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PUBLIC CHOICE THEORY AND AUSTRALIAN AGRICULTURAL POLICY REFORM*

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Recent discussion of the process of policy reform has tended to focus on public and private interest theories of public choice as alternative models. The analysis of Australian agricultural policy presented in this paper draws on several extensions of the private interest model including the contractarian framework, extra-rational considerations such as moral attitudes and the desire to participate. Recent agricultural policy reforms in Australia are examined in the light of those theories. This examination highlights the importance of ideas and changes in the rules for policy formulation in influencing policy outcomes. In some cases the private interest theory appears to offer an adequate explanation while, in others, it provides only a partial explanation of policy change, and requires extension if policy choice is to be influenced, or even understood. An important independent role for economists and policy makers is seen both in the formulation of policies and in the design of rules for policy choice.

Two models of policy determination are now in widespread use in economic policy analysis: the public interest theory and the private interest theory. In principle, there should be no conflict between these two theories. The public-interest theory is explicitly normative, dealing only with what policy ought to be. By contrast, the private-interest theory is purely positive, concerned only with what policy will actually be chosen.

Despite the apparently different objectives of the two theories, considerable overlap and conflict is evident in policy discussions. As Sieper (1982) has noted, the public-interest model has sometimes been treated as a *de facto* positive theory, reflecting an apparent assumption that governments generally act to maximize the public-interest. At the other extreme, strong versions of the private interest theory make normative policy analysis redundant. If policy is determined solely by interest group pressures then policy advocacy on public interest grounds is a waste of time and resources.

Despite some efforts at reconciling the two theories (e.g. Keeler 1984), they remain very different in their implications for policy choice. One approach to policy analysis (e.g. Harper 1986) is to analyse policies independently from the perspective of each of these theories. Under this approach, policies which satisfy private interest criteria will be feasible, while policies which satisfy public interest criteria will be

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desirable. For a policy to be both feasible and desirable, it must satisfy both sets of (quite different) criteria.

Given the pressing need for reform of policies worldwide (Hathaway 1987; Tyers and Anderson 1989), this interpretation seems somewhat negative in its implications. For every policy which satisfies both criteria, there may be a number of other policy improvements which are not feasible because they do not satisfy necessary private interest criteria.

The purpose of this paper is primarily to examine whether the public choice literature can provide alternative perspectives on agricultural policy reform and allow more scope for improvement on current policies. As well as public and private interest models from the public choice literature, the contractarian approach and extra-rational influences are examined to assess whether there is scope for improving upon the outcomes predicted by the private interest models of policy choice.

The predictions of the public choice theory are then compared with actual policy developments in Australian agricultural policy over the period since 1983. Since this was a period of substantial policy reform in Australia, in a range of areas, and using a range of policy approaches (Martin 1989, 1990) it is a case study of relatively successful reform.

The subject of this paper has important implications for the role of the economist in the policy process. If the pure private interest model is accepted, there is no role for economists as advocates of public interest policies, as noted by Standen (1983). In this context, Becker (1976, p. 248) suggests that economists should focus their efforts on understanding the forces underlying policy choice and on predicting policy outcomes. If, as is argued in this paper, the true nature of the policy process does involve a role for economists as advocates of public interest policies, then acceptance of Becker's view, which might be consistent with the private interest of economists in situations where private interest groups are powerful, may contribute to the very failure of public interest reform predicted by private interest theories.

In the next section of the paper, some alternative theories of policy choice are surveyed. Then, in the following sections, some of the more specific predictions resulting from these models are discussed and are compared with evidence obtained in earlier studies. The evidence emerging from the current study and conclusions are offered in the final sections.

Theoretical Framework

A major focus of modern welfare economics has been on the normative theory of public choice, that is on the selection and recommendation of policies which will lead to increases in some measure of social welfare (see, for example, Just, Hueth and Schmitz 1982). Principles such as the Pareto criterion involving actual compensation to the losers from a policy change provided a relatively strict standard for policy evaluation, while the Kaldor–Hicks–Scitovsky criteria allowed policy changes to be accepted under the less stringent condition of hypothetical compensation.

Much of the time, it emerged, there was a considerable gulf between the policies advocated by economists and those actually adopted by policy makers. Before the 1970s, economists frequently attributed this unfortunate discrepancy to the failure of politicians to sufficiently resist the pressures applied by interest groups, or to the even more heinous practice of pursuing votes by 'pork-barrelling'. In some cases, policies were rationalised on public interest grounds even though their purpose appeared to be more narrowly oriented to particular private interests (Sieper 1982). In this situation, the normative theory of public choice had implicitly come to be seen as a positive theory of policy choice.

