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## Do offsets mitigate or magnify the military burden?

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### Introduction

Weapons contractors, like other profit-making corporations, are not particularly interested in the general economic development of the countries in which they operate or to which they sell. They are not inherently antagonistic to encouraging economic development. But their primary interest and motivation is in selling their products and making money. That is what they are in business to do. Consequently, from the weapons contractors' point of view, cost offsets are a marketing tool, a way of building enthusiasm for or overcoming resistance to buying their products. Whether offsets encourage development or not is quite beside the point.

From the point of view of weapons purchasing countries, there are a number of possible motives for demanding cost offsets as a condition of purchase. They might consider offsets a straightforward means of raising the benefit/cost ratio of their weapons purchases by lowering net costs, providing additional economic benefits, or both. Alternatively, the governments could believe that offsets will give them political cover for what amounts to providing hidden subsidies to indigenous military industrial firms (or other domestic producers) that they wish to artificially sustain or promote, for reasons that might not be politically popular. Government officials might also believe that offsets will make it easier to "sell" relatively unpopular weapons purchases to a skeptical public (or opponents internal to the government)—purchases that the officials want to make for a range of political, social, and economic reasons. If it can be made to convincingly appear that there are great economic benefits to the public as a result of the offsets—whether those benefits are real or simply "smoke and mirrors"—any political opposition to the weapons purchase can be more easily overcome.

That the motivations and perspectives of the buyers and sellers of weapons in the international arms trade are so different certainly does not preclude the possibility that offsets may be designed in a way that satisfies both sets of interests. For that matter, it also does not preclude the possibility that offsets can be designed and implemented in a way that does make a real contribution to the economic development of the purchasing nation.

To better understand the meaning of offsets and their impact on economic progress, it is useful to begin by looking at a few more basic issues. First, we distinguish between two different concepts of such progress, economic growth and economic development. Next, we consider the economic distinction between military spending and military production. That allows a clearer view of the nature of the impact of military-serving

activity on economic progress in general, and on the progress of less developed countries in particular. We will then be in a better position to analyze the costs and benefits of offsets.

### Economic growth and economic development

Although the terms are often used interchangeably, “economic growth” and “economic development” are two entirely different concepts, each grounded in a fundamentally different view of the economy itself. “Economic growth,” as the term is conventionally used, refers simply to expansion in the size of the money economy. It is typically measured by the rate of change in gross domestic product (GDP) or gross national product (GNP), both of which are incomplete yet reasonable and generally accepted measures of the aggregate volume of money-valued goods and services produced. In contrast, “economic development” is a much more complex concept referring to continuing improvement in the material conditions of life of the vast majority, if not all, of the individuals in the population. Unlike economic growth, gauging economic development inherently requires attention not just to how much money-valued output is produced, but also to what is produced, and to how it is distributed among the population.

If we are interested in understanding not so much what is happening to the impersonal abstract entity called “the economy” but whether or not the real people who give a nation life are becoming materially better off, then we must move beyond focusing on the expansion of the money economy to the broader issue of economic development. In order to see more clearly how productive human activity is actually affecting material well-being, we must also leave behind the common fixation on money value as the arbiter of economic value, and look instead at the underlying question of how much any particular good or service contributes to that material well-being. It is the contribution an activity makes to the material standard of living, and not its money value, that defines it as having economic value in the first place.

All over the world, and especially in less developed countries, many goods and services that add greatly to material well-being are not exchanged for money (such as home-grown food, home-made clothing, do-it-yourself repair, and parental child care services). It makes no sense to exclude them from our count of economic activity for that reason alone. Nor does it make sense to include in economic activity the production of goods and services that do not add to material well-being (though they may serve other socially useful purposes), simply because money is paid for them. Examples include those specialized goods and services that support the activities of the criminal justice system or the activities of churches and other religious institutions. Because such goods and services do not contribute to the material standard of living, they are logically not part of the economic system, whose fundamental purpose is to provide material well-being. The specialized goods and services that support military activity (such as fighter planes, battle tanks, and light weaponry) most assuredly fall into this latter category (Dumas, 1986).

