C THE ECONOMICS OF SUBSIDIES

1. INTRODUCTION

The purpose of this Section is to assist the reader to better understand the twin questions of why governments use subsidies and how subsidies impact international trade. As is frequently the case in economic analysis, the starting point for what follows is a "benchmark" economy featuring perfectly competitive markets.[30] This approach provides the basis for general insights into the impact of policy interventions such as subsidies. As discussed further below, under the condition of a perfectly competitive market, no case can be made for a subsidy. Introducing a subsidy or some other government measure within a perfect market framework will be inefficient and welfare-diminishing. But if the perfect market assumption is relaxed, situations may arise where a government measure like a subsidy improves welfare. An efficient subsidy would correct a market failure, bringing social and private costs and benefits into alignment.

Neither in this Section nor elsewhere in this Report have we undertaken a systematic analysis of how subsidies compare with other policy interventions that might be used to achieve similar objectives. References to this question are, however, made in several places in the Report, notably in Section D dealing with objectives. It may nevertheless be useful to mention here that the choice of policy instrument to attain a particular objective can be important from an efficiency standpoint. This can be illustrated by a simple example.

Suppose that a government decided to protect a particular domestic industry on the grounds that there were learning-by-doing effects associated with the activity from which the wider economy would benefit, and that these benefits were not properly reflected by the market. In this case, a government might choose between imposing a tariff on competing imports or directly subsidizing the industry concerned. A tariff would raise the domestic price of imports and allow the protected industry's output price to rise to the same level. Domestic consumers would then have to pay the higher price. But if a subsidy were used, the domestic price would still be the duty-free import price, and the subsidy received by the domestic industry would allow it to compete with imports at world prices. Consumers would not be taxed, and the subsidy option would be regarded as the more efficient one. This is an application of the theory of optimal intervention (Johnson, 1965; Bhagwati 1971).

One issue that is not dealt with in the above example is the costs associated with financing and distributing a subsidy. It is assumed that this can be done costlessly, which will not be the case. Economic costs will still be incurred, even if taxes are levied in a non-distorting manner. Moreover, developing countries in particular may face difficult administrative hurdles in collecting revenue to be disbursed as subsidies. Similarly, identifying recipients of subsidies and implementing subsidy programmes are also not without their costs. Taken together, however, if the assumption of zero-cost subsidy collection and disbursement is removed, it will not affect the key arguments that are put forth in this Section.

A final point to be made here relevant both to this Section and other parts of this Report concerns a key distinction in terms of the incidence of two types of subsidies – export subsidies and production subsidies. Export subsidies are contingent upon exports only and will have different resource allocation and efficiency implications than production subsidies. Production subsidies apply to output regardless of its market destination, but they can also affect exports.

The rest of this Section is organized as follows. We shall first examine the welfare implications of subsidies in a world of perfect markets, a world in which subsidies can never be justified in terms of economic welfare. We shall then introduce a range of market imperfections or "failures" that correspond more to reality and see if this modifies the welfare analytics of subsidization. The market failures we consider are economies of scale and externalities. Finally, we shall examine a number of additional considerations that may influence subsidy

[30] Perfectly competitive markets exist with costless and free entry and exit by firms, homogenous products, constant returns to scale, the absence of any possibility for individual producers or consumers to affect prices, and the possession of full information on the part of consumers and producers. In practice, of course, these conditions rarely, if ever, exist.

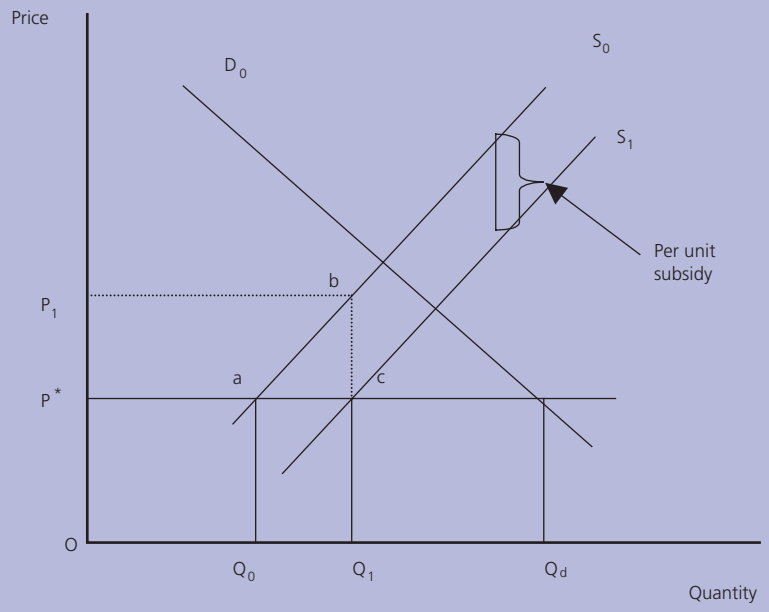
outcomes, in particular challenges facing policymakers in actually implementing sound subsidy policy, and the influence of political economy factors on subsidy decisions.