The modern positive theory of public choice uses economic techniques to explain what governments do rather than to recommend what they should do. This theory builds on the work of Downs (1957), Buchanan and Tullock (1962) and Olson (1965) on collective choice and voting behaviour. The seminal study by Stigler (1975), however, introduced a new focus on the role of private interests in the process of policy formulation. Instead of private interest pressures being seen as an obstacle to the adoption of better policies, they were seen as the response of rational actors attempting to improve their own welfare, rather than some abstract notion of social welfare. This assumption, in particular, introduces an important element of consistency between the behaviour of actors in markets and in the policy process.

Under this private-interest view of the policy process, policy outcomes depend upon the costs and benefits accruing to individuals involved. These costs and benefits are defined broadly, including the costs of organising and applying political pressure, and the costs of achieving transfers to particular groups (McCormick and Tollison 1981, p. 18).

Given asymmetries in the costs of organising particular groups, the positive theory can be used to generate predictions about the types of policies which are likely to be adopted and the groups which are likely to benefit from policy intervention. Small groups, in which each individual receives a greater share of the benefits from lobbying action are likely to be more successful than larger groups in which individual members receive only a small share of the total benefits obtained from lobbying efforts. More geographically concentrated groups for which lobbying is relatively easy and inexpensive might also be expected to be successful. Other things being equal, groups which can be assisted without major deadweight costs being incurred are more likely to receive assistance since deadweight losses generate opposition which is, by definition, not offset by support from gaining parties.

The private interest theory of government regulation, in its strongest form (e.g. Becker 1983), leads to some firm conclusions about the policy process. This theory argues that policy makers will always prefer an efficient policy over an alternative which induces higher welfare costs since these welfare costs influence the pressure applied by the losing group. Given this constraint, policy makers will choose those policies which achieve the desired redistributions at the lowest cost. The nature of these redistributions will depend upon the distribution of political power and not upon any independent objectives of the policy makers, but the most efficient available means will be used to achieve the desired redistribution since a Pareto-superior policy would attract more political support.

The efficiency of outcomes from the pure private interest model appears, however, to be somewhat restricted. A useful way to illustrate these restrictions is by analogy with the famous Coase (1960) framework for the analysis of externalities. In this framework, externalities will not result in inefficiency as long as property rights are well defined and negotiations are costless, irrespective of the way in which the property rights are allocated.

As Pincus (1977, p. 133) notes, there are a number of problems in applying the Coasian model to the policy choice problem. Strategic behaviour by groups may result in inefficient outcomes even when Pareto improvements are attainable as is illustrated in the famous Prisoners' Dilemma problem (Hardin 1982). Most importantly in this author's view, however, is that the property rights to the rents transferred by different policies are not well defined. Thus, groups must consume real resources in obtaining and retaining the rents generated by intervention and in resisting policies which would be to their disadvantage.

The impact of these problems may be diminished to some degree. For example, Hardin (1982, p. 173) notes that the adverse effects of strategic behaviour will be reduced if economic factors interact repeatedly, or if their interests interact on more than one issue. In the latter case, side payments through explicit or implicit 'log-rolling' (Abler 1989) may achieve support for policies which are of intense interest to only a small group. Similarly, implicit or explicit property right rules might be used to minimise the costs of rent seeking behaviour. Sieper (1982) pointed to such a 'rule' in Australian agricultural policy where each industry apparently 'owned' its own demand curve and this constraint served both to limit the rent seeking costs and to determine the size of transfers generated.

The private interest model does not allow an autonomous role for policy makers unless they are able to 'shirk' the interests of their constituents in favour of ideology, and adherents of the private interest approach (e.g. Peltzman 1984) tend to argue that there is little scope for such shirking. Even though policy makers have no autonomy in this model, policy will not be static, and will change in response to changes in the relative costs and returns to both the interest groups directly involved and any coalition partners they may have (Abler 1989).

Despite its elegance, and the insights which it can frequently generate, the private interest theory of regulation appears to require extension before a complete model of public choice can be obtained. Hardin (1982, pp. 90–117) suggests a useful taxonomy of extensions to the simple private interest model. His suggestions amount to extending the model in four respects, by incorporating:

(i) a contractarian framework;
(ii) moral motivations;
(iii) a desire to participate; and
(iv) ignorance and misunderstanding.