Many believe that military forces are meant to secure the conditions of order and stability in the international arena that allow economic activity to proceed, just as domestic police forces are meant to create an atmosphere of law and order within a

country that serves as a necessary backdrop for a smoothly functioning economy. While that is a debatable proposition, even if it were true, the act of producing military-related goods and services itself would still not qualify as economic activity. Just as putting more locks on the doors does not add to the value of a house or its contents, military forces may protect what you have, but they do not and cannot themselves add to material well-being. Quite the contrary, spending resources on protection reduces the resources available to produce goods and services that do add to material well-being.

Goods and services that do not contribute to the material standard of living may have other forms of value, but they do not have *economic* value. It is logical that the output of goods and services that do not have economic value, should not be included in total measured economic output. But, as long as they are sold for money—as specialized military goods and services most certainly are—their production is included in GDP (GNP). As a result, the growth rate of GDP (GNP) is distorted as a measure of national economic progress.

It is admittedly much more difficult to measure economic development than to measure economic growth. Unlike growth, there is no single measure that can capture all the key dimensions of development.<sup>1</sup> A complex of measures is required. That probably goes a long way toward explaining why there is such a strong tendency on the part of politicians and economists to use growth as a proxy for development. But the difficulty of measuring something has no particular relationship to how important that thing is. If economic development, rather than economic growth, is the concept most closely related to increasing the material well-being of the population, then it is development, and not growth, on which we should focus our attention.

### **Military spending and military production: the economic impacts**

It is also important to distinguish between the economic impacts of military spending and those of military production. Military spending is the broader concept, ordinarily involving the use of financial assets, typically money, to purchase military goods (weapons, warning systems, etc.) and services (the expertise of commanders, the efforts of soldiers, etc.) from domestic or foreign suppliers. Military production involves the use of real productive resources (machinery, materials, factory buildings, engineering talent, skilled machinists, etc.), drawn from the pool of such resources available to the economy, for the purpose of actually producing specialized military goods and services.

For present purposes, it is useful to divide military spending into two broad categories: “operations and maintenance” (O&M), which includes the pay and operational support of the people who serve in the armed forces; and “procurement,” which includes the purchase from abroad or production at home of weapon systems and research and development (R&D) services.<sup>2</sup> Both categories of military spending consume financial capital. But procurement has a much more powerful effect on the allocation of key types of industrial and technological labor and physical capital.

For the most part, the economic impact of spending on military O&M in the more developed countries (MDCs) is restricted to the tradeoff of that particular use of public funds against alternative uses, including the return of those funds to taxpayers in the form of reduced taxes. However, to the extent that it calls forth domestic military R&D and

weapons production, military procurement spending has much larger and more telling impacts on MDC economies, especially in the long run. In the short run, as we learned from Keynes, increased spending of any sort—including military procurement spending—can stimulate a slack economy and help move it out of recession. But, as I have argued elsewhere, in the long run, domestic military production and R&D has enormously negative impacts on a nation's ability to efficiently produce goods and services that contribute to material well-being, precisely because it tends to divert economically critical labor and physical capital resources (Dumas, 1986; 1995).

In many less developed countries (LDCs), O&M spending has a greater potential impact than it does in the MDCs, primarily because the officer corps of the military is often one of the most promising career paths in terms of financial reward, social status, and power. As a result, there is a potentially larger diversion of more skilled and talented labor into military service itself than in MDC societies, where there are a much greater variety of career opportunities. Since skilled labor, one of the most critical economic resources, tends to be in short supply in LDCs, this diversion is particularly damaging to their prospects for economic development. To this burden must be added the same kind of opportunity costs implicit in the tradeoff against alternative uses of public funds as in the MDCs. Of course, the greater economic and social need of LDC populations make the pain associated with these opportunity costs much stronger than in MDCs, especially in terms of development-oriented uses of public funds.

Since relatively few LDCs have substantial indigenous military production capability, the economic impacts of military procurement in most LDCs include mainly opportunity costs similar in kind to those of O&M spending just discussed, together with the opportunity costs of the use of hard currency reserves for weapon purchases from abroad. The vast majority of LDCs do not have extensive hard currency reserves, and while local currency can be used for much of O&M spending (especially for paying armed forces personnel), military procurement from abroad requires hard currency. Lacking an extensive indigenous R&D capability or well-developed machinery industries, LDCs must also import much of the agricultural and civilian industrial technology and equipment they need if they wish to modernize these sectors of the economy. That too requires hard currency, making the tradeoff of military spending against development-oriented spending still more severe.

