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International Trade: Commercial Policy

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INTERNATIONAL TRADE: COMMERCIAL POLICY*

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Abstract

Following a brief historical introduction and a discussion of different types of commercial policy, this paper reviews the arguments for and against trade protection. In the bench-mark case of a competitive, small, open economy, free trade maximizes aggregate national welfare, although some individual groups will lose unless compensation is actually paid. Guidelines for policy include the uniform reduction and "concertina" rules for tariff cuts, and the principle of targeting: corrective measures should be applied as close to the source of the "distortion" as possible. Relaxing the bench-mark assumptions allows exceptions to the case for free trade: "optimal" tariffs to manipulate world prices; "strategic" tariffs or export subsidies when home firms engage in oligopolistic competition with foreign rivals; and infant industry protection to allow home firms benefit from learning by doing. Protection can also raise the growth rate, though it is less likely to raise welfare in a growing economy. Overall, with due allowance for some ambiguity, both theoretical arguments and empirical evidence suggest a pragmatic case for free trade. Finally, the paper notes the political pressures for and against protection, and the role of international institutions such as the GATT in underpinning moves towards freer trade.

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'Commercial policy' describes any form of government intervention towards international trade. The study of commercial policy is a branch of international trade theory, itself a sub-field of microeconomics. None of this sounds likely to arouse passions, but in practice trade policy has often prompted bitterly divisive political debates and has been a central concern of domestic and foreign policy.

In the early modern period, "Mercantilist" writers rationalized the use of restrictive trade policy by expansionist monarchs to foster exports and ensure trade surpluses. David Ricardo in 1817 provided the intellectual case against this approach. His theory of trade patterns, based on specialisation according to comparative advantage (see *International Trade: Models of Trade*), predicted that no free-trading country would lose relative to autarky. This laid the foundations of the modern enthusiasm for free trade on the part of most mainstream academic economists. However, Ricardo's arguments were probably less important than the increasing ascendancy of commercial over landed interests in leading to the repeal of the U.K. Corn Laws in 1848, which ushered in an era of (mostly) falling barriers and expanding trade. Twentieth-century world wars and depression reversed this trend and were themselves influenced by trade policy: commercial and imperial rivalries contributed to the onset of the First World War, and the 1930 Smoot-Hawley tariff worsened the depression in the U.S. and hastened the collapse of world trade. Post-war attempts to restore the multilateral trading system led in 1947 to the General Agreement on Tariffs and Trade (GATT), reconstituted in 1995 as the World Trade Organisation (WTO). Under their auspices, successive rounds of trade negotiations have yielded progressive reductions in trade barriers. However, the chaotic

events inside and outside the abortive Seattle meeting in 1999, which it had been hoped would launch another trade round, showed that progress towards further liberalization will face opposition from critics of "globalization".

As this brief background makes clear, a full account of the theory and practice of trade policy would require an extensive discussion of general intellectual currents, of economic history, and of contemporary international relations. This article has the more limited objective of summarising what economic theory has to say on the topic. It begins with some necessary taxonomy and then reviews the principal theoretical arguments for and against trade restrictions.

1. Varieties of Commercial Policy

The most obvious form of commercial policy, and historically often the most important, is a *tariff*, a tax on imports which raises their domestic price above the world price, and so "protects" domestic producers, at the expense of home consumers. Confusingly, an export *subsidy* has a similar effect, raising the price of an export good to domestic producers and consumers above its world price. The two measures have opposite effects on the relative price of imports to exports, which is the basis of the Lerner symmetry theorem: a uniform tariff on all imports has exactly the same effects on relative prices as a uniform tax on all exports. Both raise the relative price of imports at home and thus discourage trade. A corollary is that trade can be liberalized either by reducing tariffs or by leaving them in place and subsidising exports: politically a more expedient route and one followed successfully by

some of the newly industrializing countries of East Asia.

