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EFFECTIVE RATES OF PROTECTION AND HIDDEN SECTORAL TRANSFERS BY PUBLIC AUTHORITIES

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Government intervention changes the allocation of resources through effects on input and output prices. While explicit forms of intervention have been the subject of many studies, implicit forms of intervention have been given much less attention. The price and output policies pursued by public authorities systematically cross-subsidise from densely populated to sparsely populated areas. Thus, their effects are in the opposite direction from the effects of tariffs and quotas. Examination of the effects of one form of intervention in isolation overstates the net effects of that intervention. Effective rates of cross-subsidies must be taken into consideration when attempting to measure the impact of government intervention on resource allocation.

Introduction

In this paper attention is focused on measures of assistance which so far have not been considered sufficiently important to be taken into account explicitly in arguments about the effects of the more visible protection measures, such as tariffs and quotas, on resource allocation. The conventional wisdom is that non-rural industries are assisted and protected in various ways, that this puts rural industries at a disadvantage and that it results in an allocation of resources which is economically inefficient. The theoretical arguments on which these conclusions are based are frequently somewhat simplistic. Deviations in a particular industry from what would have occurred in an economy without tariffs, without other forms of assistance, without externalities, and with a high level of competition everywhere, are frequently treated as evidence of allocative inefficiency. Other, less simplistic, approaches take some cognisance of some of the deviations from the unregulated competitive norm, but omit others.

Neglect of the effects of some less visible assistance measures might be justified by the argument that they are spread more or less equally over all economic activities. This is not so. Public authorities, including Public Authority Business Undertakings (PABUs) consistently follow policies which result in prices which are less than costs of supply in areas of lower population density, and prices which are greater than costs of supply in areas of higher population density. Since the great bulk of export income is earned from outputs which contain little labour relative to land and/or natural resources, most of the export industries are located in less-densely populated areas and, therefore, benefit from this cross-subsidisation by public authorities. The sources of the cross-subsidy are the more-densely populated areas where the import-competing industries are located. The effect of the cross-subsidy is thus to 'compensate', in

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part, for the tariffs and assistance measures which benefit import-competing industries and should, therefore, be deducted from the effective rates of protection which are derived from consideration of the effects of the visible tariff and assistance measures on resource allocation. A measure of the effective rate of cross-subsidisation is required.

In an economy which uses a plethora of methods for intervening in economic activities, the theory of the second-best makes it clear that deviations from the perfectly competitive norm are necessary, not harmful, in reaching a second-best allocation of resources. Since any particular form of government intervention will have effects on costs, prices and outputs, any attempt to measure the effects of intervention, which includes some forms of intervention but omits others, is clearly invalid. Obvious as this may seem, it has not been accepted by those who give policy advice on industry assistance. The effects on resource allocation of government intervention through the price and output policies of public authorities have been largely ignored. Thus, providing better transport facilities in country areas by cross-subsidisation from city areas has the effects of lowering transport costs to rural users and raising them to city users. Increasing electricity prices to city dwellers in order to lower them for country dwellers has the same cost effects. Cross-subsidisation of water supplies, telephones, health, education, police and other infrastructure activities have directionally-similar effects.

The problem of coping with the effects of less visible, more indirect, forms of government intervention needs far more attention than it has been given. The discussion in this paper is focused on those forms which have different effects on rural than on non-rural industries; in particular, the effects of government intervention through the price and supply policies of public authorities. The effective rate of cross-subsidy requires quantification if the net effect of government intervention on resource allocation is to be determined.

Acknowledging explicitly the existence of other government-induced distortions would restrain the Industries Assistance Commission (IAC) from reaching general equilibrium conclusions from results derived from constrained partial equilibrium models. While the IAC's work has been vastly superior to what preceded it, and while it is constrained in its general inquiries by politically determined terms of reference, it is nevertheless able to exert great influence over present and future research in this area. Some explicit acknowledgment of the existence of problems other than those traditionally examined in the free-trade versus protection debate is overdue.