Yet to the extent that LDCs try to build their own domestic military production capabilities to conserve on their stock of hard currencies, they face an even larger diversion of critical skilled labor and physical capital resources. Such a diversion can and does seriously damage the economies of more developed nations in the long run. It is likely to be crippling to LDC economies in which these critical resources are much shorter in supply. Beyond this, because most LDCs cannot build an indigenous military production capability without importing the requisite machinery, equipment and technology (if they are even available), it may well be that the drain of hard currency reserves will be increased, not reduced, by this strategy, at least in the short run. None of this bodes well for LDC prospects for development.

### The nature and political economy of offsets

The magnitude and type of impact offset agreements have on economic development depend on a number of factors, the most basic of which is the likelihood that the weapons seller will fully meet their offset commitments, once the weapons and the money have actually changed hands. With the exception of barter, all types of direct and indirect offsets may be stretched over an extended period of time.<sup>3</sup> That being so, it is legitimate to be concerned about the possibility that changing political or economic conditions in the weapons supplying country, or in political and economic relations between the weapons supplying and purchasing countries, might interfere with the completion of the deal as originally agreed. To this must be added the possibility that a change in the business fortunes of the weapons contractor, or even outright bad faith, might also prevent the full offset from being realized.

To the extent that a country decides to pursue offsets in the course of its weapons procurement, there is thus a premium on finding ways to structure offset agreements that maximize both transparency and incentives for fulfilling offset obligations. Transparency may be more than usually difficult to achieve in matters of weapons procurement, because of the tendency toward less than complete openness in international arms dealing. Except for the threat of the loss of follow-on business (which may be more or less persuasive depending on the weapons purchasing country involved), it is difficult to know what kind of enforcement mechanisms and/or incentive systems are both feasible and effective. This is particularly true in the case of arms purchases by LDCs from the major weapons producers in the MDCs, because of the imbalance of economic and political power between the contracting parties.<sup>4</sup>

There is also the question of whether offsets really represent new business, that is, business that would not have taken place anyway in the absence of an offset deal. For example, in the mid-to-late 1980s, the government of the United Kingdom agreed to buy seven airborne warning and control system (AWACS) aircraft from Boeing. The deal included the offer by Boeing of a 100 percent offset. Over 50 percent of the offset obligation was to be met by purchases of civilian aerospace products, including Rolls Royce engines to be used in civilian airliners. Since the civilian division of Boeing normally bought a substantial amount of aerospace products from UK suppliers anyway, there was considerable controversy as to whether the orders that Boeing wanted to count toward their offset obligation actually represented new business, or just a “creative reclassification” of business transactions that had nothing to do with the AWACS deal (Martin and Hartley, 1996, pp. 338–346). It can be uncommonly difficult to settle questions of this sort without access to information proprietary to the weapons supplier.

This problem is not restricted to direct offsets. Suppose, for example, the weapons contractor has offered to find a buyer for a specified value of civilian product from the purchasing country—or even an investor to build new production facilities there—as an offset to the arms deal. It is possible that the weapons supplier has located a third party that was already intending to buy that product or make that investment anyway, and offered them some incentive to provisionally tie that transaction to the arms deal. That is,

of course, much easier to arrange if the “third party” involved is actually a division or subsidiary of the weapons supplier.