Tariffs have declined in importance since the Second World War relative to non-tariff barriers, such as import quotas, "voluntary export restraints" (i.e., quotas imposed by exporting countries) and government procurement rules. Such policies are qualitatively similar to tariffs in their protective effects, though the conditions for exact equivalence rarely hold. Finally, most domestic policies (taxes, subsidies, health and safety regulations, etc.), even if not explicitly discriminatory, have external repercussions. Though not strictly forms of commercial policy, their effects are increasingly recognized in trade negotiations.

Constructing a true measure of trade policy is an index-number problem: how to aggregate all these different types of trade restriction into a single measure which is comparable across countries and across time. Solutions in principle to it have been devised, but implementing them in practice is extremely difficult. In applied work, levels of protection are usually measured by trade-weighted average tariffs and, even less satisfactorily, by "coverage ratios", the percentage of traded commodities which are subject to non-tariff barriers.

This article considers only the case where commercial policy applies indiscriminately to imports from whatever source. The desirability of this is enshrined in Article I of the GATT, which requires that all trading partners be treated as favourably as the "most-favoured nation". However, Article XXIV allows exceptions for regional trade agreements, which have grown in importance in recent years with the widening and deepening of the European Union and the signing of the North American Free Trade Agreement. For further details, see *International Trade: Economic Integration*. The GATT also tolerates tariffs imposed on

exporters found guilty of "dumping" - selling below cost or below the price charged in their home market. Such "anti-dumping" tariffs are an important form of protection in the contemporary world economy: even the threat of imposing them can deter foreign exporters.

2. Trade Policy in a Competitive Small Open Economy

Devising criteria for trade policy which will hold universally is a daunting task, and it makes sense to begin with a simple bench-mark case. The Classical starting point is an economy which is competitive - individual consumers and firms cannot affect domestic prices - and small - the economy as a whole cannot affect world prices. Free trade must then maximize real national income, since it removes the constraint requiring an exact match between domestic production and consumption patterns. Specialisation in production increases the value of aggregate output at world prices, while consumers benefit by being able to buy from the cheapest supplier worldwide.

However, individuals are both consumers and income recipients, and aggregate gains can mask big shifts in internal income distribution. The near-certainty that there will be some losers is implied by the Stolper-Samuelson theorem. This was originally formulated for a special model, where it predicts that protection will raise real wages (so trade liberalisation will lower them) if imports use labor relatively intensively. More generally, the logic of the theorem implies that there are almost always some factor-owners who will lose from a reduction in trade barriers. Most obviously, this will be true of factors which are specific (even if only in the short run) to import-competing sectors.

Losers notwithstanding, the existence of national gains from trade ensures that "aggregate welfare" must rise, meaning that it would be possible to tax some of the winners' gains, compensate the losers, and still leave no one worse off. Free trade is thus the archetype of a situation which is potentially Pareto-efficient or simply "efficient" (confusingly, the term has a more precise sense than in common parlance). The same result holds even if the government has limited taxing and spending powers, and can only redistribute income through changes in commodity (or "indirect") taxes. Of course, all this is poor consolation for the losers if the compensation is not actually carried out. Nonetheless, trade theorists tend to emphasise the efficiency gains; and prefer to try and devise programs of adjustment assistance to help those adversely affected rather than to recommend foregoing the national gains. In this they are motivated by professional division of labour (losses to particular groups mandate changes in the tax and social welfare system, not protection), and a belief that the poor rarely gain from highly restricted trade, rather than heartlessness. For the same reasons, the remainder of this survey concentrates on the effects of trade liberalization on aggregate welfare, and will not repeat these essential qualifications about its distributional consequences.