2. PERFECT MARKETS

If a market is assumed to be perfect and closed to international trade, production subsidies to firms have the effect of expanding output, reducing the price paid by consumers and creating an overall welfare loss, since resources will be allocated inefficiently. Introducing international trade into this scenario complicates matters. For example, an important distinction is whether the subsidy is granted to an import competing or export competing industry. If it is the former and assuming world prices are unaffected,[31] the end result will be an expansion in domestic output at the expense of imports (Box 2). A welfare loss arises from the application of the subsidy, since the subsidy creates a wedge between the optimal price (world price) and the actual price paid to domestic producers.

Box 2: Trade effects of production subsidies

In the diagram below domestic supply is given by S_0, domestic demand by D_0 and world price of the product is given by P^*. Since the world price is below the price that would clear the domestic market, the total quantity demanded of the product OQ_d would be satisfied by OQ_0 units of domestic production and Q_0Q_d of imports.



If the government, for political or redistributive reasons, decides that the level of domestic production should be OQ_1 instead of OQ_0, it has to then decide whether or not to use a tariff or a subsidy to expand production. If it uses a subsidy, and assuming it cannot affect world price, domestic supply will shift from S_0 to S_1 causing domestic production to expand to the desired level and imports to fall by Q_0Q_1.

Prior to the subsidy, domestic output was at point Q_0. Since additional domestic output beyond that level would cost less to source from the world market, the government will have achieved the desired level of output, but the resource implications for the economy will be negative. The additional cost to the economy is represented by the area abc.

[31] Since the country is assumed to be small, the domestic price is fixed by the world price and cannot change.

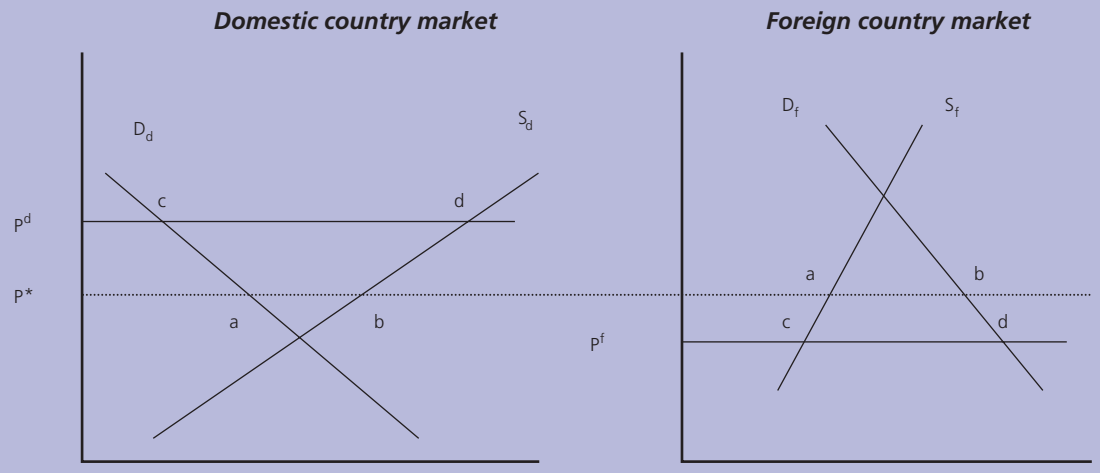
Now consider the case of an export subsidy to an industry. Both production and export subsidies may have the effect of expanding domestic output and exports. They differ, however, in their effects on domestic prices. Domestic prices are unaffected by producer subsidies but rise in the case of export subsidies if re-imports are prevented. Costs to the taxpayer in the export subsidy case will also be lower than in the production subsidy scenario since the volume of subsidised domestic consumption will be lower.[32]

With the small country assumption, therefore, the key international trade insight is that quantities adjust in response to the subsidy intervention. In the domestic production subsidy case, imports contract or exports expand, whereas in the export subsidy case exports expand. Inefficiencies arise in both cases since a portion of domestic output is determined by the subsidy-inclusive price, as opposed to the world price.

