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Taxation of the arms trade: An overview of the issues

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Abstract

A number of proposals for a tax on the international trade with weapons have been made during the last 20 years. Originally, the major objectives were both to reduce the level of trade in arms and raise money for purposes such as development and disarmament. Later proposals focused on the compensation of victims of the use of specific types of weapons.

Various objections have been raised against the suggestions for an arms trade tax. Major points include the difficulties of achieving sufficient levels of compliance, tax evasion through increases in domestic production and a stimulation of the illicit trade in arms. There are also fundamental objections against demeritorizing arms transfers and against differential treatment of domestic production and exports.

In addition to briefly discussing the objectives and objections, the paper also addresses the question of the incidence of a possible arms trade tax. A major part of the burden would be borne by buyers of arms, who are predominantly developing countries. An arms trade tax might, depending on the shape of supply and demand functions, lead to a decrease or an increase in expenditures on arms. Transfers from a fund fed by an arms trade tax should only go to those countries which substantially reduce their spending on arms imports. In general, an arms trade tax makes more sense as a measure for disarmament or the compensation of victims than as a source of development finance.

Introduction

The idea of taxing the arms trade has been around for some time. It seemed attractive to several authors, including some very eminent ones, for a number of reasons, including that it might provide additional funds for development.

However, there are major practical and also principal problems connected with an arms trade tax. It therefore was never close to being seriously negotiated, let alone implemented. There has been a revival, since the late 1990s in the form of an “insurance“ on small arms with limited objectives but some potential to arouse political interest.

Earlier suggestions

The idea of an arms trade tax first gained international prominence through its place as one of the major recommendations for further consideration in the „Brandt“-Report (Independent Commission on International Development, 1980). The commissioners argued that a tax on the arms trade would have the effect of increasing the price of arms and thereby reduce arms transfers. This was deemed to be beneficial for development as arms imports were seen both as a financial impediment to development as well as a factor in fueling conflicts. However, the Commission also felt that the tax could rake in income that could be used for development purposes. The Brandt-Commission’s suggestion of an arms trade tax was picked up by both non-governmental organizations and some governments. However, there was also major criticism and opposition for reasons discussed below. In the end, there was little follow-on to the suggestion and the arms trade tax met a similar fate as the bulk of the “Brandt-Report”, which had been asked for by the then-President of the World Bank, Robert McNamara. Reduction of the negative effects of the arms trade, including through some kind of tax, was also an issue in the discussions of the later Palme-Report (Independent Commission on Disarmament and Security, 1982).

In the late 1980s and early 1990s the idea of an arms trade tax was predominantly kept alive by Oscar Arias, former President of Costa Rica and winner of the Nobel Peace Prize. Arias variously advocated to use the income gained from a substantial tax on the arms trade to feed a development fund, or to use the money to support disarmament activities in developing countries (Arias Sanchez, 1995, 1996). He also contributed, in this vain, to the Human Development Report of 1994 which addressed military-related issues and where the later influential concept of ‘human development’ was developed (UNDP, 1994).

Recently, a variant of an arms trade tax has been debated within NGO circles concerned about the widespread suffering stemming from the use of small arms. The German researcher Peter Lock proposed to levy a tax on ammunition exports and to require producers and traders of small arms to pay for compulsory third party damage liability insurance (Lock, 1998, 1999). The income from these compulsory insurance premiums, which can be thought of as a tax, should be used to compensate victims

of small arms use. The suggestion of a compulsory third party damage liability insurance was reiterated by the “group of eminent persons” on small arms chaired by former French Prime Minister Michel Rocard (Konaré and Rocard, 2000). While it has not found its way into the documents to be negotiated at the United Nations Conference on the Illicit Arms Trade in All its Aspects, scheduled for July 2001, it remains on the agenda of NGO and some states, such as Mali.

Objectives of an arms trade tax

Proposals on an arms trade tax have vented a number of objectives:

- Reduce the volume of the trade (and, in turn, production) in arms. The rationale here is that arms are traded ‘too cheaply’. Fewer weapons will, so it is assumed, reduce the incidence and costs of wars, especially those fought by insurgents with little financial backup. In addition, it has been argued that an increase in price might reduce the volume of arms imports and thus save money which could be spent for development purposes.
- Raise money. The original proposal contained in the Brandt-Report included the consideration of an arms trade tax as a source of ‘fresh’ money for economic development. As mentioned, Oscar Arias has, in several contributions, focused on this objective and called for the funds raised through an arms tax to be spent on economic development and disarmament measures.
- Compensate victims of wars. The idea of a compulsory insurance on arms sales (currently limited to small arms, but covering domestic and export sales) combines the objectives of lowering sales volumes and raising money, albeit for a very specific purpose. It draws on principles of causation, such as ‘polluter pays’, by holding producers and users of weapons responsible for the damage done by the use of weapons. In some proposals it is envisaged that private insurance companies will be involved in administering such a compulsory insurance scheme. However, it may be more realistic, in view of the risks involved, to provide for some mixture of private administration and public guarantee, or an independent fund for the compensation of victims.