Even though the case for free trade is clear, the best way to move towards it may not be (except in the trivial case where there is only a single tariff). Abolishing all tariffs at once is unlikely to be politically feasible. Two rules of piecemeal trade liberalization are then available. The first is the uniform reduction rule: reduce all tariffs by an equiproportionate amount. Heuristically, this kind of reform leaves relative tariff rates unchanged, so it is "as if" there is only a single tariff rate, which is steadily reduced. Hence it is not surprising that (pathological cases apart) it guarantees a welfare improvement. The second is the concertina rule: reduce the highest tariff rate. A sufficient condition for this to raise welfare is that the

good in question is a substitute for all other goods subject to tariffs. Substitutability is not necessary, however. For example, if all goods subject to tariffs are complements for each other, then a reduction in any tariff (not just the highest) raises imports of all tariff-constrained goods and a welfare gain is again assured. Finally, the concertina rule does not justify increasing the lowest tariff, unless all exports are subsidised at higher rates: only raising the lowest *distortion* guarantees a welfare gain.

This discussion illustrates the distinction between "first-best" and "second-best" welfare economics. Policy recommendations are more complicated in the latter case, when some pre-existing distortions cannot be abolished. Nevertheless, a general principle applies: activities which from a welfare perspective are under-supplied in the absence of intervention should be encouraged, and *vice versa*. A related rule of thumb with many useful applications in practical policy-making is the principle of targeting: intervention should be applied as closely as possible to the desired target, whether this is to offset an irremovable distortion or to attain a "non-economic" objective (such as restricting imports of certain types of goods, or protecting industries deemed essential to cultural independence or national security). From this perspective, trade policy is rarely a first-best instrument. For example, if there is a minimum wage in the import-competing sector, protection may raise welfare because it partially offsets the minimum wage. But other forms of intervention, such as employment or production subsidies, would have the same effect at lower welfare cost.

3. Trade Policy in a Large Open Economy

Relaxing the assumption that the economy is "small" admits a specifically economic argument for protection which was clearly stated by Bickerdike in 1906. Reducing home demand for imports now lowers their world price, improving the home country's terms of trade (i.e., reducing the price of imports relative to exports) and yielding a welfare gain. The optimal tariff is the tariff which just balances this gain from manipulating the world price against the loss from trading at a different price from the rest of the world. A corollary is that, if a country is a major supplier of a good, and if local producers are competitive, an export tax can improve national welfare. In effect, the home government acts as a monopolist: a role which uncoordinated private producers cannot adopt by themselves. It should be stressed that these policies are only optimal from a national point of view (which explains why some authors prefer the term "exploitative" to "optimal"). World welfare definitely falls, though once again transfers, this time international, would be needed to compensate losers from universal free trade.

In practice, very few if any individual countries have a major influence on world prices. Cases where a group of countries acting together would have such power are more common, especially producers of primary commodities with few close substitutes. Hence the tendency for cartels and commodity price agreements in such markets. However, such groupings are typically unstable, since each member has an incentive to "free-ride" on its partners' output restrictions. The Organization of Petroleum Exporting Countries (OPEC) is the outstanding counter-example and is probably best explained by a dominant firm model, where one large producer with very low marginal production costs (Saudi Arabia) in effect sets the price, and a "competitive fringe" of other oil-producing countries (whether OPEC members or not) adjusts its outputs accordingly.

4. Trade Policy with Economies of Scale and Imperfectly Competitive Markets

The arguments reviewed so far assume that firms are perfectly competitive and produce in equilibrium with constant returns to scale. A great deal of research in recent years has relaxed these assumptions and explored the implications for trade policy.

A useful starting point is the case of Marshallian "external economies": individual firms lack market power but expansion of the industry as a whole lowers costs for all. This isolates the implications of increasing returns, while retaining the assumptions of perfect competition. In such markets, industries which enjoy significant economies of scale are likely to concentrate in large countries under free trade. However, this need not justify protection by small countries, since this would condemn them to high-cost local production and to foregoing the gains from participating in the international division of labour. It is only medium-size countries which are likely to lose from free trade by specialising in the "wrong" commodities. Even for them the principle of targeting continues to apply: production subsidies rather than tariffs are the optimal policy.