The first extension of the private interest model, the contractarian framework, includes the rules, processes and institutions used for making collective choices. While Hardin distinguishes between contracting by convention and the use of formal rules or constitutions, this distinction does not seem particularly important for our purposes. This distinction aside, Hardin's contractarian framework is essentially the same as the contractarian framework of Brennan and Buchanan (1985) and Buchanan and Tullock (1962) which have been applied to constitutional issues.

The common element in these contractarian frameworks is that it could be possible to reach agreement on broad rules and approaches for policy choice which are socially desirable even if it is not possible to reach agreement on actual policies. Brennan and Buchanan (1985, p. 29) consider a pertinent example: 'a dairy farmer . . . might oppose a reduction in milk price supports . . .'. At the same time, however, he might support a generalized rule which would eliminate political interference with any and all prices.

The contractarian framework is not necessarily inconsistent with the private interest model. Different policy choices emerge in this framework because of differences in the context in which decisions are made. In part, this is because individuals are likely to be uncertain about the effects of such a rule on their direct interests, and hence tend to support the approach which is likely to be 'best' in a wide range of contexts, and over a sequence of time periods. This extension remains within the rational utility maximising assumptions of the private interest models, but reintroduces scope for evaluation and advocacy of broadly defined policies from a public interest perspective.

The second extension to the simple private interest model, the moral motivations extension, is, by contrast, outside the rational utility maximising framework of the private interest models. It may lead to policy outcomes more consistent with a range of models. Altruism and benevolence on the part of voters might lead to policy outcomes more consistent with the traditional public interest view than those emerging purely from the interaction of selfish private interests. Conversely, envy, greed and prejudice might lead to worse outcomes. The existence of such extra-rational influences on policy choice introduces a need for policy makers to actively 'sell' policies to electors; a need which does not arise in pure private interest models.

The desire to participate is an extra-rational motivation which may explain widespread participation in disparate policy-influencing processes such as elections and protest rallies. Such participation frequently involves significant cost to individuals and yields little non-excludable benefit in any large number case, and hence must be seen as inconsistent with the pure private interest model, as emphasised by Quiggin (1987). Adding such a desire to participate directly as an argument to utility functions will cause the results to differ from those emerging from a pure private interest model, but need not contradict its predictions for comparative static changes in exogenous variables.

A combination of the 'moral motivations' extension and the 'desire to participate' extension to the pure private interest model leads to the expressive voting model of Brennan and Buchanan (1984). This model assumes that voters in large elections are sufficiently rational to be aware that their probability of being decisive is very small, and participate in part because it provides an opportunity to obtain satisfaction by expressing their moral feelings. If voters weigh the actual costs and benefits of a policy by the probability that their votes will be decisive, the resulting trivial evaluations could be outweighed by the personal satisfaction of supporting a 'good' cause. The predictions of this model cast doubt on the results of majority voting systems when decisions are seen to have an important 'moral' content, and lead to predictions inconsistent with the private interest models.

The fourth of Hardin's extensions to the private interest model relates to the effects of ignorance and misunderstanding on policy outcomes or more positively to the role of information in policy choice. The provision of information as a basis for policy choice is widely seen as a major role for economists in the policy process. The provision of information includes a wide range of activities from formulating and refining major theories or ideas about the structure of an economy and the efficacy of particular broad policy regimes to the detailed micro-economic analysis of highly specific policies.

At the level of individual industry policies, there may be differences in the ability of competing interest groups to accumulate information. McCormick and Tollison (1981) and Spriggs (University of Adelaide, pers. comm., 1989) demonstrate, from within a private interest model augmented to allow for differential costs of obtaining information, that public provision of information may reduce the level of intervention by reducing the differences in the information sets of different groups.

There may also be scope for the provision of information to be effective at the broader level of policy choice. The private provision of information on broad issues such as the efficacy of protection is likely to be quite poorly developed because of the 'public-good' nature of such information. Further, the broader and more encompassing interest groups relevant to such decisions are more likely to emphasise overall efficiency than sectional distributional concerns since their membership is likely to be sufficiently broad to internalise many of the efficiency losses associated with the pursuit of narrow distributional concerns (see Olson, pp. 50–3).

Even if economists can unearth and make available new information about the effects of policies, some scepticism must remain about their ability to muster political support given the inevitable cacophony of alternative 'information' supplied by adversely affected vested interests (Becker 1983, p. 393). The provision of information may be sufficient to improve policy choice in some cases but not in others. Even if, for instance, individual consumers of a particular food are made aware that a policy imposes costs on them, they may individually have insufficient incentive to incur the costs of organisation needed to effectively counter the pressure for policy intervention.