In the two cases considered above, the subsidizing country was assumed to be a price-taker in the world economy. This means that economic changes within the country will not have any impact on world prices. If this assumption is relaxed, output will still increase as in the small economy case described above. This time, however, the disequilibrium caused by the subsidies will also cause price effects in international markets. If more output is exported as a result of an export subsidy, then world prices will fall. Domestic prices, however, will rise, since some of the output will still have to be sold domestically and there is less quantity available in the market. This point is illustrated in Box 3.

Box 3: Export subsidy in a large country case

An export subsidy creates an incentive for producers to supply for export as opposed to domestic consumption. The withdrawal of supply from the domestic market causes domestic prices to rise. At the same time, since supply to the world market has increased, world prices fall. If the re-importation of goods into the domestic market from the world market is prevented, a wedge between the domestic price and the world price is created.



At the initial world price P* the level of exports from the domestic country in the above diagram is the distance ab. The world market clears because the foreign country (assumed to be the rest of the world) imports the same amount. If an export subsidy is provided to domestic producers, some of their output is diverted to the export market, increasing the price of the good at home (to P^d in the above diagram). The increase in supply on the world market, however, lowers the world price in the foreign market (to P^f in the above diagram). The new level of exports from the domestic government is the distance cd, which corresponds to the level of imports into the foreign country.

[32] This occurs because domestic prices rise with the export subsidy, causing quantity demanded to fall.

The overall impact of the export subsidy on the home country is decidedly negative. Domestic consumers pay a higher price for a product that they are blocked from sourcing at a lower price from the world market. This leads to welfare losses for consumers. Domestic producers are direct beneficiaries from the policy, since their production has expanded as a result of the subsidy.

Consumers in the foreign country benefit from lower world prices. Foreign producers, however, are net losers, since they now have to compete with the lower prices. Uncompetitive producers will be forced to exit the industry. Overall, however, the country is better off, since the increased benefit to consumers offset the loss to the producers.

A common element to both the production subsidy and export subsidy scenario when a subsidising country is large is a reduction in the world price. This will have negative and positive consequences for a subsidising country's trading partners. Producers of competing products will have to compete against the subsidised exporters at the lower price, whereas consumers of the cheaper imports will benefit. Countries that are net importers of the subsidised product, therefore, could gain overall from subsidies.

The analysis above deals with subsidies that are provided in relation to some economic activity or variable like production or export levels. Governments also frequently provide subsidies to finance wholly or partially the acquisition of fixed assets such as technology, plant, and equipment. Such subsidies may be paid only once or a limited number of times and are often referred to as non-recurring subsidies. Non-recurring subsidies can have effects on competition that go beyond the period in which the subsidy is actually provided. They tend to have the effect of increasing investment by some firms in the relevant market. As a consequence, more firms will be active in the industry or existing firms will produce at greater scale. This may have an impact on the conditions of competition in world markets. The duration of such effects on international competition depends, among other things, on the depreciation rate of the fixed asset and the evolution of demand in the years following the investment, as discussed in Grossman and Mavroidis (2003). Non-recurring subsidies play a role in the discussion below on government intervention in industries characterized by economies of scale.

3. MARKET FAILURES

In this Section the impact of subsidies is examined in market failure situations – that is, when a difference exists between the actual price and the socially optimal price. This difference can arise from a number of sources. Imperfect competition, where at least one firm can exercise control over price and output is one example. Another common example is an externality, where decisions of producers or consumers have impacts on others that are not fully reflected in market prices. In this case, if the externality is a positive one, the actual quantity produced would be less than the optimal amount. Conversely, if the externality is negative, production should be reduced, since it would be greater than the optimal level.

Two common examples of "market failures" that support the case for subsidy intervention are considered here. These are increasing returns to scale and externalities.[33] Information asymmetries in job markets, product markets and financial markets are additional examples of market failure, but are not analysed in this section.[34] Limiting the discussion to just two examples will not affect the general proposition that subsidies may be justifiable in some circumstances.