Volume and price effects of an arms trade tax

The level of possible revenues from an arms trade tax has not been seriously estimated. There are several reasons for this lacuna. One is that the proposal has never gained much international support, but there are also serious methodological problems. The volume of the arms trade is not well established. Furthermore, it is difficult to estimate what will happen to prices and volumes after a tax on the arms trade has been introduced. Such an estimation is however necessary as both sellers and buyers will adopt their behavior to the new circumstances.

Arms trade volume

The volume of the global arms trade is not known. Traditional methods to determine the trade in specific goods do not yield results. International trade statistics, such as those published by the United Nations or the International Monetary Fund, probably include most of the trade in arms, but mostly in categories that do not distinguish between military and civilian goods. Neither the Standard International Trade Classification (SITC) nor the Brussels Tariff Nomenclature (BTN), the two most widely used international trade classification schemes, provide for sufficient detail to separate the trade in arms. Only a few national statistical offices differentiate further than recommended and publish comprehensive data on their exports and imports of arms. Those that do provide statistics that are not fully comparable, as different statistical standards of what goods to include are applied (Brzoska, 1985).

Estimates of the volume of trade therefore have to rely on other methods. Generally the approach is to find about the physical transfer of goods. The most ambitious of these efforts is the UN's Register of Conventional Arms. It came about in 1993 in order to increase transparency of cases of threatening accumulations of weapons. The reporting record on the exporter side has been good, though not comprehensive. However the Register only contains data on the number of weapon systems transferred and no financial data (<http://www.un.org/Depts/dda/CAB/register.htm>).

Other sources provide estimates of the volume and value of the arms trade. The two best known are the US Department of State (United States, 2000) and the Stockholm International Peace Research Institute (SIPRI 2000). Methodological basis for estimates and coverage differ among these sources (see appendix). A rough estimate would put the trade in major weapons (aircraft, armored vehicles, artillery, ground radar, missiles, ships) at about \$30 bn in the late 1990s. Including other types of weapons (light weapons, ammunition) and spare parts brings the trade volume up to about \$50 bn. These rough estimates do not include the illegal trade whose volume, by definition, is not known.

Arms trade price elasticities

What would happen in the case of a 10 percent arms trade tax? Will it affect the quantity of weapons traded, the price of weapons? How much would this reduce the income from such a tax? Will the arms trade volume (producer price plus tax times quantity) increase or decrease with a tax? And who will actually pay the tax, the producers, or the buyers? In order to provide answers to these questions, some basic economics of the arms trade is necessary.

Few studies of the effects of price on demand and supply – the price elasticities of demand and supply - in the weapons trade exist, most of these are theoretical or based on studies of single cases (Anderton, 1995; Levine and Smith, 1995; García-Alonso, 1999).

There is no agreement on the price elasticity of supply. Standard economic reasoning, based on decreasing marginal product, assumes that price increases with quantity. However, there are good reasons to surmise

that price actually decreases with longer production runs. One major factor are the high up-front costs of weapon systems, which are often borne by the national procurement authorities and are not recovered in later exports to third countries. A second factor is steep learning costs, resulting in increasing economies of scale. A third factor is competition among suppliers. Especially since the end of the Cold War overcapacities of production in many countries have resulted in fierce competition on world arms markets, often subsidized by national governments of the producer countries. For simplicity, in the following discussion, two cases of supply curves are distinguished: one where supply increase with prices, the other where supply is perfectly elastic, that is not dependent on prices (constant economies of scales).

The demand curve seems to be more standard. Levine and others found, in a cross-sectional comparison of arms trade statistics from different sources, a price elasticity of about -0.5 (the only other significant determinant of quantity in their regressions estimation was military expenditures of importers, which was positively related to quantities, Levine, Mouzakis and Smith, 1998 p. 232).

However there is reason to believe, that the price elasticity of demand is lower, and may even become inelastic for countries in crisis or at war. In such cases, a certain amount of weapons may be demanded, whatever the price.