In summary, recent developments in the public choice literature have produced a number of models which appear relevant to the analysis of policy reform. Strong interpretations of the now ascendant private interest model lead to the conclusion that the specific policies adopted will be the most efficient measures available to achieve whatever redistributions are dictated by the balance between the distribution of political power and the costs of redistribution. Even this weak efficiency or public interest outcome is weakened by inefficiencies arising from poor identification of political property rights and inability to make many efficiency enhancing side payments.

Another strand in the literature, the contractarian approach, focuses on the importance of rules for policy choice in determining actual policy outcomes, leading to the conclusion that a focus on the rules of policy choice may be more productive than a focus on actual policy outcomes. Further extensions to incorporate moral considerations and the desire to participate in the policy process also influence the outcomes arising from the policy process. Finally, the prevalence of ignorance and misunderstanding provides a role for active intervention to improve policy formulation. However, the private interest model leads to some caution about the degree to which private interest groups are likely to be ignorant on issues of relevance to them. In this light it seems likely that ideas and information provided by economists may have their greatest impact at the level of broad policy choices and on the choice of rules for policy choice.

Predictions and Empirical Evidence

Of the models considered in section II, probably only the private interest model is defined in such a way as to generate specific, testable hypotheses about policy outcomes. Unfortunately, data limitations make the testing of this hypothesis difficult in practice. Data on, for instance, the costs of organising particular groups to mount lobbying campaigns are rarely available. In fact, over the past decade the theory has been subjected to a wide variety of tests using a range of proxies for the relevant unobservable variables.

Anderson (1978) examined the pattern of assistance to Australian agricultural industries and found that the pattern of assistance was broadly consistent with the private interest model. In particular, he noted that the export-oriented industries with large numbers of producers, such as cereal and livestock, received low levels of assistance. The strong export orientation of these industries makes them relatively difficult and costly for governments to assist. While an export subsidy has the same effect for these industries as a tariff does for an import-competing industry, the export subsidy is a burden on, rather than a source of, government revenue and must be funded by distorting taxes elsewhere in the economy. He also noted the relatively high level of assistance provided to the few import-competing agricultural industries in Australia. Another important finding was that the highly assisted industries tended to be relatively small, labour-intensive industries which have grower organisations for marketing purposes and are often geographically concentrated. These observations are strongly consistent with the private interest theory. Geographical concentration and the existence of grower organisations for marketing purposes tend to lower the costs of organising to obtain assistance while the smaller number of producers increases each individual's share in the total benefits obtained through lobbying.

In a later study of assistance to Australian manufacturing industry, Anderson (1980) found further evidence consistent with the private interest theory. One of the key conclusions to emerge was that the exporting and non-traded goods industries tended to be assisted less than import-competing industries. He also concluded (1980, p. 139) that there was a tendency for industries with fewer firms, and perhaps with more employees, to be more heavily assisted.

Sieper (1982) presented a detailed study of assistance to Australian agriculture based on the private interest model. After careful examination of the policies used at the individual commodity level, he concluded that agricultural policies which, on first examination, appeared to be grossly inefficient were often perfectly rational and efficient means of achieving particular redistributions given legal or other constraints on policy choice. His analysis suggested that industries frequently responded quickly to changes in their external environment, making whatever changes were needed within a year or two of a change in circumstances. This widely cited book provided strong support for the relevance of the private interest model to Australian agricultural policy, at least at the individual commodity level.

While care must be taken in translating results from other countries, with their different decision making frameworks, some evidence from the overseas literature on patterns of assistance is likely to be instructive. A recent quantitative study of assistance patterns to US agricultural commodities (Gardner 1987) also provides support for the private interest model at the individual commodity level. In particular, he concludes that: (i) greater deadweight losses per dollar transferred reduce intervention; (ii) that there is an 'optimal' number of producers for obtaining assistance; and (iii) that the import/export position of the commodity is an important determinant of the level of assistance obtained.

While the private interest model appears to be useful in explaining some phenomena, there are others for which it has been less successful. The most obvious failure, and one emphasised by Quiggin (1987), is its inability to explain the propensity of electors to vote in voluntary elections. Since the probability of a vote being decisive decreases with the size of the electorate, the expected gain from participating in an election with thousands or millions of voters is extremely small. Extra-rational explanations such as a desire to participate and possibly 'moral' attitudes on the responsibility of the citizen appear to be required.