Some of the fundamental problems relevant to this discussion were examined in the Brigden Report (Brigden et al., 1929). The implications of indirect assistance through the activities of public authorities have been discussed by Kolsen and Docwra (1977) and Kolsen (1978). The implications of some of the indirect assistance measures for determining the effective rate of protection were noted by Motha and Plunkett (1974), but they argued that because the objectives of the assistance measures they examined were concerned with welfare they should not be taken into account explicitly. They did not specifically examine public authority policies. Warr (1977) discussed the problems associated with tariff compensation by using input subsidies. Thomson and Walsh (1981) examined PABU cross-subsidisation in rural areas without explicitly bringing in the

second-best implications of the tariff compensation argument. Further examination of the activities of PABUs was undertaken by Kolsen (1982). There has thus been considerable recent interest in matters related to this problem.

The theoretical background is examined in the next section. That is followed by consideration of some of the effects of the price and output policies pursued by public authorities, with examples from electricity, road, water and telecommunications supply. There is then a short discussion of problems associated with non-export rural industries. The concept of the effective rate of cross-subsidy is introduced to enable the effects of the cross-subsidy policies of public authorities to be quantified in a manner analogous to the measurement of effective rates of protection. That is followed by a summary and conclusions.

Theoretical Background

The concept of an economy in which resources are allocated efficiently has received much attention in the literature. Any standard textbook on microeconomics contains a section on the so-called optimum conditions which must be fulfilled. Where one or more of these conditions cannot be met the theory of the second-best is required. The conditions which must be met for a general second-best solution may be, and usually are, very complex, requiring information far beyond that available. Partial second-best solutions are available, but require specification of the constraints and are second-best solutions only in the sense that no better solutions can be found, given the presence of the constraints and the limitations of the available information.

Hence the leap from theory to policy implications is difficult, and requires judgments to be exercised in the interpretation of the data available, even if the objective is solely efficiency in resource allocation. The policy problem becomes even more complex when other objectives are added. Even if dynamic aspects are assumed away, income distribution and re-distribution objectives exist and may be pursued largely independently of efficiency. Since the theory of income distribution is not so well developed as the theory of resource allocation efficiency, arguments about income distribution cannot be pursued by appeal to a settled body of theory.

Welfare economists have attempted to provide guidelines for 'good' and 'bad' changes in the arrangements within an economy. The well-known Kaldor-Hicks guideline asserts that a change is 'good' when those who are made better off *could* compensate all those made worse off and still have something left over. This is one version of the so-called Pareto optimum, which is reached when all changes which could fulfil the Kaldor-Hicks criterion have been made. Another version, sometimes called the 'bribe criterion' or the 'over-compensation principle', insists that all affected by the change actually be made better off. The possibility of ever being able to actually compensate or over-compensate all those affected by any change is remote. Furthermore, acceptance of even the over-compensation criterion implies that there is something sacrosanct about any existing income distribution, since the criterion acts to re-establish it.

Another approach was pioneered by Little (1960, Chapter 6) and met

the difficulty by abandoning the attempt to reach a solution using only the value judgment required for efficiency; that is, *ceteris paribus*, more of any good (or less of any bad) is preferred to less (more). Little perceived that a judgment must be made about the resulting re-distribution of income, so that whether compensation is paid depends on a judgement which must be made when comparing the income distribution after the change with that before.

All this is a far cry from the naive and invalid solutions which are derived from models based on assumptions about universal perfect competition, absence of externalities and absence of any objectives other than economic efficiency in the narrow sense. Economists have grappled with the problems by allowing for them in their second-best models if they are known to exist. The concept of the effective rate of protection was developed because nominal rates of protection make no allowance for the effects of protection elsewhere on input and output prices. Despite this great advance, however, it was still assumed that only tariffs and other explicit protection measures affected input and output prices. Other forms of government intervention were either assumed to be absent or to be neutral between different inputs and outputs, so that rural and manufacturing industries were affected in a similar manner, unless the intervention was explicitly designed to have a differential effect.