[33] Industries characterized by increasing returns to scale will typically also be characterized by imperfect competition, as discussed below.

[34] See Grossman (1990) for an overview of these arguments for intervention.

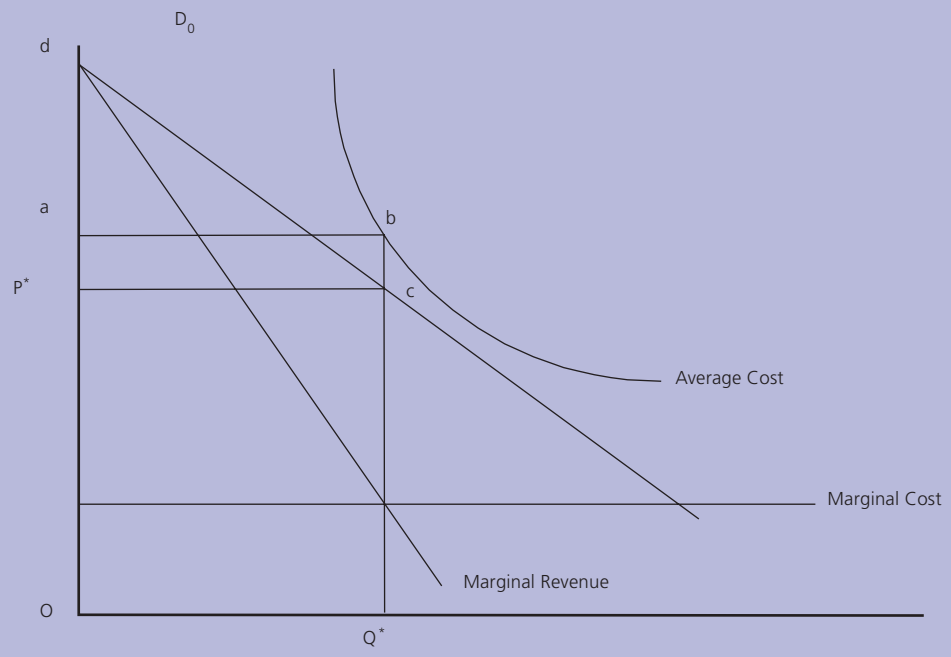
(a) Economies of scale

A salient characteristic of many modern industries is the large fixed cost of entry. Such costs may be due to significant investments in R&D or to the need for expensive and highly specialized capital equipment. Typical examples of such industries are the aircraft industry and the pharmaceutical industry. In such a set-up, average production costs decline the more units each company produces and the relevant industries are therefore referred to as decreasing cost industries or industries characterised by increasing returns to scale.

A simple example of economies of scale is where firms must incur a fixed cost in order to enter an industry, but then produce with a constant marginal cost (Box 4). The decision on whether to produce and how much to produce depends on demand. It may happen, as in Box 4, that demand is such that consumers are not willing to pay a price that is high enough for a producer to recover his initial investment. As a result, no investment and no production would take place in the absence of government intervention. Yet it may be that it would be desirable from the point of view of the society if production did take place. While producers only care about their own profits, what is good for the society depends on both producer profits and consumer welfare. Only a part of consumer well-being is reflected in what consumers actually pay for goods in the market. If a government has reasons to believe that consumer welfare which is not reflected in market prices exceeds the losses producers would suffer without a subsidy, the government may want to consider subsidizing the initial investment, thus encouraging producers to supply the relevant good. So far this is a static story that takes place in a closed economy. It becomes more interesting from the point of view of trade when these assumptions are changed. This will shall do below in relation to learning-by-doing and strategic trade policy.

Box 4: Returns to scale and subsidies

The figure below depicts a monopoly firm and is based on Grossman (1990). Without a subsidy, the firm is unable to produce profitably, since the price it would charge (P*) is below its average cost (point b). Total welfare would, by definition, be zero since no output is produced or consumed. Now suppose the government provides a subsidy to the firm of the amount P*abc. This induces the firm to produce a total amount of OQ*. Consumer welfare is the area dcP*, which in this diagram is greater than the cost of the subsidy.