Another equally important issue is the degree to which the purchase price of the weapons system has been artificially inflated to cover the cost of the offset. If so, the entire “offset” is not really an offset. It is either a partial product discount offered to the weapons supplier, or a second purchase by the weapons buyer. For example, suppose a supplier inflates by 30 percent the price of the weapons system that would normally sell for \$100 million, and then offers a 60 percent offset in the form of a counterpurchase of oil products (oil prices being well established in international markets). The purchaser is therefore paying \$130 million for the weapons system, and the weapons contractor, in exchange, is buying \$78 million (\$130 million times 60 percent) of oil. This is equivalent to the weapons purchaser paying the full normal price for the weapons system (\$100 million), and engaging in a second transaction in which it is selling \$78 million worth of oil products to the weapons supplier for \$48 million (\$78 million—\$30 million)—almost a 40 percent discount. Alternatively, suppose the supplier inflates the price of the weapons system by 30 percent, and then offers a 60 percent offset in the form of finding a third-party buyer for clothing produced in the weapons purchasing nation. In that case, there are really two transactions involved, first, the weapons purchaser is buying the weapons system at full price and, second, the weapons purchaser is paying the weapons supplier an extra 30 percent in exchange for its services in marketing the agreed value of clothing.

Is the weapons purchaser getting a good deal? In the case where the weapons contractor is itself making the counterpurchase, the weapons purchasing country is only getting any real offset to the extent that it could not sell the oil products in question to anyone else at any price that is discounted less than 40 percent below the established world market price. If it could sell them with less than a 40 percent discount to someone else, it is not only buying the weapons system at full price, it is losing money on the oil transaction as well. In the case where the weapons contractor is serving as a sales agent for the clothing, the weapons purchasing country is only getting any real offset to the extent that it could neither market the clothing itself at a comparable price nor find someone willing to market the clothing for a smaller fee.

Is there any evidence that weapons suppliers do inflate their prices to at least partially cover the cost of offsets? In a discussion of two industrial contractor surveys carried out in the UK to investigate the impact of offsets (one relating to arms imports and one to arms exports), Stephen Martin reports that “the survey evidence suggests that offsets do cost more than off-the-shelf purchase and, not surprisingly, that vendors seek to include most of this premium in the selling price” (Martin, 1996, pp. 7–8; Martin and Hartley, 1996, chapter 13). Wally Struys argues that Belgium has had to pay an estimated 20 to 30 percent in “overcosts” in conjunction with offsets tied to its military procurement (Struys, 2004). Just how widespread this practice may be is difficult to tell.

### **The impact of offsets on economic development**

Military spending in general, and arms procurement expenditures in particular, are detrimental to broader economic development (Brauer and Dunne, 2002).<sup>5</sup> It is therefore

important to ask if offsets can be designed in such a way as to mitigate this negative impact. Clearly, although direct offsets may help create (or maintain) military sector jobs and the military industrial base, they are the least desirable in terms of real economic development, since the military sector itself does not produce economic value and diverts real productive resources from the kind of civilian production that does.

What about indirect offsets? Barter arrangements are actually not offsets at all. They are merely a way around the weapons purchaser's financial resource constraints, which might be the result of a lack of hard currency or a disadvantageous international exchange rate. They are also generally less transparent than cash-based transactions, and hiding the true money value of the weapons transaction may be an advantage to both the weapons supplier and the purchasing government. Barter can speed up the transaction, since no time need be wasted finding a third party purchaser or waiting for the weapons buyer to sell enough of its own product itself to earn the hard currency it needs to complete the arms deal. None of this has any particular value, though, in encouraging economic development in the weapons purchasing nation. It therefore does nothing to mitigate the economic burden of military procurement.

Obviously, counterpurchase offsets only mitigate the negative economic impacts of military procurement to the extent that they add to the inflow of revenue (especially hard currencies) and/or to the creation (or maintenance) of economically productive civilian jobs from civilian exports that would not take place in their absence. They would add to revenues or jobs only if equivalent new business could not be generated or would be less profitable to generate by alternative means without the offset deal. If weapons suppliers are able to buy these civilian products and successfully resell them or find third party buyers to buy them in the first place, it is difficult to understand why the weapons purchasing countries could not sell those products on their own, or at the very least, with the help of a (most likely less expensive) MDC marketing agent.

The situation is similar with respect to counter-investment. However, if it is possible to get offset commitments from the government of the weapons supplying country (or the supplying company itself) in the form of outright grants for development-oriented infrastructure investment and the like—grants that would not be forthcoming in the absence of the weapons purchase—such offsets could provide a limited counterweight to the economic burden of the arms deal. This is one type of offset that has potential value in terms of softening the negative economic consequences of military procurement.

