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Review of Australia's General Tariff Arrangements

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Summary

The classical case for free trade is based on the idea of comparative advantage. The fact that trade is mutually beneficial implies that Australians will be made better off by taking advantage of all available trading opportunities, even if others fail to do so. Hence, there is a *prima facie* case for a unilateral move to free trade.

Although the theory of comparative advantage provides a case in favour of free trade, it also implies that the benefits of a move to free trade will be relatively small. Some attention has therefore been focused on arguments about 'dynamic' gains from trade, which are claimed to be large.

The main arguments against a move to free trade have been

- (i) static arguments based on optimal tariff theory;
- (ii) second-best arguments based on the existence of other distortions in the economy;
- (iii) distributional arguments based on the adverse effects of tariff reductions on low-income workers; and
- (iv) dynamic arguments based on the benefits of interventionist industry policy.

The static comparative advantage model yields the conclusion that if the standard assumptions are exactly satisfied, the optimal tariff is exactly zero. By contrast, dynamic arguments do not yield a case for the optimality of zero tariffs. The static neoclassical model yields the estimate that a move from a 5 per cent uniform tariff to zero yields benefits equal to approximately 0.01 per cent of GDP. This is equal to about \$60 million/year (\$3 per person per year) or about 1 days' economic growth. So, if a decision to hold the tariff at 5 per cent avoided adjustment costs to the extent of permitting two days of normal growth in place of two days of zero growth, it would be beneficial. It seems likely that adjustment costs will outweigh any static efficiency benefits.

The analysis so far has taken no account of exchange rates. However, the effective level of protection received by an industry depends on the interaction of tariffs and exchange rates. there have been frequent occasions on which short-term

interest rates in Australia have been held at levels higher than those in the rest of the world, in part because of the reduction in inflationary pressure associated with the maintenance of an overvalued exchange rate (that is, an exchange rate in excess of purchasing power parity).

The effect of a deviation from purchasing power parity is similar to that of a (positive or negative) combined tariff and export subsidy. If the real exchange rate is lower (higher) than that consistent with purchasing power parity, exporters and import-competing industries benefit (suffer).

From the viewpoint of a risk-averse import-competing firm, the existence of a tariff offsets risk resulting from deviations of the real exchange rate from purchasing power parity. Hence, the tariff may be said to constitute a buffer against exchange rate uncertainty.

Review of Australia's General Tariff Arrangements

This paper has been prepared as part of a submission by the Australian Industries Group to the Review of Australia's General Tariff Arrangements being undertaken by the Productivity Commission.

The paper begins with a review of the case for free trade, including classical comparative advantage arguments, arguments about the dynamic benefits of free trade. Criticisms of these static and dynamic arguments are then considered. This material provides a background for considering the question of whether, assuming that the balance of the argument is in favour of free trade, there is any particular merit in going to a zero tariff. It is argued that the welfare benefits of changing tariff rates from 5 per cent to zero are quite small, while the adjustment costs may be substantial. The final section of the paper deals with the literature on exchange rate uncertainty and optimal tariffs, and concludes that moderate tariffs provide a buffer against exchange rate uncertainty.

Review of the case for free trade

The classical case for free trade is based on the idea of comparative advantage. The fact that trade is mutually beneficial implies that Australians will be made better off by taking advantage of all available trading opportunities, even if others fail to do so. Hence, there is a *prima facie* case for a unilateral move to free trade.

Assuming Australia is a small country, that is, we face perfectly elastic demand for and supply of traded goods, we can take the international prices as given without worrying about how they are determined. Assuming that the Australian economy is perfectly competitive and fully employed, that there are no externalities or other market failures, and that lump sum redistribution is feasible, a potential Pareto improvement arises when the economy shifts from tariff protection to free trade. Problems with these assumptions are discussed below.

Dynamic arguments

Although the theory of comparative advantage provides a case in favour of free trade, it also implies that the benefits of a move to free trade will be relatively small. Some attention has therefore been focused on arguments about 'dynamic' gains from trade, which are claimed to be large.

As an example of the dynamic gains argument, it is frequently suggested that protection made Australian firms inward looking and complacent. Until recently, it was suggested that under free trade, competition from imports would make firms 'lean, mean and efficient', and

that an outward-looking, export-oriented economy would yield dynamic benefits associated with the growth of the Asian region. When Asian growth rates collapsed in the late 1980s, it was claimed that previous tariff reductions had made the economy more flexible and therefore able to withstand the effects of adverse external shocks.