It is useful to employ a crude device here for expository purposes: the so-called equi-proportionality argument which refers to the ratio of price to marginal real cost. Despite the many theoretical objections to it, it remains a necessary (but not a sufficient) condition for most conceivable second-best situations (Mishan 1981, esp. Chapters 14 and 40). Stated simply, it means that if market price is accepted as representing the value of anything to the consumer, the total value of any pair of goods can always be increased if the ratio of price to real marginal cost of one good is different from the other. In a two-good situation, all that is needed to increase the value of total output is to move inputs from the low ratio to the high ratio good. Where the initial ratios are equal, a tax on the inputs of only one good, or a subsidy on the other, will have distorting effects on the ratios. Identical taxes on the inputs of both, or identical subsidies, if it is assumed that they do not affect input proportions, will leave the ratios unchanged (for further discussion see Docwra and Kolsen 1978).

Any intervention which changes the ratio of price to marginal real cost changes the resource allocation. If actual electricity prices to rural consumers are less than the marginal real cost of electricity supply to them, and more than the marginal real cost to urban consumers, the effects on resource allocation are directionally the opposite to a tariff which raises the ratio for goods produced in the city. They may thus be thought of as one form of tariff compensation. The second-best arguments for tariff compensation have been put forward by several authors including Harris et al. (1974) and Quiggin and Stoeckel (1982). Telephone services, postal services, road supply, rail transport and water supply all have directionally similar cross-subsidy effects. It is theoretically possible to pursue this and other forms of tariff compensation to a point where they completely compensate for the effects of tariff and other assistance measures which primarily benefit the import-competing industries. While this outcome is unlikely, the quantitative effects of this form of government intervention in a second-best framework have not received much attention,

so that the only conclusion possible at this stage is that it reduces the effects of the tariff without being able to say by how much.

Recently the IAC (1982) showed awareness of these second-best theoretical problems. After an acknowledgment that (p.11) '... there may be no guarantee than an individual reform will raise the overall efficiency of resource use', the argument is that (p. 11) '... despite its theoretical attractiveness, a comprehensive reform of all assistance would at this stage be impractical. More is known about protection and its effects than about other forms of assistance . . .'. While much of this is true, it does not follow that other forms of assistance can be ignored because they cannot be reformed. The effects of assistance must be taken into account, whether reform is possible or not, since they affect input prices in the same way as the tariff. No valid conclusion can be reached about the effects of tariffs if other interventional distortions are ignored. Acceptance of a constraint certainly does not mean that it disappears or that its effects can be ignored.

The next section examines some evidence available to support the contention that the effects of government intervention in the supply of basic services and by PABU pricing are not quantitatively trivial.

Cross-Subsidies by Public Authorities: Some Examples

General

In this section it is shown that the effects of government intervention in the supply and pricing of services are quantitatively important. As indicated above, the location of export and import-competing industries is not geographically neutral, nor are the supply and price policies of PABUs. If the ratio of basic service costs or PABU prices to marginal real costs is higher in the densely populated areas than in the sparsely populated areas (assuming for simplicity but not necessity that total revenues cover total costs) then the direction of the effects on resource allocation are formally similar to the resource allocation effects of any other intervention which has a similar impact on that ratio.

Higher export industry input prices, due to tariffs on the output of import-competing industries, can be offset by lowering the prices of inputs used by the export industry, such as a lower cost for services provided by PABUs. If they are combined in fixed proportions, or in proportions which do not change within the range of the distortion of the input prices, an increase of one input price above its nonprotected cost can be precisely offset by a decrease in one or more input prices below cost. Equal protection all round can be achieved.¹ Thus, rural population arguments for cross-subsidies are consistent with tariff compensation.