(i) Learning-by-doing

Scale economies, as explained above, imply that average costs fall with increased output. Learning-by-doing internal to a firm implies that per unit production costs fall as output accumulates over time, i.e. the company learns each time it produces and average costs therefore fall over time. This particular type of economies to scale is also called "dynamic economies of scale". Evidence for the existence of such learning effects, for instance, exists for the construction of nuclear power plants and for the aircraft and semiconductor industry. Like the fixed costs associated with research and development and the capital expenditures mentioned before, learning by doing costs are irreversible.[35] The welfare analysis of production in an industry characterized by a steep learning curve is depicted in Box 3, which shows that there may be situations where a government wants to subsidize production during the early loss-making stages in order for consumers to enjoy the benefits later on.[36] Again, it depends on the relative size of consumer gains and company losses whether such an intervention would be desirable or not.

The losses made in the initial stages must be significant and the learning curve steep in order for there to be an argument in favour of government intervention. If the losses during the learning period are not too high, companies would normally be able to recover the initial investment over time. The need to learn-by-doing, however, implies that the company needs financing during the initial stages of production. It needs financing to acquire something, i.e. knowledge and experience, that will be entirely lost in case the company never manages to make profits. These types of investments are considered to be risky. While financial sectors in developed economies may be willing to provide loans for such risky investments, banks in developing countries that do not dispose of sophisticated risk management tools may be hesitant. This is why learning by doing internal to a firm has been related to the infant industry argument, i.e. the argument that nascent industries need government support in developing countries, as will be discussed in more detail in Section D. Another type of learning-by-doing also discussed in Section D is external to the firm, and this is taken up briefly below in the discussion on externalities.

(ii) Imperfect competition and strategic trade policy

In the above analysis of a domestic supplier in an industry characterized by increasing returns to scale, the possible existence of a foreign supplier was simply ignored. The question whether it could be beneficial to subsidize an industry characterized by economies of scale in the presence of foreign competitors was not examined. Not surprisingly, the answer to this question depends on the degree of competitiveness of the foreign supplier. It is theoretically possible to develop scenarios in which it would be better for an economy to subsidize a loss-making domestic producer rather than import the product, if the domestic producer is able to lower his marginal costs below those of foreign producers.[37]

Where two or more producers with large fixed costs are supplying the world market, other strategic considerations enter the picture. In such a set-up, competition will never be perfect and each producer has some market power. It may then be worthwhile for a government to subsidize such a producer even if it is not making losses. These arguments have been developed in the so-called strategic trade policy literature. Economic models developed in this literature were characterized by imperfect competition in the form of oligopoly or monopolistic competition. These models offered new insights into a possible role for trade policy. In specific terms, the intuitive inconsistency between proposing no intervention that was generated from perfectly competitive models and the existence of high fixed-cost monopolistic industries such as large civil aircraft, chemicals and autos was difficult for the policy community to accept. The new trade theory models were able to identify specific circumstances where intervention in the form of subsidies would be desirable. Intervention which alters the strategic relationship between firms can give one firm an advantage over another in imperfectly competitive markets, where each firm's commercial decisions (output and pricing) are dependent on those of its rival.

35 The economic literature refers to these costs as sunk costs.

36 Grossman (1990).

37 See, for instance, Vousden (1990).

This seductively simple idea was expressed in a model where two firms, from different countries compete in a third country market. The firms, therefore, produce only exports. As explained by Brander (1995), the government of the country where the firms are located cannot implement any policy to directly affect foreign rivals to the firms in their own country. As a result, the only natural option is to subsidize exports as long as it pays the government to do so, which as shown by Brander and Spencer (1985) turns out to be possible.

Subsidies in this model act as a profit-shifting instrument; profits earned by the competing foreign firm are transferred to the domestic firm, since the subsidy allows the domestic firm to commit to a higher level of output. The foreign firm cannot respond to the higher level of subsidized output, since an increase in its output will lower the price of the good (and its marginal revenue). The intuition behind the proposal for intervention is grounded in the positive profits earned by both firms and the ability of the government to use subsidies to shift some of the foreign firm's profits to the domestic firm. Since the profits earned by the domestic firm are higher than the subsidy, it pays for the government to implement the subsidy policy. Marrying subsidy intervention with profit-sharing, however, is not a foregone conclusion. Policy advice, as it turns out, depends upon the nature of competition and the structure of the market (Eaton and Grossman, 1986; Brander, 1995).[38] The predictions of these models tend to be sensitive to small changes in assumptions and the models typically do not take account of the possibility of counteractive behaviour on the part of the government that did not apply a subsidy.