Relaxing the assumption that firms are perfectly competitive complicates matters considerably, since there are many varieties of imperfect competition. It is convenient to distinguish between two: monopolistic competition and oligopoly. To begin with the former, it resembles perfect competition in two important respects: individual firms are too small to influence their rivals; and they enter or leave the industry in response to profit opportunities, so that in equilibrium profits are zero. The key distinguishing features are that firms enjoy economies

of scale and that each produces a distinct variety. This in turn reflects consumers' tastes, which exhibit a preference for diversity. In this kind of economy, restricting trade has an additional harmful effect: it reduces the range of choice available to consumers. Policy choice is complicated because the free market may lead to more or less varieties being produced than the social optimum. However, the principle of targeting continues to apply: provided anti-trust measures are used if necessary to ensure an optimal number of domestic firms, free trade remains desirable.

A different set of issues arises in the case of oligopoly, where there are barriers to entry and a relatively small number of firms. Since firms perceive that they are interdependent, they behave "strategically", taking into account the reactions of their rivals. In such markets, there may be scope for governments to intervene in favour of home firms, an idea which has come to be known as the theory of strategic trade policy.

The key insight is that, if a home and a foreign firm make their decisions simultaneously, the home firm cannot credibly commit to a level of output which would maximise home welfare conditional only on the behaviour of the foreign firm. By contrast, the home government is assumed to be able to credibly commit to policies before both firms take their decisions. Hence there is scope for the home government to make the commitment on behalf of the home firm. In the simplest example, where a single home firm competes against a single foreign firm in a third market, the implications are dramatic. The optimal policy for the home government is to provide a positive export subsidy. This allows the home firm to credibly commit to more aggressive behaviour, raising its output, market share and profits at the expense of its foreign rival. This "profit shifting" result seems to provide a rationale for the

support of "national champions". Similar results apply to import-competing firms: tariffs may serve to raise welfare by shifting profits from foreign to home firms.

However, the profit-shifting argument turns out to be subject to many qualifications. The underlying model assumes that firms compete in the market-place by choosing their outputs, taking the output choices of their rivals as given (i.e., that firms engage in Cournot competition). This sort of behaviour is plausible when technology requires firms to commit in advance to their capacity output levels. If instead output can be varied with little change in marginal cost, then firms are more plausibly modeled as price-setters (engaging in Bertrand competition). In that case, firms behave more aggressively in the absence of intervention, and the optimal policy is an export *tax* rather than a subsidy. The rationale for intervention is the same in the two cases: the home government uses its superior commitment power to achieve an outcome which the domestic firm cannot achieve on its own. However, the practical relevance of the theory is reduced by the sensitivity of the actual policy prescription to assumptions about how firms behave. One slight defense of intervention comes from recent research, which suggests that the ambiguity is reduced when subsidies are given to pre-production variables such as R&D or marketing expenditures rather than directly to exports.

Other criticisms of strategic trade policy are that with many home firms there is a countervailing incentive to tax them (just as in the competitive large open economy case of Section 3); that the gains from intervention are more than offset if foreign governments also subsidise their own firms (see Section 6); and that general-equilibrium interactions with the rest of the economy are ignored. For example, if applied to a number of sectors, all of whom draw on a limited supply of some factor of production (such as skilled labour), an export

subsidisation policy merely raises the wages of that factor with little or no effect on the pattern of output or the level of national welfare. For these and other reasons, attempts to quantify the likely gains from strategic trade policy suggest that they are very small at best. However, the gains could be much larger if subsidies made it possible for a home firm to compete in the first place, especially if the alternative was domination of the world market by a foreign monopoly. (The huge subsidies to Airbus by European governments are often justified on these grounds.)

A final issue which arises when markets are imperfectly competitive is that trade policy can itself affect the degree of competition. With price in excess of marginal cost, firms are producing below their optimal scale. Hence any policy, including protection, which raises domestic output may increase welfare. However, as noted in Sect. 2, protection is not the best form of intervention. Exposing home firms to foreign competition is likely to be more effective, reducing prices to consumers and allowing any surviving home firms to produce at a more efficient scale.