In principle, there are a number of ways in which offsets could be important to economic development, always assuming they represent activity that would not have happened anyway (or could only have been brought about at much higher marginal cost). The offsets could bring in fresh flows of investment capital, especially important to most LDCs, which are chronically capital short. They could create opportunities for work that would increase worker skills. Offsets can also be a mechanism for transferring MDC technology to LDCs, helping to modernize production practices and perhaps reinforce human capital investment.

It is not a foregone conclusion that offsets will be an efficient means of accomplishing any of these things. That depends on the nature of the offsets, and the way in which they are implemented. Let us consider each possibility in turn. Military spending represents a direct drain on financial capital, coupled with a drain on hard currency reserves as weapons and related systems are purchased from abroad. It would help to mitigate this

cost if the offset provisions led to a substantial net inflow of financial capital. But the mere fact that the weapons supplier has agreed to buy (or find someone else to buy) the products of the weapons purchasing country—or even to invest (or find someone else to invest) capital there, does not mean that they are adding to the stock of available capital. It is critical to ask how the offset activity is being financed. If it is fully financed by capital raised outside the weapons purchasing nation, then it is actually bringing in fresh capital. But if the weapons purchaser is an LDC, it is relatively easy for large MDC-based corporations to raise capital from sources inside the LDC in competition with domestic entrepreneurs. In that case, the offset not only fails to increase the net availability of capital for financing alternative productive activities, it actually exacerbates the shortage of financial capital facing domestic producers. The only way to avoid this possibility is to require that offsets be fully financed from external capital sources, a difficult requirement to monitor or enforce.

As to increasing worker skills as a contribution to economic development, there are two issues involved. First, if skills are increased by exposure to new production requirements in the case of direct offsets, there is the issue of transferability. Since military-oriented activity has no real economic value (as previously argued), the question is: to what extent are skills acquired in service of military-oriented production transferable to activities that are economically valuable and do contribute to development? This is not a simple question to answer. Not all skills relevant to performance-driven, relatively cost-insensitive, military-oriented production are easily transferable to civilian-oriented, more cost-sensitive production. Some skills may be transferable only after considerable reshaping, a potentially expensive process (Dumas, 1995; MacCorqudale, *et al.*, 1993).<sup>6</sup> Even for the kinds of skills that can be relatively easily transferred, there is the question of whether the military-oriented environment is the most cost-effective way of acquiring those skills. Cost-effectiveness is always an important consideration, given LDC resource constraints.

Second, whether the offsets in question are direct or indirect, the mere fact that skilled labor is required for the contemplated offset activity does not mean that this activity will be adding significantly to the pool of worker skills. The question is, in effect, parallel to that raised above in the case of capital: does the offset activity actually acquire the skilled labor needed by raising the skill level of low-skilled workers through training programs, or does it simply hire already skilled workers from the limited pool available within the weapons-purchasing country? Assuming the skills are both relevant and transferable, the kind of human capital investment involved in raising worker skills through training programs is a real contribution to development. But if the workers hired are already among the most skilled labor available, the offset activity may in fact be preempting labor resources that are already critically short in supply to domestic civilian producers. Unless the offset activity itself has a significantly greater value to economic development than the alternative activities from which its skilled labor has been drawn, it will be interfering with development, not encouraging it.

It should be easier to answer this question empirically in terms of past practice with respect to skilled labor than it is for financial capital, and it is, after all, an empirical question. But in parallel to the case of capital, the only way to avoid draining the local pool of skilled labor is to require that the labor employed in the offset activity not be initially of the skill level required but be raised to that level by employer-financed

training programs. This may be an easier requirement to monitor for labor than for capital, but it is almost certain to generate much stronger resistance on the part of the weapons contractor and be very difficult to enforce.

There are also two key issues with respect to offsets as a means of technology transfer. The first is similar to that for labor. If we are dealing with direct offsets, there is an important question as to their transferability to applications that encourage real economic development, and not just GDP (GNP) growth. For all the talk about “spin-offs” or “spillovers” from military to civilian applications, it is a very problematic process. It is almost always much more cost effective to go after civilian technology directly than to rely on reshaping military-oriented technologies to fit civilian uses (Dumas, 1982). Even so-called dual-use technologies may not always transfer smoothly and efficiently. But even if the technologies in question are clearly directly applicable to civilian use, they still may not be fully compatible with the economic and technological environment in the weapons purchasing country, particularly if it is an LDC.