(b) Externalities

A classic market failure is the existence of positive and negative externalities. As already noted, a positive externality exists if the benefits associated with producing and consuming an output are not fully taken into account by the producer or the consumer. In this case, the quantity consumed would be less than the socially optimal amount. On the other hand, if production or consumption is characterized by a negative externality, the equilibrium output level would be greater than that which would be socially optimal. Without government intervention a wedge would exist between the actual price in a market and the socially optimal price. Taking account of this wedge, however, is not a straightforward task and the role for subsidies, while potentially positive, is still limited. In general, a subsidy should be used to increase production or consumption of an under-produced good (Box 5).

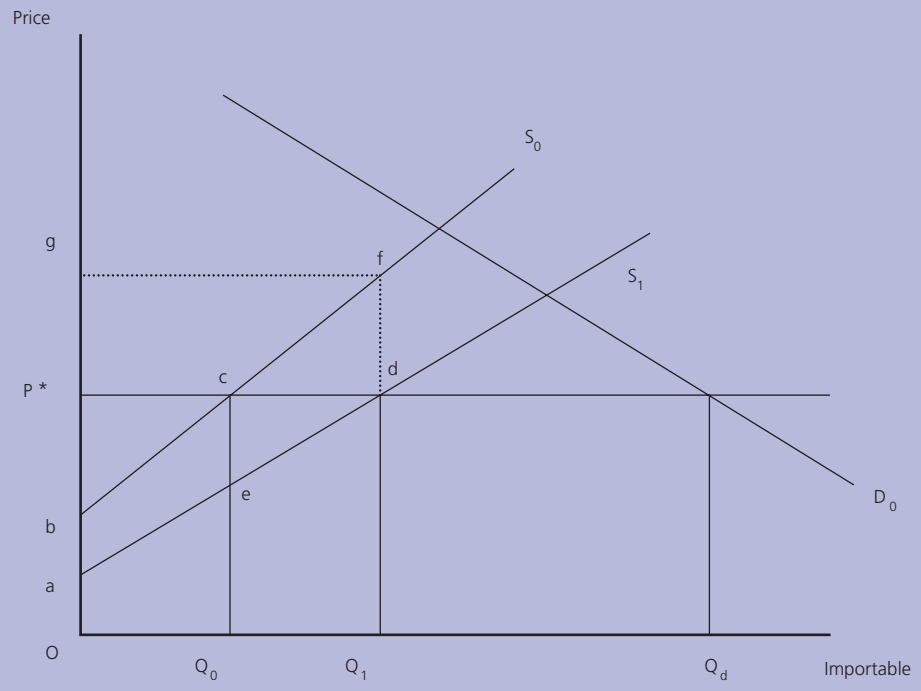
A number of arguments exist in favour of subsidy intervention in the presence of externalities. Among these are the cases involving environmental externalities and research and development (R&D) activities. For R&D the line of reasoning is that this kind of investment creates knowledge, which has public good properties – i.e. consumption of knowledge is non-rival in nature and non-excludable. But if the benefits of R&D investments spill over to others, while the costs are borne privately by those carrying out R&D, markets will not generate the socially optimal level of R&D. A government subsidy to encourage R&D that generates spillovers to other firms in the industry could help stimulate productivity and growth in a socially optimal way.

[38] In terms of the conduct of competition, if duopoly firms competing in the export market were to compete on the basis of prices, instead of quantities, the policy prescription turns out to be a negative subsidy, or a tax. The positive subsidy intervention argument also diminishes if the firms are assumed to compete in both the home and the foreign market. In this case, the effectiveness of any intervention will depend upon the ability to shift production between the various markets. If the markets are segmented and scope for differential pricing between the markets arises, then intervention maybe possible. If, however, the markets are integrated and differential pricing is not possible, intervention will not be possible (Horstmann and Markusen, 1986).

Box 5: Externalities and subsidies

In the diagram below, suppose the private domestic supply and demand curves are given, respectively, by S_0 and D_0. Consequently, with a world price of P*, equilibrium quantities produced and consumed are Q_0 and Q_d.

Now suppose that the production process is characterised by a positive externality that is not taken into account. As a result, the initial supply curve is not representative of the benefits of production. The social costs of producing each unit would be lower than what is portrayed by the supply curve S_0, which shows only the private cost. If the externalities are taken into account, the new supply curve would be S_1, which indicates a lower unit cost of production.