5. Trade Policy and Growth

To assess the effects of trade policy in a growing economy, all the issues discussed in previous sections remain relevant, and some new ones arise. Until recent years, the standard approach to modelling economic growth was the neoclassical model of exogenous growth due to Solow. In that framework, the long-run or steady-state rate of growth is determined by exogenous rates of population growth and technological progress. Hence, trade policy cannot

affect the steady-state growth rate, though it may affect the rate at which the steady state is approached.

More recently, attempts have been made to provide endogenous explanations for economic growth. These stress the importance of resources devoted to research and development (R&D), both in encouraging technological innovations and in facilitating the introduction of new and higher-quality products. They also emphasise the importance of externalities, as the benefits of R&D typically cannot be fully appropriated. This has immediate implications for trade policy. For example, if a sector of the economy is disproportionately engaged in R&D, protecting that sector will raise the long-run growth rate. These arguments are related to an older, "infant-industry" argument, which defends transitional protection to enable a new firm to benefit from learning-by-doing and scale economies. For such firms, a tariff, by guaranteeing higher home sales, may allow a firm to compete in export markets.

Once again, the principle of targeting must be mentioned. At best, these arguments justify production or R&D subsidies: since the industries involved are likely to be oligopolistic, they provide a case for strategic industrial rather than trade policy. Many of the qualifications noted in Sect. 4 continue to apply. Success is more likely to come from general policies which foster a culture of innovation and enterprise, rather than specific interventions which seek to "pick winners". A final caution is that, even when income distribution and externalities are ignored, GNP per head is not the same as welfare in a growing economy. Policies which raise the growth rate in the short or long term may do so at the expense of current consumption.

Given the theoretical ambiguities surrounding the effects of trade policy on growth, it is hardly surprising that empirical studies have failed to find a conclusive link between trade and growth. Some authors have shown that various measures of "openness" can explain the relative growth performance of different countries, but such measures are not directly related to trade policy. The case against modest restrictions on trade is not proven. Nevertheless there are strong theoretical and empirical reasons for believing that countries, especially those with small home markets, which close themselves off from international movements of goods, factors and ideas, are likely to have lower levels of welfare and growth.

6. Institutions, Politics and Trade Policy

The discussion so far has confined attention to the case of trade policy which is set unilaterally by a single country. It has also adopted an exclusively "welfarist" perspective in evaluating trade policy: the practical relevance of this is questionable unless decisions on trade policy are devolved to public-spirited bureaucrats. A variety of approaches have been taken to relaxing these assumptions. While much remains to be done, recent research has thrown light on the political pressures for and against protection, and on the role of international institutions such as the GATT in underpinning moves towards freer trade.

Many of the potential gains from unilateral intervention identified earlier must be qualified when it is recognised that foreign governments face similar incentives. Though often described as "retaliation", this phenomenon is usually modelled by viewing governments as players in a simultaneous-move game, often assuming only two countries for simplicity. The

effects on welfare in the cases of optimal tariffs (from Sect. 3) and optimal export subsidies to Cournot firms (from Sect. 4) are similar: at least one country must lose relative to free trade and both may lose. The latter outcome (which must ensue if the countries are relatively similar) illustrates a "prisoner's dilemma": unless the countries explicitly cooperate on free trade, each has an incentive to adopt an interventionist policy and the result is lower welfare for both. The case of optimal export taxes on Bertrand firms is different: now, both countries may gain relative to free trade (though only at the expense of consumers). Nevertheless, it exhibits a feature that holds in all cases: cooperation between governments leads to higher welfare than non-cooperative choice of trade policy.