Here is a brief summary of the effects of a tax, depending on price elasticities of demand and supply:

- With standard price elasticities, the effects of a tax are split between a decrease in quantities and an increase in price (see appendix, case a), depending on particular elasticities. With a given demand curve, the volume of tax (marked by the gray area) decreases with the reduction of quantities in equilibrium. The total volume of the arms trade (including tax) would rise or fall, depending on the elasticities of supply and demand. Income for arms producers (prices times quantities) would decrease.
- With a perfectly elastic supply of weapons, the price rises by the full amount of the tax, while quantities are also reduced (appendix, case b). Tax volume is lower than in the first case. The total volume of the arms trade (including taxes) would likely fall, depending on the price elasticity of demand. Income of arms producers (income times quantities) would decrease.
- With perfectly inelastic demand quantities with respect to prices, the prices also rise by the full amount of the tax. As quantities are not affected, this results in the maximum possible tax revenue. At the same time, the volume of the arms trade (including taxes). Income of arms producers would remain constant.

Incidence of an arms trade tax

In some of the proposals for an arms trade tax it seems to be assumed that this more or less automatically would lead to a North-South transfer, from arms producers to beneficiaries of the income from such a tax.

However, an arms trade tax is a typical consumer tax. The burden of consumer taxes is generally shared among producers and consumers, depending on price elasticities of supply and demand.

Structure of the arms trade

The trade in arms is predominantly a North-South trade, a trade from industrialized countries to developing countries (see appendix). An initial impression therefore would be that a tax on arms transfers would predominantly be a tax on industrialized countries. This assumption seems to be behind ideas to use an arms trade tax as a fund for development purposes.

A simple argument could go like this: As the volume of the arms trade is about US \$50 billion, a 10 percent tax would result in income of about \$5 billion. This money could then be used for development purposes. As indicated above this tax volume would only come about in a situation of perfectly inelastic demand. In all other cases, the volume of trade, and correspondingly the tax income, would be reduced. The actual reduction would depend on the exact shape of the supply and demand curves, but it would likely not be substantial.

Who pays?

Taxes can be raised at the level of the supplier or the buyer. While this may make a difference with respect to the practicalities of raising the tax, it does not do so with respect to the basic economics of a tax. The incidence of the tax, who is actually paying in the end, is not affected.

The earlier discussion of effects of a tax can be extended to cover the basics of the incidence of such a tax:

- In the 'normal' case, with 'standard' elasticities, the tax is split between buyers and sellers: buyers have to pay more, but, with reduced quantities, producers also get less.
- In the case of perfectly elastic supply, the price rises by the full amount of the tax. The tax has to be entirely borne by the buyers. Quantities are reduced, but by definition this has no effect on the price of supply.
- In the case of perfectly inelastic demand, the entire tax burden is also borne by the buyers.

This, obviously basic, discussion of the incidence of an arms trade tax indicates that it certainly cannot be assumed that the burden will be borne exclusively, and most likely not even predominantly, by producers. Rather, it is more likely that a good, if not the major, part would be borne by buyers.

Tax incidence and tax objectives

Obviously only buyers of weapons would pay the tax. But these would likely contribute a major chunk of the tax income. If this income was fed into a fund, whether for development as originally suggested by the Brandt Commission, or for disarmament, as suggested by Oscar Arias, or for war victims, as suggested by Peter Lock, it would be, to a major extent, coming from the buyers who are predominantly in the

developing world. Still, unless their demand for weapons was perfectly inelastic, another objective of an arms trade tax, namely a reduction in the quantities of arms imports, would be achieved. However, again depending on the elasticities, they might pay more for the fewer weapons they get.

Compliance issues

Supplier participation

A standard objection to an arms trade tax – as well as to any other global tax, is that it is unlikely that all, or even the major, supplier governments would participate. There are several issues involved:

- Incentives to export arms. Arms producing countries have, as outlined above, strong economic incentives to export arms. They therefore need to expect substantial political or economic benefits from reducing arms exports and feeding an international fund.
- Strategic behavior. Unless it is assured that at least the major supplier states are participating, an individual arms producing country going along with an arms trade tax will lose overproportionally (Sandler, 2000; García-Alonso and Hartley, 2000). Other, non-complying producing will gain market shares. As this is known to all major suppliers, it is likely that no one will agree to raise the tax unless it is fairly safe that all major suppliers will agree (unless a country has strong national incentives to do so).
- Absence of an enforcer. Without a world government, or a similar authority to level such a tax, it would be difficult to bring individual countries to comply. For instance, if the tax was raised at the level of producers, there would have to be a mechanism to ensure that producers raise the tax and transfer it to a fund, or whatever is foreseen to be sourced by the tax.

Illicit trade

Another problem of an arms trade tax that is fairly frequent also in other areas of taxation is that of tax avoidance through illegal trade. Already a good part of the international arms trade is illicit. The illicit arms trade encompasses not only the perfectly black market, where stolen or otherwise illegally acquired weapons are sold, but also various types of “gray” markets, for instance covert sales by governments, illegal resales of used weapons, sales of weapons as dual-use goods etc.