The weakness of these arguments may be seen by comparing the experience of Australia and New Zealand, which pursued similar policies of tariff reform, but very different monetary and exchange rate policies. New Zealand used high interest rates to avoid a depreciation of the currency, and experienced a recession. Australia kept interest rates low, allowed the \$A to depreciate against the \$US (there was only a modest depreciation in trade-weighted terms) and maintained strong growth. It was macroeconomic policy, not microeconomic reform, that was decisive.

This example illustrates the more general point that the effects of tariffs cannot be considered in isolation. The terms of trade faced by import-competing industries depend on the interaction between tariffs and exchange rates.

Arguments against free trade

The classical case for free trade is based on the assumptions that the economy is perfectly competitive and fully employed, that there are no externalities or other market failures, and that the country is a price-taker in international markets. This list of assumptions gives rise to many criticisms of the standard case for free trade. The Australian economy is neither perfectly competitive nor fully employed, and for some goods, such as wool,

Australian production has a significant effect on the world price. Moreover since lump sum redistribution is not feasible, changes in trade policy will, in general, make some groups in the community better off and others worse off.

The main arguments against a move to free trade have been

- (i) static arguments based on optimal tariff theory;
- (ii) second-best arguments based on the existence of other distortions in the economy;
- (iii) distributional arguments based on the adverse effects of tariff reductions on low-income workers; and
- (iv) dynamic arguments based on the benefits of interventionist industry policy. Each of these issues has been debated at length.

The most common response of advocates of free trade has been to argue that, to the extent that these arguments are valid, alternative instruments will achieve the same benefits with efficiency costs less than those of tariff protection. For example, it may be argued that labour market policies will promote employment goals more effectively than tariff protection. This argument becomes steadily less compelling as the tariff rate approaches zero and the associated efficiency costs become small.

Is zero the optimal tariff ?

The static comparative advantage model yields the conclusion that if the standard assumptions are exactly satisfied, the optimal tariff is exactly zero. By contrast, dynamic arguments do not yield a case for the optimality of zero tariffs. For example, the argument about the benefits of competition from imports appears to imply that even better results would be obtained if

tariffs were replaced by import subsidies, yielding negative effective protection. Similarly, a belief in the virtues of an 'outward looking' orientation appears to suggest a strong case for subsidising exports.

Since advocates of dynamic arguments for tariff reductions rarely follow these arguments through to their logical conclusion, it seems reasonable to infer that dynamic arguments are being advanced to support a predetermined policy stance in favour of zero tariffs, rather than being used to determine appropriate policies. Moreover, since many dynamic arguments (for example those derived from endogenous growth theory) favour support for selected manufacturing industries, it is highly unlikely that a policy analysis based on dynamic arguments will yield the conclusion that zero tariffs are optimal, or will provide a firm basis for cutting existing tariffs.

Returning to the static comparative advantage model, few advocates of freer trade would claim that the assumptions of the model are exactly satisfied. Rather, it is usually suggested that deviations from the standard assumptions are not very important, and that considerations such as the possibility of retaliation make it unwise to impose substantial tariffs even if an initial analysis suggests that such tariffs are optimal. Whatever the force of such arguments, they do not restore the validity of the claim that zero tariffs are optimal. This claim is valid only if the benefits of moving from a low tariff rate to zero exceed the costs. An assessment of this issue requires a comparison of the welfare costs of tariff protection with the adjustment costs of changes in tariff rates.

The welfare costs of tariff protection

We can derive approximate estimates of the aggregate efficiency loss due to tariffs using the welfare triangle method (Harberger.1964) The welfare loss from a tariff, expressed as a proportion of total output, may be approximated by $1/2(\epsilon + \eta)t^2$, where ϵ and η are the elasticities of demand and supply and t is the tariff rate.

This reasoning permits us to make a 'back of the envelope' estimate of the cost to the economy, expressed as a percentage of GDP, of a uniform tariff on manufactured imports. Suppose the aggregate supply elasticities for manufactures is 2 (consistent with the evidence in the AIG survey), the demand elasticity is 1 and that value-added in import-competing manufacturing makes up 10 per cent of GDP. Then the welfare cost of a 5 per cent tariff, expressed as a proportion of GDP is approximately

$$\Delta/\text{GDP} = 0.5 \cdot (2+1) \cdot 0.1 \cdot (0.05)^2 = 0.000375$$

That is, the estimated welfare loss is approximately 0.04 per cent of GDP. This is equal to about \$190 million/year (\$9 per person per year) or about 3 days' economic growth. So, if a decision to hold the tariff at 5 per cent avoided adjustment costs to the extent of permitting one week of normal growth in place of two days of zero growth, it would be beneficial.