Another important limitation of the private interest model is its inability to explain some major shifts in the broad policy regime. While the model appears to explain differentials in assistance levels among industries, it does not appear to explain changes such as the shift in the prevailing 'ideology' on industry assistance in Australia during the 1980s from 'protection all round' to economic rationality noted by Davis, Wanna, Warhurst and Weller (1988, p. 175). Similarly, while Pincus (1984) sees the private interest model as explaining the pattern of industry assistance in the United States, he suggests that it should not be used to explain the decline of the average tariff to one-tenth of its level in 1930. Further, the pure private interest model has no explicit place for changes in the rules of policy making, such as the introduction of a transparency agency (Carmichael 1986) into the process of determining assistance levels, and hence tests of the private interest model are unable to assess the importance of such changes in the rules of policy formulation.

Paarlberg (1989, pp. 1159–60) argues, without drawing on the contractarian literature, that governments do have a major degree of autonomy in setting initial policy rules, but lose this autonomy once a framework of institutions has been developed and become constrained by interest group pressures within this framework. This view is clearly consistent with a contractarian view.

Most expositions of the private interest model (e.g. Becker 1983) make the simplifying assumption that information is freely available, an assumption which will sometimes be misleading. On some occasions, it appears that improved understanding of the underlying economic system has contributed to economic change. Corden (1989, p. 158) attributes the willingness of the union movement in Australia to accept real wage reductions to improved understanding of the underlying economic parameters and, in particular, the employment costs of maintaining excessively high wage levels.

Overall, the private interest model of regulation emerges as a powerful but incomplete model of policy choice. Given the incompleteness of this model, soundly based proposals for policy reform will require an understanding of the actual influences on policy in each case.

The experience of Australian policy reform

A number of major developments in Australian agricultural policy since 1983 were identified in earlier papers (Martin 1989, 1990) and need only be summarised here. A number of themes relevant to the public choice literature surveyed above emerged in these more detailed surveys of policy changes and it became clear that this period provided a case study of relatively wide-ranging and successful reform.

A listing of some of the policy developments with a major impact on recent Australian agricultural policy is given in Table 1, together with a summary comment on the process used to make the policy change and the public choice theories which appear to be of greatest relevance. Each of the policy developments identified in Table 1 is discussed and related to public choice theory in the remainder of this section.

TABLE 1

Major agricultural policy developments, the process used, and relevant public choice theory

Development	Process	Theory
Change in ideas	Academic/Institutional	Public interest
IAC	Institutional	Contractarian
Wheat marketing	IAC Reports/Negotiation	Private interest
Dairy marketing	IAC Reports/Negotiation	Private interest
Sugar marketing	Inquiries/Negotiation	Private/Contract
1986 Policy statement	Cabinet	Private/Public
1988 Assistance reforms	Cabinet Committee	Contractarian
Resources policies	Institutional innovation	Contract/Public
GATT Negotiations	Institutional innovation	Contractarian

Change in ideas about industry assistance

The prior development of ideas on agricultural assistance appears to have been a major influence on developments in agricultural policy (Martin 1989). The extended discussion of the desirability and feasibility of tariff compensation for agriculture (Harris 1975; Lloyd 1975; Warr 1978), and the resulting consensus that effective compensation was unfeasible in practice, appears to have had a major impact on subsequent policy debate. This debate both related to and contributed to a broader debate on industry assistance policies where the balance of opinion moved from import substitution towards economic rationality (Davis *et al.* 1988, p. 175). A related debate on adjustment policies made explicit the need for continuing adjustment to changing economic circumstances, a principle implicit in the Rural Adjustment Scheme.

It seems difficult to interpret the development of these ideas on policy as being due to the private interest model, except perhaps through the private career interests of academics and public servants who contribute to the debate. To a major degree, this development seems to have been one where improved information about the structure of the economy contributed to improved policy choice. In terms of the public choice theories discussed above, this development would then be consistent with both the public interest model and the separate role of information identified by Hardin.

Only if the private interest framework is interpreted in a much broader context than is usually the case would it be possible to reconcile this outcome with the private interest model. In such an interpretation, the recognition that the losses from tariff protection were large enough to undermine the gains to the beneficiaries and to convert many interest groups not directly affected by tariffs into losers might be seen as leading to a change in the stance adopted by pressure groups. Certainly, this explanation is consistent with the change in the stance of agricultural interest groups (see for example Trebeck 1982). However, at this level of generality, the private interest model loses the ability to explain why the distorting policies were chosen in the first place.