The argument here is not that this is what actually happens. But so long as only one or some forms of assistance are evaluated, no valid conclusion about resource allocation can be drawn from the results. It cannot be argued that the objectives of various forms of assistance are different, such as decentralisation or regional assistance or social welfare grants and that this means they can be neglected (as argued by Motha and Plunkett 1974), because the effect on resource allocation is the same no matter what the objectives are. There is no valid resource allocation

¹ There will be other administration costs and deadweight losses that need to be taken into account and the assumption of fixed input proportions is critical (Warr 1979).

argument for neglecting some forms of indirect assistance unless they are quantitatively trivial. Thus, the whole area of government intervention which is not neutral between sectors must be examined. In the remainder of this section some examples of this type of intervention and some indication of the magnitudes involved are presented.

Electricity

The evidence referred to here is based on work by Harvey (1982) for Queensland. Work has also been done elsewhere (e.g. Centre of Policy Studies 1982). Harvey estimated the marginal electricity prices and unit costs per kWh in 1975-76 for the regions of Queensland before the electricity price equalisation policy was put in place. The ratio of marginal price to unit costs ranged from 1.04 (2.72/2.62 c/kWh) in Brisbane, to 0.29 (6.30/22.09 c/kWh) in the Barcoo Shire. The ratios were lower in Western Queensland than in other regions, and densely populated regions had high ratios.

Harvey (1982, p. 46) estimated, for the Brisbane area, the additional annual loss (in consumer surplus terms) from application of the price equalisation policy after 1977 to be somewhere between \$11.24 and \$14.61 per domestic consumer and between \$136 and \$177 per commercial and industrial consumer. The smallness of these sums is misleading, until the gains for the smaller number of consumers in some of the western areas is considered. For domestic consumers, they were well over \$100 annually, and up to \$500 for commercial and industrial users. Furthermore, they refer only to the additional effects of the application of the price equalisation policy, not the total gains. Those calculations require assumptions about other variables, especially demand elasticities (see Harvey for details).

Roads

Docwra and Kolsen (1971) examined expenditure by the Main Roads Department in Queensland in the various regions, relating it to motor vehicles registered in each region (and to other variables such as average annual daily travel where available). The data relate to the period 1964-65 through 1966-67, but have been brought up to date in a different form (see Docwra 1982). Main Roads Department expenditure per registered motor vehicle in 1965-66 ranged from \$38.41 in Brisbane through \$1362.41 in Boulia Shire to \$5106.5 in Etheridge Shire. To avoid the effects of indivisibilities, total expenditure over the three years 1964-65 to 1966-67 for each district as a percentage of total Main Roads Department Expenditure (MRDE) was compared with the percentage of total Motor Vehicle Registrations (MVR) in that district. The ratio MRDE/MVR ranged from 0.48 for Brisbane through 2.3 for District 4 (in the South-Western Division) to 4.43 for District 10 (in the Northern Division).

There are many difficulties in evaluating the significance of these wide disparities in road expenditure per MVR. Some areas/shires may experience a great deal of through traffic which neither originates nor terminates in the shire, and therefore has no connection with MVR. Examination of available average annual daily travel data suggested that this was not generally so, with low estimates of travel usually associated with a very low percentage of MVRs.

A comparison was made of the relationship between the percentage of total MRDE in urban and in rural areas and the MVR in urban and rural areas as a percentage of total MVR. The resulting ratio MRDE/MVR was 0.1 for urban areas and 2.4 for rural areas in 1965-66 (Docwra and Kolsen 1971, Table 10, p. 286), suggesting that MRDE per MVR in rural areas was 24 times that in urban areas. There are many caveats which must be entered before that ratio is accepted as quantitatively significant. While it would not be sensible to argue that expenditure per MVR should be identical for urban and rural areas, no argument exists which would support such large divergences. It should also be mentioned that, even if the existence of all roads is accepted as necessary, the high expenditure in rural areas results from an increase in the quality of road space, not its quantity.