A tax on arms transfers would likely increase the incentives for trading illicitly, for producers, traders as well as governments. It is however unlikely that this would become a major new problem at least as long as the major arms exporting countries were willing to enforce such a tax. The high-cost end of the internal arms market is regulated fairly well, not in the least because it is difficult to hide the transfer of ‘big-ticket’ items. An arms export tax would not change this situation. On the other end of the market, small arms and light weapons, very substantial illicit trading is already occurring. This may increase. However,

as trade volumes involved are not very large, this would not affect the tax income in a major way. It might lead to an even lesser degree of public oversight and control in an area that is already widely out of control (Lumpe, 2000).

Increased transparency

One major precondition for participation of a sufficient number of governments would be greater transparency in the arms trade. While the level achieved with respect to heavy weapons, for instance through the UN Register of Conventional Weapons, is encouraging, it is not sufficient. For instance, there is no reliable information on prices and volumes.

Much more problematic is the situation with respect to small arms and light weapons. Here some NGOs (see www.iansa.org) and like-minded governments started a major initiative which is, in 2001, culminating in the mentioned United Nations conference. However, much more work will need to be done before transparency in this part of the arms trade is sufficient for a verifiable arms trade tax.

Stimulating domestic production

A tax on trade would very likely stimulate tax avoidance through non-taxed domestic production. It is well established, that restrictions on the arms trade stimulated domestic production (Brzoska, 1989; Brauer, 2000; Levine, Mouzakis and Smith, 2000). However, domestic arms production in countries that do not have a very diversified industrial infrastructure tends to be comparatively expensive. A tax with a low rate will therefore not have major effects on domestic arms production.

Practical aspects of arms trade taxation

Tax collection

An arms export tax would best be collected at the point of export. While in theory there is no difference whether the tax was collected at the point of production, export or import, practical considerations make it more plausible to focus on exports. One reason is that the number of exporting countries is considerably smaller than the number of importing countries (about half as many countries). A second reason is that exporting countries are predominantly industrialized countries which in general have more experience in collecting export taxes and more effective customs services.

Tax basis

While national definitions of weapons differ and international trade statistics do not cover weapons comprehensively (Brzoska, 1995), there exist a number of definitions of weapons which would be readily available for taxation purposes. Two definitions, for heavy weapons and for light weapons have been developed within the UN system (UN 1992, UN 2001). In addition, the Wassenaar Arrangement, an informal information mechanism which includes more than 30 countries responsible to close to 95 percent

of all arms exports has developed a comprehensive munitions list (www.wassenaar.org). The European Union has adopted a list which is very similar to the Wassenaar munitions list.

Reexports

The implementation of an arms trade tax would face a number of specific issues that would need to be addressed. One such issue is reexports. It lies in the logic of an arms export tax that all exports of arms should be taxed, whether they are exports of new or old weapons. On the other hand, exports of parts (which are classified as weapons) within coproduction projects should not be taxed, rather the export of the completed should be taxed.

Principal issues

The idea of an arms trade tax has also been questioned from more fundamental points of view.

Singling out the trade in weapons

While several observers found it very attractive to tax specifically the trade in weapons, others have objected.

Proponents of an arms trade tax have highlighted the detrimental effects that weapon imports can have. Thus Oscar Arias has argued that spending on weapons has been detrimental for development and that excessive transfers of arms have been a major factor in the escalation of conflict into wars, their prolongation and human costs (Arias, 1995). Opponents, on the other hand have argued that the links between arms transfers and wars are weak, and that it is a solemn right of governments to import arms, indirectly guaranteed through Article 51 of the UN Charter on the right to individual and collective self-defense.

As usual, there is some truth in all these observations. Arms imports are reducing import capacities and growth prospects of developing countries (for an overview see Dunne, 1996). They have contributed to the escalation and prolongation of some, but not all, conflicts (Brzoska and Pearson, 1994). It is a solemn right of countries to import arms for their defense, but not for purposes of aggression.

On balance, it seems that there are good reasons for singling out and demeritorizing weapons. In fact this is already done in several ways. For instance, as was mentioned above, the UN maintains the Register of Conventional Weapons, an instrument of early warning of excessive accumulation of arms put into place after Iraq's armaments programs of the late 1980s had help make it into an aggressive military power. Arms exports restrictions are also the major form of sanctions under Chapter VII of the UN Charter exercised by the UN Security Council in the 1990s (Brzoska, 2001). Finally, a UN conference has been organized to address specifically the trade in small arms.

An arms trade tax would be a further, though not radically new, step in differentiating arms from other goods. It would signal, similar to specific consumption taxes in many countries that there are social costs which are not covered in market prices.