The ability of transferred technologies to function properly both from a technical point of view and in terms of contributing to real economic development depends on the physical, social, economic, and technological environment in which they must operate. This is an especially important issue when technologies are transferred from MDCs to LDCs. For example, MDC technologies are typically designed with an assumption that reasonably high quality utilities (clean water, reliable electric power, waste treatment facilities) are readily available, an assumption that cannot be taken for granted in the LDC context. They may also depend on interaction with other technologies (in the way that computers interact with high tech communications equipment) the availability of which may be problematic in an LDC. MDC technologies often assume that there is a sufficient supply of high-skilled maintenance personnel, equipped with state-of-the-art tools to keep the high tech equipment in good operating order. That may also be a problem.

There are many potential incompatibilities that can interfere with the smooth transfer of technologies. It is beyond the scope of this chapter to elaborate them. Suffice it to say that merely putting a technology into the hands of producers in a weapons purchasing LDC is no guarantee that the technology will have any positive impact on the receiving country's economy, ecology, society, or its prospects for development. Properly designed *indirect* offsets have a higher likelihood of transferring technologies in a way that will have positive benefits than do direct offsets. However, care must still be taken in selecting the technologies that are to be transferred, with respect to compatibility and other contextual issues, as well as implementing the transfer.

### **Offsets and the military procurement decision**

Given the negative long run economic implications of military spending and military production for development, there are no good *economic* reasons to engage in military procurement at all. Nevertheless, it does seem that there are circumstances in which military force might occasionally be useful or necessary in this troubled world. As long as we still believe that we need armed forces for purposes of security, we will feel the need to acquire the equipment and personnel necessary to keep the military option viable.

The presence or absence of offsets should not substantially affect the decision as to how much or even what kind of military equipment a nation wants to buy. If a particular offset package actually does reduce the economic cost of a type of military equipment considered necessary for security purposes, it should at most influence the quantity purchased at the margin. More likely, if comparable equipment is available from multiple sources under similar conditions of risk, offsets should only influence which particular supplier to choose.

The promised benefit of offsets has sometimes been used to overcome public opposition to purchases of military equipment that the weapons suppliers wanted to sell, and the weapons purchasing government wanted to buy, for reasons related only weakly, if at all, to legitimate security concerns. To the extent that there is a significant domestic arms industry, it may exert considerable influence on the government to press for direct offsets (which in effect subsidize local military industry) in connection with government arms purchases from abroad. Offsets have also been used to overcome the resistance of domestic producers of military equipment (and their workers) to purchases of military equipment produced abroad,<sup>7</sup> or for that matter, of domestic civilian producers (and their workers) being disadvantaged by the use of limited national resources for military purposes.

Still, if the military equipment in question is to be purchased anyway, it is worth attaching the requirement for development-oriented offsets as a condition of purchase. To maximize their development value, they should be indirect offsets, designed either to bring in fresh capital flows and appropriate technology, as well as develop transferable skills in the domestic labor force, or to create markets for domestic products in excess of those that would exist in the absence of the offsets. Ideally, they should contribute to the strength and diversity of the domestic economy, without making it unduly dependent on continued external sources of supply of critical goods and technologies. It is also important to design the offsets package to be implemented in ways that assure transparency, to increase the chances that the full package will be realized.

## Conclusions and implications

Since offsets cannot realistically be expected to fully compensate for the economic disadvantages of military procurement, let alone to produce net economic benefits, it is only sensible to ask whether there may be alternative non-military strategies for national security that are more compatible with economic development goals. Though this is a question worth raising anywhere, it is especially important for resource-constrained LDCs, where every opportunity to institute programs that meet more than one national goal at the same time should be carefully explored.