If the world price and the demand curve are assumed to reflect the true social costs, then the domestic production of the good at Q_0 would be less than the socially optimal level of production Q_1. The cost to society of this underproduction would be the area cde. To see this, assume a total subsidy of the amount dfgP* is provided, which expands output to Q_1. The total cost of the imports being replaced as a result of the subsidy is Q_0Q_1dc, but the total cost to society from producing the incremental output would be Q_0Q_1de. The difference is the area cde.

Therefore, if a positive externality in production exists, a production subsidy could be used to increase welfare. Again, a tariff would be inferior to a subsidy as an instrument of intervention, since it would distort consumption and increase the cost to society of producing the expanded output.

In principle, knowledge spillovers may arise not only when knowledge is created through R&D activities, but also when it derives from learning-by-doing. Learning-by-doing has been described above as a process that is internal to the firm. But it may happen that some of the experience a company gains, spills over to other companies, for instance, because employees of the first company change jobs and pass on their knowledge to their new employer. Empirical evidence of external benefits from learning-by-doing is scant, but has been found for the chemical processing industry and for the construction of nuclear power plants.[39] Aitken et al. (1997) have also found evidence for the existence of "learning-from-exporting" spillovers. The alleged existence of learning-by-doing spillovers lies behind one of the best-known variants of the so-called infant industry argument and will be discussed in more detail in Section D.

[39] Grossman (1990).

4. IMPLICATIONS FOR THE MULTILATERAL TRADING SYSTEM

A general proposition against the use of subsidies was presented in the context of a model that has little bearing on reality. This proposition was then overturned in a range of specific models and specific circumstances that better proximate reality – markets characterized by returns to scale, externalities and imperfect competition.

This ambiguity raises questions as to the desirability of a blanket ban on subsidies, since it prohibits the possibility of welfare-enhancing intervention. This view is shared by many, but not universally. The lack of universal acceptance of tolerating subsidies is grounded in three contexts –implementation issues, the political process, which grants the subsidies and the international consequences of domestic subsidies.

(a) Implementation of subsidy programs

Identifying the precise cases where intervention is socially desirable is not easy. The information requirements for appropriate interventions are extremely high, thereby making the possibility of mis-timed and mis-targeted intervention high. These implementation issues are called "government failures". So while market failures may warrant government intervention, government failures may exacerbate rather than alleviate the problem. Some of the more common examples of when subsidy intervention becomes problematic include rent-seeking on the part of beneficiaries and the political economy of the decision-making process involved in granting subsidies. In democratic societies, electoral pressures may influence the taxing and spending patterns of governments. Politicians, although professing to act in the public's interest, sometimes make decisions that are in their own self interest, for instance in order to increase the chances of re-election (Grossman and Helpman 2002, Hillman, 1989). This issue is taken up in more detail in the next Section.

Even if subsidy programmes correctly identify beneficiary industries and firms, achieving the predicted economic effect is not necessarily assured. All of the cases examined above assume that a subsidy will generate a supply response. Sometimes, however, firms may receive the subsidy, but may not necessarily use the subsidy commercially. Empirical studies confirm this hypothesis. At one extreme is the possibility that instead of using funds to finance output expansion, a firm could use the funds for a number of investment purposes that yield medium- to long-term benefits. At the other extreme lies full "pass-through" where the entire subsidy is used to develop a competitive advantage. The extent to which prices change in the subsidising industry will depend upon a number of market factors, such as the ability of a firm to affect prices.

(b) The political economy of subsidies

The political economy of subsidies deals with the central question of how the political process interacts with the heterogeneity of interests in society to allocate subsidies and determine the pace of their removal. More specifically, do the decisions of elective officials always lead to the socially optimal use of subsidies in the manner described earlier? The conclusions of a number of studies is that subsidization is correlated with the political influence of the beneficiaries (e.g. retirees and the elderly in the case of social security or middle and upper class groups in the case of educational subsidies).[40]

Much of the political economy discussion takes place against the background of a specific political environment, that of democracies, in which officials need to be elected by a majority of their constituency. The simplest political model is that of the median voter.[41] Voters are distinguished along one dimension, for example, by the economic impact of a subsidy programme. A voter can benefit from the programme if she becomes eligible to receive a subsidy. But a voter will also incur a cost because taxes need to be raised to pay for the subsidy. Clearly, those voters who are not eligible for the subsidy will only incur a cost and will not support the programme while beneficiaries of the programme will support it.