Correcting market distortions through subsidies

Arms exports are heavily subsidized by exporter countries (Brzoska, 1992; US GAO, 1995; Gold, 1999; Hébert, 1998, Assemblée Nationale, 2000; Hartley, 2000; Brittan, 2000). Export subsidies include the following forms:

- Direct subsidies. A number of suppliers financially support buyer countries, or buy weapons from producers and sell them, below production costs, to allies. An example of such a subsidy is the grant portion of the United States' Foreign Military Financing program. The US government plans to spend US \$3.7 billion under this program in Fiscal Year 2002, predominantly for arms transfers to Israel (US \$2 billion) and Egypt (US \$1.3 billion).
- Indirect subsidy. A form of indirect subsidy results from the transfer of partly fungible resources to buyer governments which then use these resources, or their own resources freed by these transfers, to purchase weapons. The US government for instance plans to provide, in Fiscal Year 2002, US \$2.3 billion of foreign aid under the Economic Support Fund, which predominantly is used to help Egypt and Israel defray the costs of weapons bought from US companies. Another, form of indirect subsidy is the linking of military and civilian projects. The UK government, for instance, funded the Pergau Dam in Malaysia with the tacit understanding that the Malaysian government would buy British Hawk aircraft. A High Court ruled this an illegal use of development aid money in October 1994 (<http://ebooks.whsmithonline.co.uk/encyclopedia/40/M0045540.htm>).
- Export financing schemes. A number of countries maintain subsidized export credit schemes that regularly also cover arms sales. In addition, major supplier governments also give direct credit. The German government, for instance, is directly covering sales of submarines to Turkey at a concessional rate of interest. Military exports are explicitly exempted from the OECD's Guidelines for Officially Supported Export Credits (for the text see www.oecd.int/ech/act/xcred/armgmnt.htm) as well as from the authority of the World Trade Organization (on the basis of Art. 21 of the General Agreement on Trade and Tariffs of 1947, and Art. 14 of the General Agreement on Services, see http://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm1_e.htm).
- Marketing subsidies. Marketing of arms is often supported at government level, in the British case, for instance, by the Defence Export Services Organization (www.deso.mod.uk). Centralized government marketing can be an instrument to ensure that the seller government receives a part of the proceeds from arms exports, such as in the case of Russia's Rosoboronexport (www.rusarm.ru), in other cases, however, the government subsidizes sales through government agencies.

- Operational support. In many cases, governments are willing to provide training support to purchaser of weapons, either in their own countries, as a form of military aid, or in the buyer country. Sweden, for instance, has trained Indian officers to use Bofors guns sold to the country.
- Payment of initial research and development. Exports of weapons are often calculated on the basis of variable unit costs, not total costs. Initial research and development costs, which often are a large chunk of total costs are predominantly borne by the original producer government and not charged to export customers.

There are a number of estimates of arms export subsidies for individual countries which range between a few percent of the total value to more than a third of the value. The global amount of dedicated aid for military exports has declined drastically since the Cold War (Brzoska, 1992) but it is still substantial. The United States alone is planning close to US \$6 billion to support arms transfers. Not included in the data on arms trade subsidies are generally cases of defaults by customers. Arms trade debts are not separated from other forms of debt and are, if need be, rescheduled as part of general debt relief. However, it is known that around the time of the Gulf War the US and other industrialized countries canceled close to \$10 billion of debt outstanding from arms imports by coalition countries. Iraq, on the other hand, continues to have a similar debt to France and Russia for arms deliveries prior to the Gulf War (Brzoska, 1992).

An arms trade tax could correct for the general market distortion brought about by these subsidies. However, as mentioned, subsidies vary considerably among suppliers. A flat tax rate would not eliminate the distortion among suppliers (and, to the extent that they buy predominantly from one supplier, recipients) but could reduce the effective demand for weapons.

Different treatment of production for domestic purposes and international trade

Another fundamental problem of an arms trade tax is that it privileges domestic production over trade. While the financial effects of such tax are not likely to be very large, it raises fundamental issues related to the equality and sovereignty of countries.

Countries which are importing weapons will be disadvantaged compared with those producing them domestically. It has been argued that this is against the spirit of the UN Charter, which, as mentioned, guarantees the right to self-defense. Restrictions to weapon imports, including special taxes, should therefore not be arbitrary but based on good reasons.

An obvious counter-argument is that countries are free to produce weapons domestically and thus evade the tax. However, this argument is somewhat disingenuous, as such a strategy would most likely result in increasing expenditures on arms, and would thus be detrimental to the objectives of an arms trade tax.

Another argument is that there are already numerous taxes on arms exports of many countries – value added tax, export tax or administrative surcharges. The US government, for instance, routinely charges commercial arms producers when it processes exports.