Fortunately, there are a number of nonmilitary security strategies available for which there is at least some empirical evidence of effectiveness. Civilian-based defense, for example, is a nonmilitary and nonviolent strategy for deterring and defeating (should deterrence fail) both internal military coups and external attack, thus keeping the nation secure. This strategy was developed and elaborated chiefly by Gene Sharp of the Albert Einstein Institution (Sharp, 1985; 1990). It may seem too idealistic to be generally effective in the tough world of realpolitik. Yet a version of civilian-based defense was used with great effectiveness to nonviolently overcome authoritarian regimes in the Philippines (in the mid-1980s) and in eastern Europe (in the late 1980s and early 1990s) as well as to defeat the 1991 coup that attempted to destroy the liberalization movement in the former Soviet Union.

Another nonmilitary security strategy, which comes at the problem of security from an entirely different direction, is the idea of building properly structured economic relationships among peoples and among nations as a means of providing strong positive incentives to keep conflict within the bounds of peaceful dispute and avoid war. The mere existence of economic relations between nations is clearly not enough to provide such incentives; it can actually have the opposite effect. The strategy depends on constructing relationships with certain particular characteristics, most crucially relationships that are at the same time mutually beneficial and balanced (Dumas, 1990; 2004). The European Union (EU) is one of the most obvious demonstrations of the proposition that balanced mutually beneficial economic relationships among nations can create powerful incentives for them to keep the peace with each other. One needs only to list the nations that make up the EU today—nations such as France, Germany, Italy, Spain, Portugal, and the UK—to appreciate how many wars they have fought with each other over the centuries. The strong economic bonds that now bind them together have not eliminated conflict, but they have clearly played a major role in making the idea of warring against each other virtually unthinkable.

These two nonviolent strategies are offered simply as illustrations of the breadth of effective security approaches conceivable once we begin to free ourselves from the trap of thinking of security—even physical and political security—in purely military terms. Both these approaches are far more compatible with the kinds of policies needed to spur real economic development than strategies that depend mainly upon military force. Interestingly, they are also completely compatible with each other, and both can also be used together with a greatly reduced military force structure in a comprehensive, multi-sided national security strategy.

Modern militaries are expensive. So are the kinds of human and physical capital investment projects that catalyze real economic development. It is difficult to see how countries of limited economic means can afford to do both. The availability of offsets attached to arms purchases does not fundamentally change this reality.

Over the last decade or so, a few global institutions such as the World Bank have finally begun to wake up to this economic fact of life and press for reductions in military spending among the LDCs (World Bank, 1997; 2001).<sup>8</sup> More and more attention has been brought to bear on the enormous human and economic cost of militarism in the less developed world. That is all to the good. But most of the more developed nations have yet to fully recognize the price they have paid for their own romance with militarism, or the responsibility they bear for encouraging the less developed countries to waste their economic substance on the arms trade. It is not only a foolish policy in terms of both global economic well-being and security, it is an international disgrace.

### Notes

1. There have been some interesting attempts at creating a single measure that captures the essence of the state of a nation's development, such as the Overseas Development Council's Physical Quality of Life Index (PQLI) or the United Nations' Human Development Index (HDI). The latter is certainly a useful indicator, but still falls short of including all the most important aspects of development. (For a description of how the HDI is calculated, see United Nation's Development Program, 2002, p. 253).
2. The R&D services involved may or may not be embodied in the weapon systems themselves or in the equipment needed to manufacture them.
3. For example, in 1992, Finland concluded an agreement with McDonnell Douglas Corporation of the United States for the purchase of 64 F-18 Hornet fighter aircraft, with a 100 percent offset requirement to be fulfilled over a ten-year period—longer than the term of the weapons purchase contract itself (see Sköns, 2004).
4. For example, in 2001, the sales revenue of Boeing Corporation was US\$58 billion, larger than the GDP of many of its LDC government customers (see Brauer, 2004).
5. This work includes a number of interesting analyses of the impacts of military expenditure on development in the less developed countries, including both overviews and country studies.
6. Retraining and re-orienting even very highly-skilled workers is a critical part of the process of economic conversion, i.e., transfer of personnel and facilities from military-oriented to civilian-oriented activity.
7. For example, Sweden, Denmark, Norway, and Finland have all demanded direct offsets in the form of local assembly to offset job losses (see Hagelin, 2004).
8. Although the World Bank has approached this issue with great caution, it is encouraging that they no longer avoid it entirely. For example, the Bank refers to the ending of cold war tensions as "...providing an opportunity for nations to reduce military spending and reap the dividends of peace" (World Bank, 1997, p. 138), and states that "civil conflict is devastating for poor people: the bulk of conflicts are in poor countries." It goes on to argue that, among other things, "...international action to reduce access to the resources to finance conflict and to reduce international trade in armaments is also necessary. If countries can get on to a path of inclusive economic development, they have the potential to shift from a vicious to a virtuous cycle" (World Bank, 2001, p. 11).