[40] These examples include export subsidies given to US wheat (Gardner, 1996), European subsidies to coal (Anderson, 1995); subsidies to education (Fernandez and Rogerson, 1994; Kemnitz, 1999); and social security spending (Mulligan and Sala-i-Martin, 2003).

[41] Also see Section D.3 on redistributive policies and the median voter.

Candidates for office win only if they get a majority of the vote. Alternatively, incumbents are able to maintain political support if they pursue policies that the majority of voters care about. Thus, whether the subsidy programme is implemented or not depends on the preferences of the median voter. If the median voter is a beneficiary of the subsidy programme, then this implies that the majority of voters are beneficiaries. In this case, politicians are able to marshal support by implementing the programme. On the other hand, if the median voter incurs a cost from the programme, this means that the majority of voters would lose out if the programme is implemented. The subsidy programme would therefore not be implemented.

Perhaps the only clear prediction that can be drawn from the median voter model is that highly targeted or specific subsidy programmes are unlikely to be implemented because only a few benefit. The median voter would be unlikely to favour such sector-specific subsidization, although she would not be averse to more general subsidy schemes, the benefits of which are more widely diffused. One can go beyond the standard median voter framework to consider more complex political environments, where voters can form coalitions (e.g. special interest groups). Special interest groups may arise because government policies can produce an uneven concentration of benefits and costs. For example, giving subsidies to an industry leads to large individual gains to the firms operating in that industry, while the costs of the subsidy programme, which are larger in aggregate (see discussion in subsection 2 above), tend to be spread over a very large number of taxpayers. These producer groups then have strong incentives to organize and use campaign contributions to try to influence the type of decisions taken by political incumbents. But because the costs of the subsidy programme to taxpayers are so diffused, there is no similar urgency on their part to organize to oppose the programme.

Grossman and Helpman (1994) develop a model in the international context where a politician's continuance in office is dependent not only on obtaining the support of the general electorate but in currying favour with special interest groups. Incumbents need financial contributions for a variety of reasons. They may need a large war chest to deter potential political rivals, or to pay for political advertising to sway uninformed voters or to retire campaign debt. Thus politicians are willing to offer trade and subsidy policies for sale. While they care about maximizing social welfare (since they need to appeal to the informed voter), they also care about the amount of financial contributions they can generate. Given the mixed incentives of politicians (a weighted average of social welfare and campaign contributions), the policies that are chosen in equilibrium will deviate from the socially optimal. Compared to free trade (the socially optimum), the prices of goods produced by lobby groups will be higher through the use of tariffs or export subsidies. In this context, the subsidies that are provided to a specific industry are not intended to correct a market failure, but to improve the economic standing of the special interest group, who in turn will reward the incumbent. While this result explains why subsidies are offered when it is not economically justifiable, it also helps explain the resistance to their removal in the domestic and international context.

(c) International consequences of domestic subsidies

Section F will take up the issue of the design and structure of multilateral rules on trade-related subsidies. However, an important point should be made here in relation to these rules. The welfare propositions spelled out in this Section have focused primarily on the impact of subsidies on the subsidizing economy. In some instances, such as export subsidies, the welfare effects on the non-subsidizing economy were also taken into account. Where the exports of a country are displaced by a foreign subsidy, producers will be negatively affected, but consumers may benefit depending upon the price effects. The only circumstance in which displacement does not occur is when the subsidizing economy is too small to affect world price. In sum, the world price effects of subsidies are crucial in the design of multilateral trade rules.

Another aspect of subsidies that has international consequences is the response by one country to the subsidy of another via various forms of remedial or offsetting action. Such action can be in the form of subsidies, countervailing duties, or a legal dispute. For example, a country that uses import substitution subsidies to offset import competition could face counteraction by an exporting country in the form of export subsidies, which would lower the price of the exporting country. Countervailing duties imposed by an importing country will tend to offset the initial subsidy in the exporting country. A legal challenge would question the legitimacy of a subsidy policy rather than resorting to an offsetting intervention. Section F considers these issues in the context of the Agreement on Subsidies and Countervailing Measures.