Still, it remains questionable to only tax the trade and not domestic production. The main reason for only choosing trade in earlier proposals seems to have been practicality. It would be even more difficult to comprehensively tax production than trade. It should be noted that the later proposal of an insurance premium covers production and trade.

Windfall profits for illicit traders

Another fundamental issue raised by some opponents to an arms trade tax is that it would benefit black and gray market arms dealers (Lock, 1999). These would be able to charge prices which included the tax without paying the tax. Again, the financial aspect seems to be less of a concern than the principal problem.

This again is a problem with any consumer tax and not particular to an arms trade tax. The best way to deal with this issue would be to reduce the amount of illicit trade. The international community has been trying to do just this for some time, and is currently focusing on the trade in small arms. An arms trade tax would contribute to these efforts as it would raise the level of transparency in the international arms market.

Paying for arms imports

A particular concern is that of indirectly funding weapons imports through an arms trade tax.

In general, an increase in the amount of resources available to a government will result in higher weapon imports (Brzoska, 1992). A transfer from a development fund to an arms buying government which is spending this extra-money as it spent those resources available to it earlier, will stimulate arms imports. As this government also at least partly paid the arms trade tax, it is also compensated for paying this tax.

Care should therefore be taken that funds from an arms trade tax are not going to countries who are buying weapons in large quantities. Giving money to governments which are buying weapons would counter the major objectives of an arms trade tax, namely a reduction in the trade volume and making money available for development. Also, funds should not be fully fungible. It would be better, if they were paid out for specific projects which are clearly benefiting development. Alternatively, one could foresee, as Oscar Arias has done in some of his contributions, that the money should go to disarmament related projects, such as the demobilization and reintegration of armed forces, the destruction of weaponry or the conversion of defense industries.

Conclusions

Many valid objections have been raised, earlier and in this paper, against naive proposals for an arms trade tax which could be used as a new source for development funding.

Still, the idea of a tax of weapons remains to be attractive, albeit predominantly as a means to demeritorize arms than as a means of raising finances. A reduction in arms sales is a worthwhile objective, in itself but also as a contribution to sustainable development.

There are many practical problems, beginning with the question whether it should not rather be sales than trade that should be taxed and ending with the political hurdle of getting major exporting countries involved. Other issues seem to be clearer now than when an arms trade tax was first proposed, such as what the income should be spent on. Particularly interesting is the idea of using the money raised through a tax to compensate victims of the use of weapons.

An arms trade tax is not at all close to becoming a reality, so many of the particular practical problems seem not to be overly relevant at this time. However, as long as arms sales, currently predominantly of small arms, are a factor that hinders economic and social development in some parts of the world it makes good sense to consider ways of reducing it. The proposal of an arms trade tax has potential to do just this, possibly more as reminder of the social costs of arms sales than as a fiscal instrument.

