unfamiliar kinds of data need to be compiled. If donors stick to the process approach when determining their aid policies for developing countries, then the political significance of military expenditure data might be reduced and the credibility of the data improved.

Transparency

The annual UN General Assembly resolution asking the Secretary-General to request data on military expenditure now omits the goal of reducing the spending and includes reference only to 'promoting further openness and transparency in all military matters', with the conviction that such transparency 'is an essential element for building a climate of trust and confidence between States worldwide' and 'can help to relieve international tension and is therefore an important contribution to conflict prevention'.[103] The reporting instrument is now perceived as primarily a general transparency measure which can help to build confidence and prevent conflict.

Since 2001 the UN Department for Disarmament Affairs has been engaged in efforts to encourage and facilitate reporting by member states. It has held regional and sub-regional workshops to increase familiarity with the reporting instrument and to raise awareness regarding the transparency-building process.[104] After this revival of the instrument as a transparency measure, the number of reporting countries increased to 76–82 per year in 2002–2005.[105] A simplified reporting instrument has also been introduced, but few countries have chosen to report using this version.[106]

Implications for the relevance of military expenditure data

It is difficult to identify any direct effect of the events of September 2001 on the availability of military expenditure data. In general, accessibility and availability of data have grown with the increased use of the Internet and this trend did not stop in September 2001. More of the developing countries post their budgets on the Internet, which has greatly aided access by data-reporting organizations. Even in Africa, where access to data used to be particularly difficult, there has been a marked improvement, although data for countries in

[102] E.g., US Department of State, 'Foreign operations, export financing and related programs (foreign operations)', *FY 2007 International Affairs (Function 150) Budget Request* (Department of State: Washington, DC, Feb. 2006), URL <http://www.state.gov/s/d/rm/rls/iab/2007/>, pp. 45–47.

[103] United Nations, General Assembly Resolution 60/44, 6 Jan. 2006, URL <http://www.un.org/Depts/dhl/resguide/r60.htm>.

[104] United Nations, Department for Disarmament Affairs (note 44), p. 3.

[105] United Nations, Department for Disarmament Affairs, 'Participation graph: UN instrument for reporting military expenditures 1992–2005', 1 Jan. 2006, URL <http://disarmament.un.org/cab/milex.html>.

[106] The simplified version is reproduced in Sköns and Nazet (note 44). For statistics on reporting using the simplified version see appendix 8D in this volume.

conflict continue to be lacking and, since the data are from primary documents, they can be very disaggregated. One region that continues to be particularly problematic is the Middle East, and Central Asian countries also pose significant data problems. In general, the increased level of availability still needs to be matched by improved quality, in particular accuracy.

Since the events of September 2001 most OECD member states have linked development assistance to the willingness of aid recipients to support the global war on terrorism.[107] This has implications for the quality of military expenditure data. On the one hand, it reduces the incentives for aid-dependent states to falsify their military spending data because less emphasis is placed on the level of spending. On the other hand, it encourages a change in the coverage of military expenditure to include various non-military security functions, with the added difficulties for definitions and data collection that are noted above. This further complicates disaggregation, which has always been a major problem for developing countries' military expenditure data. Without a breakdown of military expenditure data into their component parts, they remain of limited value.

Given the emerging changes in the international security environment, with the primacy of internal security and human security, the diminishing significance of military means to address these issues and the blurring of the dividing line between internal and external security, are military expenditure data still of any relevance in debates on peace and security? Clearly, the relevance of such information has been affected by the changes in the security environment in several ways. First, the blurring of the dividing line between military and internal security, in particular within the context of civil war and social unrest that threatens the state, makes it important to produce data not only on military expenditure but also on certain internal security activities in order to arrive at a comprehensive picture of total security expenditure. However, these two data series must be kept separate since the constitutional mandates of these two security sectors are different in most countries.

More importantly, data on military expenditure have lost some relevance both as an indicator of threats to security and as an indicator of the provision of security. As regards threats to security, the birth of the concept of human security and its increased use and political relevance have created the need for a data series that indicates the level of spending on human security. As a first step to develop such indicators, a stringent definition of the concept is required. So far there have been two competing concepts of human security,[108] but there are new efforts to develop a unified concept, incorporating both dimensions of the UN Millennium Declaration—freedom from fear and free-

[107] Organisation for Economic Co-operation and Development (OECD), Development Assistance Committee (DAC), *A Development Co-operation Lens on Terrorism Prevention: Key Entry Points for Action*, DAC Guidelines and Reference Series (OECD: Paris, 2003), URL <http://www.oecd.org/dataoecd/17/4/16085708.pdf>.