## References

- Brauer, J. and J.P.Dunne, eds. (2002) *Arming the South: The Economics of Military Expenditure, Arms Production and Arms Trade in Developing Countries*. New York: Palgrave.
- Brauer, J. (2004) "Economic Aspects of Arms Trade Offsets," chapter 4 in J.Brauer and J.P.Dunne (eds.) *Arms Trade and Economic Development: Theory, Policy, and Cases in Arms Trade Offsets*. London: Routledge.
- Dumas, L.J. (1982) "The Conversion of Military Economy" in L.J.Dumas (ed.) *The Political Economy of Arms Reduction: Reversing Economic Decay*. Boulder, CO: American Association for the Advancement of Science and Westview Press.
- Dumas, L.J. (1986) *The Overburdened Economy: Uncovering the Causes of Inflation, Unemployment and National Decline*. Berkeley, CA: The University of California Press.
- Dumas, L.J. (1990) "Economics and Alternative Security: Toward a Peacekeeping International Economy," in B.Weston (ed.) *A Iternative Security: Living Without Nuclear Weapons*. Boulder, CO: Westview Press.
- Dumas, L.J. (1995) "Finding the Future: The Role of Conversion in Shaping the Twenty-First Century," in L.J.Dumas (ed.) *The Socio-Economics of Conversion from War to Peace*. Armonk, NY, and London: M.E. Sharpe.
- Dumas, L.J. (2004) "Peacemaking and Peacekeeping: The Power of Economic Incentives," forthcoming in *ECAAR Review 2004*. Pearl River, NY: ECAAR.
- Hagelin, B. (2004) "Nordic Offset Policies: Changes and Challenges," chapter 9 in J.Brauer and J.P.Dunne (eds.) *Arms Trade and Economic Development: Theory, Policy, and Cases in Arms Trade Offsets*. London: Routledge.
- MacCorqudale, P., M.Gilliland, J.Kash, and A.Jameton, eds. (1993) *Engineers and Economic Conversion*. New York: Springer-Verlag.
- Martin, S. and K.Hartley (1996) "The UK Experience with Offsets," pp. 337–379 in S.Martin (ed.) *The Economics of Offsets: Defence Procurement and Countertrade*. Amsterdam: Harwood Academic Publishers.
- Martin, S. (1996) "Introduction and Overview," pp. 1–14 in S.Martin (ed.) *The Economics of Offsets: Defence Procurement and Countertrade*. Amsterdam: Harwood Academic Publishers.
- Sharp, G. (1985) *Making Europe Unconquerable: The Potential of Civilian-Based Deterrence and Defense*. Cambridge, MA: Ballinger Publishing Company.
- Sharp, G. (1990) *Civilian-Based Defense: A Post-Military Weapons System*. Princeton, NJ: Princeton University Press.
- Sköns, E. (2004) "Evaluating Defense Offsets: the Experience in Finland and Sweden," chapter 10 in J.Brauer and J.P.Dunne (eds.) *Arms Trade and Economic Development: Theory, Policy, and Cases in Arms Trade Offsets*. London: Routledge.
- Stryus, W. (2004) "Offsets in Belgium: between Scylla and Charybdis?" chapter 11 in J.Brauer and J.P.Dunne (eds.) *Arms Trade and Economic Development: Theory, Policy, and Cases in Arms Trade Offsets*. London: Routledge.
- United Nations Development Program (2002) *Human Development Report 2002: Deepening Democracy in a Fragmented World*. New York: Oxford University Press.
- World Bank (1997) *World Development Report 1997: The State in a Changing World*. New York: Oxford University Press.
- World Bank (2001) *World Development Report 2000–2001 :Attacking Poverty*. New York: Oxford University Press.