Water

Customary pricing policies for irrigation water bear little relation to costs. In N.S.W. and Victoria no charges are made for capital costs, while in Queensland a small capital charge is made, usually less than one per cent per annum on capital (Anon. 1981). The problem in examining irrigation water charges is, *inter alia*, that their effect is largely confined to small subsectors of the rural sector. Nevertheless, this is another aspect of tariff compensation for those who produce exports using irrigation. It is, therefore, an example of other indirect subsidies through the underpricing of an input. It is also an example of another effect—the increase in the ‘value’ of irrigated compared with similar but unirrigated land (see also Thomson and Walsh 1981).

Most urban water users pay at least the full cost of capital and operating expenses. Interesting results are obtained when the same water source is used by urban and rural areas. In 1978-79, Adelaide consumers paid 22 c/kL for water drawn from the same source as rural users, but the latter paid 1.6 c/kL (Anon. 1981, p. 7). Though a value of 14.1 for the ratio of urban to rural prices is not outrageously high, it includes treatment and distribution costs for urban users which are not required for rural users.

Telecommunications

The telecommunications network is a very potent source of cross-subsidies. Earlier work by Coombs (1973) provided evidence on the very large cross-subsidies which flowed mainly from the makers of highly-profitable inter-city telephone calls to rural consumers, especially in the more sparsely populated regions. The Coombs findings yielded an average connecting cost of \$1800 in and around capital cities and \$20 000 in areas with less than 200 telephones (pp. 131-2). More work has since been done by Hedemann (1980) on the theoretical side, while Davidson et al. (1982) have also provided additional information.

A few orders of magnitude are available from Davidson et al. (1982, Vol. 1, p. 145, Table 6.7) on operating, maintenance, depreciation and interest costs per subscriber for each of Telecom’s 26 districts in N.S.W. Total expenses per service ranged from \$837 in Dubbo to \$234 in Sutherland, with the average for N.S.W. being \$365. The cost of installation show much more dramatic variation (Davidson et al. 1982, Vol. 1,

p. 148, Table 6.10) from \$533 in metropolitan areas to \$13 000 for subscribers over 16 km from the local exchange. For Australia, 64.73 per cent of subscribers are in the former category, 0.5 per cent are in the latter. The maximum additional charge for 18 km or more is \$900 (Davidson et al. 1982, p. 149). The installation costs yielded an average rental of \$120. The ratios of net installation costs to average rental are then 4.4 in the metropolitan area and 12.5 in sparsely populated areas.

The major determinant of cost per subscriber is density (i.e. the number of subscribers per km²). In N.S.W., densities range from 0.1 per km² at Dubbo to 1012.0 at St. Leonards, with maintenance costs per service of \$276 and \$81, respectively (Davidson et al. 1982, Vol. 3, p. 255, Table 3.36). Average call revenue per service was \$269 per annum for the metropolitan area and \$333 for non-metropolitan areas; the 1980-81 figures were \$258 and \$293 for Bankstown and Dubbo, respectively (Davidson et al. 1982, Vol. 3, p. 259, Table 3.49).

Hedemann (1980, p. 21) examined some aspects of costs and densities for Queensland, and has shown that '... the average cost of service provision rises rapidly as customer density decreases'. His calculations are similar to those of Davidson et al. (1982) at about \$400 as the average cost of a new customer in high density areas (around 400/km²), compared with the low density end of the spectrum for which Hedemann (1980, p. 23) claims '... it is easy to envisage the cable cost attributable to a single customer in some cases exceeding \$50 000'. While this is an extreme magnitude (p. 23), 'nonetheless individual services costing \$10 000 occur regularly in remote areas ...'.

It is likely that the less densely populated areas provide exports of beef and grains. What is the tariff compensating 'value' of this cross-subsidy, compared with the 'value' of the tariff-caused cost increases? It is clearly difficult, from the data available, to reach a conclusion on magnitude which is not subject to wide argument, but the point is made again: why ignore it?