[108] Krause, K., 'Is human security "more than just a good idea"?', eds M. Brzoska and P. J. Croll, *Promoting Security: But How and for Whom?*, Bonn International Center for Conversion (BICC) Brief no. 30 (BICC: Bonn, Oct 2004). URL <http://www.bicc.de/publications/briefs/brief30/content.php>, pp. 43–46.

dom from want.[109] With the decreased relevance of the use of military force to address contemporary security problems, other indicators are needed. The development of such indicators needs to be based on a relatively broad consensus on the main components of the contemporary security environment and the proper means to address these. In this regard, reports such as that of the UN High-level Panel on Threats, Challenges and Change could provide some guidance.[110] However, it is not at all clear what consensus will develop.

Thus, in many ways data on military expenditure have lost some of their relevance to the analysis of the new security environment and need to be complemented by other data sets. However, military expenditure data are likely to remain important in this analysis. Furthermore, since the military sector represents the state's monopoly on violence, it will remain important to continue monitoring trends in military expenditure and to make such data available to a broader public.

V. Continuity and change: the use of military expenditure data over the past 40 years

Military expenditure data are used in a variety of political contexts. This chapter reviews different types of use over the past 40 years in three different international security environments and relates these uses to the availability, quality and relevance of military expenditure data. The review identifies two fundamental shifts in the use of military expenditure data. First, there has been a shift of focus from military expenditure in the countries belonging to the military blocs in the North during the cold war to that of the developing countries in the South in the post-cold war period. This shift occurred as it become legitimate for donor countries to raise the issue of military expenditure in the context of international development cooperation. The implications for the use of military expenditure data of the evolving North–South security relationship since September 2001 have not yet fully taken shape.

Second, in the United Nations there has been a shift in the aims of the use of military expenditure data from disarmament and, to a lesser extent, development to transparency. This reflects broader changes in the international peace and security community, where the idea of disarmament as a direct path to development has lost ground, while the idea of promoting security through approaches such as confidence building, conflict prevention and active regional peacekeeping has gained ground. Furthermore, increased awareness of the interdependence of security and development is resulting in new ideas on how to promote both. This will hopefully lead to increased use of non-military resources for security provision in the future. However, the picture is

[109] Picciotto, R., Olonisakin, F. and Clarke, M., *Global Development and Human Security: Towards a Policy Agenda*, Global Development Studies no. 3 (Swedish Ministry for Foreign Affairs, Expert Group on Development Issues: Stockholm, 2006), URL <http://www.egdi.gov.se/>.

[110] United Nations, 'A more secure world: our shared responsibility', Report of the High-level Panel on Threats, Challenges and Change, UN documents A/59/565, 4 Dec. 2004, and A/59/565/Corr. 1, 6 Dec. 2004, URL <http://www.un.org/ga/59/documentation/list5.html>.

mixed since the first half-decade of the 21st century was dominated by the opposite practice: the application of huge military resources in the name of defending and promoting democracy.

In general, it appears that data availability and accessibility have tended to improve over time, especially in terms of access to primary sources for developing countries. This is in part because of the general tendency for improved transparency, including the increasing use of the Internet by developing countries, and is possibly also promoted by the efforts of the UN, the international donor community and the data-gathering organizations. However, in spite of the improved access to data, the quality of the data remains unsatisfactory. Data on military expenditure have never been very accurate, and the quality of data has remained problematic throughout the past 40 years. In some areas there have been improvements while new problems have emerged elsewhere. Some components of military expenditure, in particular arms imports, are not always included in official data on military expenditure, especially in developing countries, including China. A main challenge is thus to encourage governments to report all military-related items in their military expenditure statistics. Tracking states' conflict-related expenditure is also a major challenge. The industrialized countries' new modes of financing procurement through private finance require further understanding in order to assess their implications for data quality.

The relevance of military expenditure data for the analysis of peace and security issues has been a perpetual issue throughout the 40-year period. The use of military expenditure data to assess military strength or other types of output, in spite of the fact that such data by their nature are an input measure, tends to lead to misconceptions, as the cold war experience demonstrates.

The relevance of military expenditure data is further challenged in the current security environment, with fundamental questions posed by the increased focus on internal security and the changing concept of security. Human security, with its focus on the individual rather than the state, and the blurring of the dividing line between internal security and external defence mean that military expenditure data are of less relevance as an indicator in this emerging security scenario. The resource consumption of non-state actors, which is financed entirely outside the government sector, leaves a big gap in what military expenditure data capture. As a result, such data have lost some relevance for the analysis of peace and security. This does not mean that data on military expenditure are of no utility, but rather that they need to be complemented by other types of data series in order to capture the dimensions of internal security and human security.