References

- Anderton, Charles H., 1995. 'The Economics of the Arms Trade'. In Hartley and Sandler, 1995, pp. 523-561.
- Arias Sanchez, Oscar, 1995. 'Military conversion for social development.' In Michael Brzoska, Kees Kingma and Herbert Wulf, *Report on BICC panel discussion at the World Summit for Social Development, Copenhagen, March 1995*, Bonn: BICC.
- Arias Sanchez, Oscar, 1996. *The arms bazaar*. 1995 Paul G. Hoffman lecture. New York: United Nations Development Programme.
- Assemblée Nationale. 2000 Le controle des exportations d'armement. Rapport d'information déposé par la commission de la Défense nationale et des forces armées. Paris, 25 avril 2000.
- Brauer, Jürgen, 2000. 'Potential and Actual Arms Production: Implications for the Arms Trade Debate'. *Defence and Peace Economics*, Vol. 11, No. 5, pp. 469-480.
- Brittan, Samuel. 2000. 'The hidden cost of promoting arms sales.' *Financial Times*, 6 January. Also available at www.samuelbrittan.co.uk/text61_p.html.
- Brzoska, Michael 1992. 'Military Trade, Aid and Developing Country-Debt.' In: Geoffrey Lamb with Valeriana Kellab, eds. *Military Expenditure and Economic Development. A Symposium on Research Issues*. World Bank Discussion Papers, no. 185, Washington, D.C., 1992, S. 79-111.
- Brzoska, Michael and Frederic S. Pearson. 1994. *Arms and Warfare. Escalation, De-Escalation, and Negotiation*. Columbia: University of South Carolina Press.
- Brzoska, Michael, 1989. 'The Impact of Arms Production in the Third World.' *Armed Forces and Society*, Vol. 15, No. 4, pp. 507-530
- Brzoska, Michael, 1995. 'World Military Expenditures'. In Hartley and Sandler, 1995, pp. 45-67.
- Brzoska, Michael., ed. 2001. *Making arms embargoes and travel sanctions smarter*. Report on the Bonn-Berlin Process. Baden-Baden: Nomos.
- Dunne, Paul. 1996. 'Economic Effects of Military Expenditure in Developing Countries: A Survey.' In: Nils-Petter Gleditsch et al, eds. *The Peace Dividend*. Amsterdam et al: Elsevier.
- García-Alonso, Maria del Carmen and Keith Hartley, 2000. 'Export Controls, Market Structure and International Coordination.' *Defence and Peace Economics*, Vol. 11, No. 5, pp. 481-505.
- Garcia-Alonso, Maria del Carmen, 1999. 'Price Competition in a Model of Arms Trade.' *Defence and Peace Economics*, Vol. 10, No. 3, pp. 273-301.
- Gold, David. 1999. 'The Changing Economics of the Arms Trade.' In Ann Markusen and Sean Costigan, ed. *Arming the Future*. New York: Council on Foreign Relations Press, pp. 249-268.
- Hartley, Keith and Todd Sandler, eds. 1995. *Handbook of Defense Economics*. Amsterdam: Elsevier.
- Hartley, Keith. 2000. 'The benefits and the costs of UK arms trade.' *Defence and Peace Economics*, Vol. 11, No. 5., pp. 445-459.
- Hebért, Jean Paul. 1998. *Les exportations d'armement. A quel prix?* Paris:La Documentation Française.
- Independent Commission on Disarmament and Security 1982. *Common security. A programme for disarmament*. The report of the Independent Commission on Disarmament and Security Issues chaired by Olof Palme. London: Pan Books.
- Independent Commission on International Development. 1980. *North-South. A programme for survival*. Report of the Independent Commission. Chaired by Willy Brandt. London: Pan Books.
- Konare, Alpha Omar and Michel Rocard, ed. 2000. *The Humanitarian Challenge of Small Arms Proliferation: The argument for a universal, comprehensive and non-discriminatory small arms control regime*. White Paper presented to the First Prepcom for the 2001 UN conference on the Illicit Trade in Small Arms in All its Aspects, February 28p://www.iansa.org/documents/2001/Prepcom1/documents/epg_paper.htm)
- Levine, Paul and Ron Smith, 1995. 'The arms trade and arms control.' *Economic Journal*, Vol. 105, No. 2, pp. 471-484.
- Levine, Paul, Fotis Mouzakis and Ron Smith, 1998. 'Prices and Quantities in the Arms Trade.' *Defence and Peace Economics*, Vol. 9, No. 3, pp. 223-235.

- Levine, Paul, Fotis Mouzakis and Ron Smith, 2000. 'Arms Export Controls and Emerging Domestic Producers.' *Defence and Peace Economics*, Vol. 11, No. 5, pp. 505-531.
- Lock, Peter. 1998. Illicit Small Arms Availability. Research note prepared for the 3rd International Berlin Workshop on Consolidating Peace through Practical Disarmament Measures and Control of Small Arms. Berlin, 2-5 July 1998. Available at http://www.iansa.org/documents/research/res_archive/ngo23.htm.
- Lock, Peter. 1999. Comprehensive measures to reduce illicit small arms availability. Paper presented at the 49th Pugwash conference, Rustenburg, South Africa, 7-13 September 1999. Available at http://www.iansa.org/documents/research/1999/sept_99/pugwash_document.pdf.
- Lumpe, Lora, ed. 2000. *Running Guns*. London: Zed Books.
- Sandler, Todd, 2000. 'Arms trade, arms control and security: Collective action issues.' *Defence and Peace Economics*, Vol. 11, No. 5, pp. 481-503.
- SIPRI (Stockholm International Peace Research Institute). 2000. *World Armaments and Disarmament. SIPRI Yearbook 2000*. Oxford: Oxford University Press.
- Stiglitz, Joseph E. 1988. *Economics of the Public Sector*. New York: W.W. Norton.
- UNDP (United Nations Development Program). 1994. *Human Development Report*. Oxford: Oxford University Press.
- United Nations. 1997. Report of the Secretary General on Small Arms, A/52/298, New York, August. Also available at <http://www.un.org/Depts/dda/CAB/rep52298.pdf>.
- United Nations. 2001. *United Nations Register of Conventional Weapons. Information Booklet 2001*. New York. Also available at http://www.un.org/Depts/dda/CAB/Register_booklet/UNRCABooklet2001.pdf.
- United States General Accounting Office. 1995. *Military Exports: A Comparison of Government Support in the United States and Three Major Competitors*. GAO/NSIAD-95-86. Washington, DC:
- United States. Department of State. Bureau of Arms Control. 2000. *World Military Expenditures and Arms Transfers 1998* (available at http://www.state.gov/www/global/arms/bureau_ac/wmeat98/wmeat98.html)

Appendix A: Some basic data on the arms trade

Sources: US Department of State, 2000; SIPRI, 2000

Note: The US data covers a broad range of arms transfers, SIPRI data covers only the trade in major weapons (aircraft, armored vehicles, artillery, missiles, radars and ships).