Rail, postal, and other services

Data limitations prevent any quantification in the case of other services. It is necessary, however, to refer briefly to arguments about rail services, where the matter of cross-subsidy is clouded by an overall subsidy which flows to all but a few high volume traffics such as coal with concentrated origins and destinations. Passenger services in metropolitan areas and in the country fail to meet their operating expenses by a large margin. The same is true of all general country freight and passenger services, for which it is believed the margin is even higher (see Docwra and Kolsen 1978). All other services such as health, education and police, would tend to follow the pattern of higher costs per person served as the density decreases.

Postal services exhibit the same strong tendency for costs to vary inversely with density of the population serviced. Where the possibility exists for reducing the quality of service, as was argued in the case of road supply, this may be a more acceptable alternative. Quality variations tend to be given less consideration than is warranted. One way of bringing prices and costs closer together is by reductions in costs through reductions in quality. Gravel roads rather than bitumen and weekly rather than daily mail deliveries are examples of such alternatives. In

many instances, the argument is that the quality supplied is too high, given the price that is paid. If the user were given a choice between paying the full cost of supply of present quality or for lower qualities, he would frequently choose a lower cost-lower quality bundle. Cross-subsidies thus tend to 'force' users to consume high price-quality bundles, compared with what would be chosen if the same amount were paid directly to them, thus resulting in a deadweight loss.

Import-Competing and Protected Rural Industries

To the extent to which indirect subsidies flow from densely to sparsely populated regions, non-exporting rural producers, especially rural producers protected by embargoes, tariffs, or quotas on imports, receive a benefit for which the tariff compensation argument cannot be used. The high levels of competition which exist in some categories (e.g. fresh fruit and vegetables) would tend to ensure that the outcome would affect prices and incomes in the same way as it would in a protected, highly-competitive manufacturing industry.

So long as there are no restrictions on entry into rural industries, the effect of tariffs and cross-subsidies on output prices will merely reflect their effects on input costs. However, where there are restrictions on entry, this is no longer so. The major effect will then be on property values (see Thomson and Walsh 1981, pp. 244-5). The initial owners will experience a windfall gain, but when properties are sold, they will be sold at a price which capitalises their income-earning capacity with the given entry restrictions. Liquid milk markets and the sugar industry are relevant examples.

The effects of the tariff and the cross-subsidies are different for rural exporters than for other rural producers. Present rural producers in local markets which are either explicitly protected, or protected by high transport costs, would perceive greater gains from entry restrictions than from cross-subsidies available to all, including new entrants, and would also perceive the greater demand for their outputs from larger metropolitan populations. Rural exporters would perceive greater gains from cross-subsidies than from entry restrictions, since they are unable to influence export demand. If it is believed that the tariff allows a larger population to be attracted to Australia, as Brigden et al. (1929) thought, non-exporting rural producers might, therefore, prefer the tariff to free trade, while exporters would continue to prefer free trade. The number of income earners who could naively visualise themselves as directly penalised by any tariff (not by tariff differences) is thus likely to be quite small.

Tariff and Cross-Subsidy Distortions and Resource Allocation

Enough has been said to sustain the argument that the distorting effects of tariffs and explicit forms of industry assistance cannot be used as the sole measure of the magnitude of the resulting distortions in resource allocation. Other government intervention which also has distorting effects should also be measured and set off against the explicit assistance measures. The measure of the effective rate of protection adjusts nominal rates of protection by correcting for the effects of the tariff on input prices and output prices. It '... expresses the nominal tariff on

the final good minus the weighted average of the tariffs on its inputs as a proportion of the value-added per unit at free trade prices . . .' (Corden 1974, p. 382).