Adjustment costs

There are few precise estimates of the adjustment costs associated with tariff reductions, but there is little doubt that they are positive and that they are not fully offset by benefits to other sectors of the economy. The critical issue is the net loss of labour resources to the economy through increases in overt or hidden unemployment.

Evidence about the impact of large scale retrenchments, reported in Industry Commission (1996), suggests that around 50 per cent of retrenched workers remain unemployed or out of the labour force after three years, suggesting that a substantial proportion have effectively been lost to the economy. Against this must be set the impact on long term unemployment of those industries that expand as a result of tariff cuts.

It seems reasonable to suppose that the adjustment costs to the economy will be greater the more rapid the pace of adjustment. Where employment in the protected sector (manufacturing) is in any case contracting as a result of technological change the effect of tariff reform is simply to hasten the pace of adjustment, and therefore, probably, to raise the level of adjustment costs.

The order of magnitude of adjustment costs sufficient to outweigh the efficiency benefits of a move from 5 per cent protection to zero may be illustrated by the following example. Suppose that the elasticity of supply in the import-competing manufacturing sector is 2 and that 1000000 workers are employed in the sector. Then the tariff cut will displace 100 000 employees. Suppose that these employees earn an average of \$30 000 per year, that 50 per cent of them withdraw from the labour force, and that the job loss in formerly protected industries is offset by the creation of 70 000 jobs elsewhere in the economy of which 20 000 go to workers previously long term unemployed or out of the labour force. Then there is a net loss of 30 000 workers or \$900 million per year in wage income (assuming involuntary leisure is valued at zero). On any plausible pattern of discounting, these adjustment costs will outweigh the static efficiency benefits of a move to 5 per cent tariffs.

This calculation does not take account of adjustment costs incurred by firms (bankruptcy, restructuring and so on) or by workers whose job loss is only temporary.

Efficiency gains and transfers

An alternative way of assessing the importance of adjustment costs is to compare the relative magnitude of the efficiency gains and wealth transfers associated with the equilibrium effects of a policy change. The larger are the wealth transfers relative to the efficiency gains the greater is the likelihood that adjustment costs will outweigh efficiency benefits.

The magnitude of the wealth transfers associated with a tariff is a linear function of the tariff rate, while the efficiency benefits are a quadratic function of the tariff rate. This means that the ratio of wealth transfers to efficiency benefits increases steadily as the tariff rate approaches zero. If the initial tariff rate is near zero, changes in the rate act primarily to redistribute income, since efficiency gains are small in comparison to transfers.

Public choice arguments

One argument put forward by advocates of a zero tariff is derived from the theory of public choice, which rests on the assumption that policies are determined, not by considerations of public welfare, but by the relative strength of lobby groups. It is argued that, if tariffs are eliminated altogether, the lobby groups supporting tariffs will be weakened or eliminated, thereby reducing the likelihood of a return to high tariffs.

The empirical evidence does not support this argument. The most important case of a nation adopting a zero-tariff policy is that of Britain, which eliminated its last tariffs (apart from revenue tariffs matched by domestic excise duties) in 1874, having moved to a low-tariff policy with the repeal of the Corn Laws in 1849. In 1903, the tariff debate was reopened with the foundation of the Tariff Reform League by Joseph Chamberlain, and by 1931 Britain had returned to a strongly protectionist policy.

In any case, arguments of this kind have no place in the deliberations of a Public Inquiry. The process of public inquiry is designed to enhance the role of rational debate as against lobbying, not to advise governments on how to manipulate lobby groups, weakening some and strengthening others.

Exchange rate uncertainty and optimal tariffs

The analysis so far has taken no account of exchange rates. However, the effective level of protection received by an industry depends on the interaction of tariffs and exchange rates. There has been a good deal of debate over the question of whether tariffs represent a buffer, offsetting exchange rate uncertainty.

A survey of the literature

At the time of the first rigorous development of general equilibrium theory, Arrow (1954) and Debreu (1954) showed how uncertainty could be incorporated in a general equilibrium model. Having already considered goods differentiated by time and place of delivery, Arrow and Debreu proposed modelling uncertainty in terms of a set of possible states of nature

and considering goods differentiated by the state of nature in which they were produced.

The key insight of Arrow and Debreu was that the basic logic of competitive equilibrium is unchanged as a result of the introduction of uncertainty. Provided there exist competitive markets for every state-contingent commodity a competitive equilibrium will exist and will be Pareto-optimal. If, in addition, wealth can be costlessly transferred between individuals, then any social optimum can be achieved simply by undertaking appropriate wealth transfers and allowing the competitive equilibrium to emerge. Under these assumptions, interventions such as tariffs are always suboptimal.