With or without international cooperation, all the theories of trade policy discussed so far are normative, assuming that national welfare is the primary policy objective. Hence they fail to explain why governments so frequently restrict trade by more than the welfare-maximising extent. In response, the burgeoning field of political economy has proposed a variety of positive explanations for the pattern and prevalence of trade policy. It may be determined by spending on "rent-seeking" by factors of production for protection of the sectors which use them intensively (or, in the limiting case of immobile factors, exclusively). It may be determined by direct voting on tariff rates, in which case the rate chosen will reflect the factor ownership of the median voter. Finally, it may be the outcome of campaign contributions to politicians by lobby groups, whether to increase the probability of their preferred party being elected, or to influence the policies of an incumbent government.

All these theories rely on special assumptions about the nature of the political system (often assuming that politicians seek to maximise some weighted average of welfare and political

support) and the manner in which individual preferences influence political decisions. They also assume that trade policy is used for redistributive purposes, and for the most part they allow no role for other forms of public policy. They are therefore vulnerable to the criticism that they fail to explain satisfactorily why trade policy is the preferred instrument, when more efficient methods of redistributing income are available.

Finally, just as the widespread use of trade policy is a puzzle, so also is the steady trend towards greater liberalisation in the period since the Second World War. It can be explained by shifts in prevailing ideology, combined with the superior economic and political performance of those countries which were first to move towards open markets. But economic explanations have also been proposed. To the extent that trade is intra- rather than inter-industry (which appears to be the case for much trade between developed countries), trade liberalisation imposes lower costs of adjustment and so has less distributional impact. The GATT can be rationalised as a mechanism for implementing the international transfers needed to compensate countries for foregoing nationally optimal tariffs which would lower world welfare. And free-trade agreements of all kinds may serve as a commitment device: a government has an incentive to join them because they provide a way to credibly distance itself from the domestic pressure groups which lobby for protection.

7. Conclusions

In the bench-mark case of a competitive, small, open economy, free trade must raise aggregate national welfare, although some individual groups will lose unless compensation

is actually paid. Relaxing the bench-mark assumptions allows exceptions to the case for free trade: "optimal" tariffs to manipulate world prices; "strategic" tariffs or export subsidies when home firms engage in oligopolistic competition with foreign rivals; and infant industry protection to allow home firms benefit from learning by doing. Protection can also raise the growth rate, though it is less likely to raise welfare in a growing economy. All these possible arguments for protection are subject to many qualifications. Moreover, on closer examination, most economic arguments for protection turn out instead to be arguments against *laissez faire*, and so must be qualified by the principle of targeting: corrective measures should be applied as close to the source of the "distortion" as possible, suggesting that other forms of intervention (such as R&D or production subsidies) are preferable to trade protection in most cases. Overall, with due allowance for some ambiguity, both theoretical arguments and empirical evidence suggest a pragmatic case for free trade.

Suggestions for Further Reading

Bhagwati (1988) and Irwin (1996) provide contemporary and historical background. Bhagwati (1971), Corden (1974) and Dixit (1985) give overviews of the theory of trade and welfare, using mainly prose, diagrams and algebra respectively. More recent updates are given in the contributions to Grossman and Rogoff (1995): see especially the chapters by Brander on strategic trade policy, Feenstra on estimating the effects of trade policy, Grossman and Helpman on technology and trade, Rodrik on political economy and Staiger on rules and institutions for international trade. For more details and further references on particular topics, see Anderson (1992) on dumping and anti-dumping; Anderson and Neary (1996) on

index numbers of trade restrictiveness; Bagwell and Staiger (1999) on the GATT; Dixit and Norman (1980), especially Sects. 3.2 (on redistribution through commodity taxation), 9.1 (on trade and competition), and 9.3 (on product differentiation and intra-industry trade); Ethier (1982) on trade policy under increasing returns; Grossman and Helpman (1991) on trade policy and growth; Krugman (1984) on import protection as export promotion; Neary (1995) on tariffs and quotas; Neary and Leahy (2000) on strategic trade and industrial policy; and Rodriguez and Rodrik (1999) on empirical studies of trade policy and growth. Among the many important topics not covered are effective protection (see Ethier (1977)) and the interaction of trade and environmental policy (see Neary (2001)).

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