In principle, quantification of the 'effective rate of cross-subsidy' is required, measured as the deviation of the price of the cross-subsidised input from its cost and weighted as a proportion of total input cost. Like the effective rate of protection, the effective rate of cross-subsidy can be negative. There are, however, a number of obvious problems. Input proportions are unlikely to be fixed. Where production functions allow it, substitution will take place. Making the small country assumption about output prices is not valid for non-traded inputs, perhaps better described as non-tradeable inputs, which nearly all of these government-supplied goods and services really are. But many of the problems are similar to those experienced in evaluating other assistance measures, including the tariff. If they are not regarded as insurmountable in calculating an effective rate of protection, they need not be so regarded in calculating an effective rate of cross-subsidy.

No pretence is made here that the problems associated with measuring the effective rate of cross-subsidy have been dealt with in depth. As is the case for most attempted new developments, it must survive critical assessment. If it does so, a more rigorous treatment is justified and methods for making it amenable to empirical treatment devised. It may be that the quantitative effects are small. But until some attempt at measurement is made to prove that they are small, they remain a potentially potent offset to the effects of the tariff. Ignoring them is no more valid than ignoring the effects of tariffs and other assistance measures.

Summary and Conclusions

The level and effects of visible assistance measures such as tariffs, quotas and subsidies have been quantified. Government intervention by less visible means through price and supply policies of inputs supplied by public authorities, which is systematically non-neutral between the import-competing and the exporting industries, has similar but directionally opposite effects on resource allocation compared with visible assistance measures but has not been given the same attention. Whether such intervention is seen as tariff compensation or as meeting other objectives, its effects on resource allocation emerge independently of the objectives.

The examples of cross-subsidisation given above demonstrate that the effects are certainly non-neutral. Rural export industries, by their very nature, are predominantly located in the less-densely populated regions. Most of the tariff and quota-protected secondary industries, by their very nature, are located in the more-densely populated areas, especially the capital cities and large towns. The cross-subsidy, in every instance studied, raises prices above costs in the densely populated areas, and lowers prices below costs in the sparsely populated areas. While rural export industries have their costs increased by the tariff, there is an offsetting effect (the extent of which is unknown) in that costs are reduced by the cross-subsidies. It is the net effect of all forms of non-neutral intervention by government which determines the payments to factors of production and, therefore, their allocation between alternative outputs.

Measures which include only visible and direct assistance will consistently over-estimate their effects. The net costs of the tariff are, therefore, lower than present research suggests.

Examination of the effects of systematically biased cross-subsidies demonstrated that the IAC cannot claim that its findings on the effects of direct assistance measures are valid, since they are based on the implicit assumption that all other prices reflect costs in a manner neutral between export and import-competing industries. This has been shown not to be so. The case for reductions in direct assistance cannot be based on first-best principles under these circumstances.

Conclusions based on the assumption that any one set of assistance measures can be evaluated in isolation from all the others are invalid. The theory of second-best suggests that, if all assistance measures are more or less exactly compensated, a cost actually arises when any one of the assistance measures is raised or lowered in isolation.

In economies of the Australian type, there is a strong, almost natural, tendency for effective pressure for 'compensation' for any explicit government intervention to emerge over time. Any explicit assistance measure brings with it arguments which tend to justify actions to offset at least some of its effects. To argue that it would be best to eliminate any compensated benefit together with the resulting compensation is to assume that those affected know far more about the causes of their economic welfare than is in fact the case. A veritable morass of penalties and compensations is perhaps a more realistic model for a democratic society. So long as policy makers do not lose sight of the objective of second-best economic efficiency and examine the impact of all penalties and compensations, the 'morass' approach may be the most feasible one. The cost of administering the morass may be a small price to pay, compared with the resentment and bitterness created by unwillingness to intervene or, subsequently, by unwillingness to compensate.

Thus the conclusions which have been drawn from limited studies of only some of the existing assistance measures must be appropriately qualified by admitting that the net effects of government interventions of all kinds are (probably significantly) smaller than the gross effects from any one of them taken in isolation. The so-called distortions created by tariffs and direct assistance measures have been exaggerated. The temperature of the free trade versus protection debate has been far higher than is warranted by all the facts.

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