Table 1: Volume of global arms trade and share of developing countries, various sources

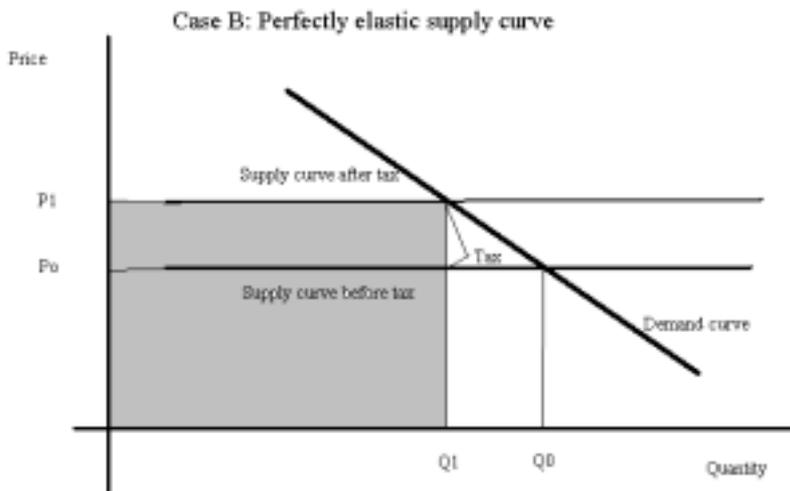
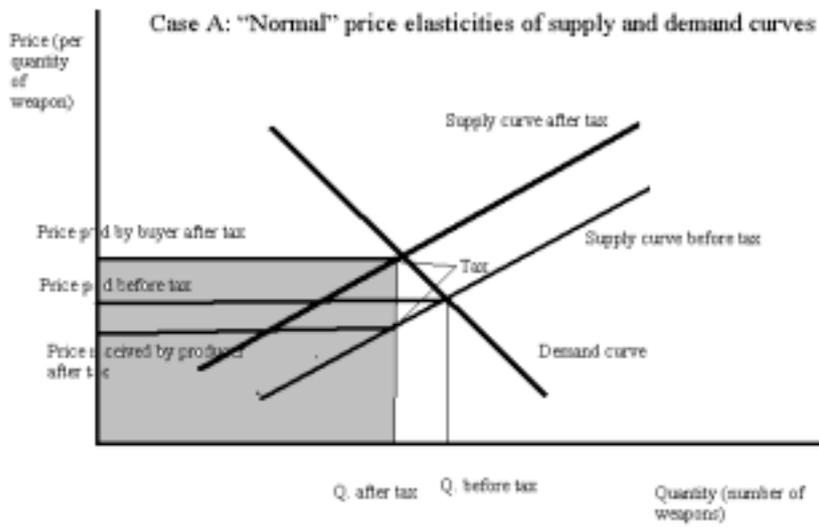
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
US government data										
Total exports in US \$ b, prices of 1997	55	48	44	43	40	43	44	55		
Share of "developing countries" in world imports, in %	74	59	57	54	57	63	59	52		
SIPRI data										
Total exports in US \$ b, prices of 1995	28	24	21	23	20	20	21	26	24	21
Share of "developing countries" in world imports, in %	61	59	50	59	65	62	61	57	52	51

Table 2: Main exporters and importers

US			SIPRI		
Main exporters, 1995-1997			Main exporters, 1995-1999		
	in US \$ b	In % of total		in US \$ b	In % of total
USA	78	55	USA	53	48
United Kingdom	18	13	Russia	15	13
France	12	8	France	12	11
Russia	9	7	UK	7	7
Germany	4	3	Germany	6	5
Sweden	3	2	Netherlands	2	2
China	2	2	China	2	2
Israel	2	1	Ukraine	2	2
Main importers, 1995-1997			Main importers, 1995-1999		
	in US \$ b	In % of total		in US \$ b	In % of total
Saudi Arabia	14	10	Taiwan	14	13
Taiwan	8	6	Saudi Arabia	9	8
Japan	7	5	Turkey	7	6
Egypt	5	4	Korea, South	6	5
United Kingdom	4	3	Egypt	5	4
Turkey	3	2	India	5	4
Kuwait	3	2	Japan	4	4
South Korea	3	2	Greece	4	4
Israel	3	2	China	4	4

Appendix B: Elementary economics of the incidence of an arms trade tax

Source: Based on Stiglitz, 1988, pp. 415-420



Case C: Perfectly inelastic demand