However, as Arrow stressed, the number of markets required to guarantee the optimality of competitive equilibrium under uncertainty may be immense, including markets for insurance against every possible eventuality a firm may face, contingent markets for every possible factor affecting demand for exports and supply of imports and so on. Hence, Arrow suggested, the absence of sufficient markets for risk management is likely to provide the rationale for many forms of investment.

The Arrow-Debreu model was applied to the problem of trade policy by Helpman and Razin (1978, 1980). Helpman and Razin assumed the existence of a complete set of state-contingent markets and derived the result that in this case, if the other assumptions noted above remain valid, free trade remains the optimal policy. The main interest of Helpman and Razin was in considering the optimal choice of policy instrument assuming that it was desired, for some political or second-best reason, to protect a

particular sector. This issue was examined further by Anderson and Young (1982) and Eldor (1986).

The argument that, in the absence of perfect markets, tariffs might be an optimal, or at least a welfare-improving policy was clarified in the debate between Jabara and Thompson (1982, 1985) and Grossman (1985). Jabara and Thompson (1982) presented a range of arguments to support the view that tariffs were an appropriate response to uncertainty about exchange rates and the terms of trade, and that the adoption of such policies by developing countries was justifiable. Grossman restated the argument of Helpman and Razin that free trade would be the optimal policy in the presence of complete state-contingent markets and showed how, in the absence of complete markets, tariffs might improve welfare. However, consistent with the general Arrow-Debreu analysis, Grossman observed that direct redistribution of endowments would in general be superior to tariffs.

In response, Jabara and Thompson (1985) observed that governments in less developed countries might not have the revenue to implement alternatives to tariffs of the kind proposed by Grossman. A more general version of this argument is presented by Quiggin (1995). Whenever direct redistribution is costly, the optimal policy is not to rely entirely on redistributive policies but to employ interventions such as tariffs up to the point where the marginal cost of those interventions is equal to the marginal cost of achieving the same outcome through additional direct redistribution.

A further development of the debate on trade policy under uncertainty arose from consideration of the idea of strategic trade policy. Although the initial models of strategic trade policy (Brander and Spencer 1984) were based on the assumption of certainty, it became apparent that more realistic

modelling of the problem required consideration of uncertainty (Laussel and Soubeyran 1993). Grant and Quiggin (1997) adapted the ideas of Klemperer and Meyer (1989) to derive conditions for the optimal of fixed, ad valorem and quadratic tariffs.

In summary, the literature on tariffs under uncertainty shows that, where import-competing firms face uncertainty associated with fluctuations in the exchange rate or the terms of trade, and where the markets for financial assets to manage risk are incomplete or imperfect, tariffs may increase economic welfare. In general, there may exist alternative policy instruments which yield the same risk-management benefits at a lower efficiency costs. However, where the efficiency costs of the tariff are minimal, as is the case with a general tariff levied at a rate of 5 per cent, it is unlikely that the efficiency benefits of such alternative instruments would be sufficient to offset the administrative and adjustment costs of a change in policy.

Tariffs as a buffer against external uncertainty

Most theoretical analysis of tariff policy is undertaken using models in which there is no currency and trade takes the form of barter. This simplification of the analysis is justified if exchange rates always satisfy the purchasing power parity condition, namely that the purchasing power of a unit of currency in one country is unchanged if it is converted, at the prevailing exchange rate, into units of another currencies. A weaker version of the purchasing power parity assumption permits differences in the relative

efficiency of production of traded and non-traded goods to be reflected in exchange rates.

Even in this weaker form, there is ample evidence that the purchasing power parity assumption is persistently violated. In particular, there have been frequent occasions on which short-term interest rates in Australia have been held at levels higher than those in the rest of the world, in part because of the reduction in inflationary pressure associated with the maintenance of an overvalued exchange rate (that is, an exchange rate in excess of purchasing power parity).

The effect of a deviation from purchasing power parity is similar to that of a (positive or negative) combined tariff and export subsidy. If the real exchange rate is lower (higher) than that consistent with purchasing power parity, exporters and import-competing industries benefit (suffer).

From the viewpoint of a risk-averse import-competing firm, the existence of a tariff offsets risk resulting from deviations of the real exchange rate from purchasing power parity. For plausible parameter values (relative standard deviation of the real exchange rate greater than or equal to 10 per cent, coefficient of relative risk aversion greater than 1) the benefits of the tariff would only partially offset the risks associated with variations in the real exchange rates. Hence, the tariff may be said to constitute a buffer against exchange rate uncertainty.

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