Industries Assistance Commission

The second entry in Table 1, the establishment of the Industries Assistance Commission (IAC), also appears to have had a remarkably strong influence on the policy process, and to have been associated with and contributed to the change in ideas about industry assistance measures. In principle, the IAC as a purely advisory body might be thought of as having no impact on policy except through the information which it provides. As noted by McCormick and Tollison (1981) in their extended version of the private interest model, this role alone may lead to efficiency improvements if it reduces the differences among interest groups in terms of their ability to obtain and utilise information. Since it is only the relative strength of interest groups which is relevant in obtaining transfers (Becker 1983), reductions in differences between the strength of different groups might be expected to reduce the extent of distributive transfers.

The contribution of the IAC appears more comprehensive than the provision of information when viewed from the perspective of the full range of public choice models outlined above. The IAC introduced an explicit economy-wide orientation to assistance policy decisions, an orientation which tends to be neglected by the relatively strong narrow interest groups (Olson 1982, p. 29). This focus stimulated the establishment or modification of other institutions. In particular, it seems that the resulting increase in the emphasis on economy-wide linkages, such as the costs imposed on agriculture by tariffs and import quotas, contributed to the establishment of the National Farmers' Federation (NFF) as a peak organisation representing farmers (Trebeck 1982). Further, the Bureau of Agricultural Economics substantially increased its public role in the policy formulation process following the establishment of the IAC.

The argument that the IAC has had a major impact on the policy process would be difficult to reconcile with a simple private interest model. If the private interests involved were sufficiently strong to defend their particular assistance measures in the absence of the IAC, would they not be sufficiently strong to effectively oppose the recommendations of the IAC, and, if necessary, secure its abolition? If their strength in the absence of the IAC depended upon ignorance and misunderstanding, surely they could provide sufficient misinformation to negate any analysis undertaken by the IAC (see Becker's 1976 argument) and perhaps to secure its abolition.

The survival of the IAC, despite numerous attempts to secure its abolition, seems consistent with the general contractarian principle that it is likely to be easier to secure agreement on a general set of rules than on specific policies (see for example Brennan and Buchanan 1985, p. 29). Individuals, and many organisations, tend to be unsure whether such a process will be to their advantage or disadvantage over a sustained period, and tend to assess it on its perceived general merits, rather than purely in terms of its direct impact on their immediate private interests.

The IAC was merged with the Interstate Commission and the Business Regulation Review Unit in March 1990 to form the Industry Commission (IC). The core functions of the IAC in policy analysis and the recommendation of assistance policies were retained by the new organisation. In addition, the IC acquired responsibility for a wide range of micro-economic reform issues beyond the IAC's field of explicit government assistance. The expansion of the IC's charter could alter the balance of interests over a wide field of micro-economic reform in the same way that the IAC appeared to do in the area of assistance policies and will provide an indication of whether this type of institutional reform is effective beyond the field of industry assistance policies.

Wheat marketing policies

During the period under review, major reforms were made to marketing and assistance policies in three major industries: wheat, dairy and sugar. In each of these cases, the process used was broadly similar, with an IAC inquiry early in the process and subsequent negotiations between the government and the relevant interest groups. In each case, the government appeared to have a broadly defined public interest objective involving economic efficiency and equity. However, securing reforms which were opposed by particular interests involved an enormous investment in negotiating time and effort, even in cases where the resulting policies appeared to be consistent with the interests of the major groups involved.

Of these three cases, wheat marketing is the one in which the most fundamental change has occurred. Prior to 1983, wheat marketing was highly centralised, with compulsory deliveries of wheat; a substantial degree of pooling of returns across time, place and quality; and government monopolies over most aspects of grain transport, handling and storage. As Sieper (1982) has observed, many aspects of this regime can be given a private interest interpretation. They allowed for redistributions to be made among groups of growers, and for side payments to be made to secure the agreement of particular interests such as state governments, whose support was needed to secure the relevant complementary federal/state legislation.

Over time, the benefits available to wheat growers from these arrangements have probably diminished relative to their costs, just as appears to have occurred with regulation of the banking sector (Harper 1986). The costs associated with pooling grains of different types increased as new varieties were developed, allowing the dilution of the average quality of wheat in the pool. The administrative response of restricting the varieties which could be grown imposed further costs. Other interest groups created or assisted by the regulations, such as the Bulk Handling Authorities and the rail authorities which typically held a monopoly or near monopoly on grain transport, appeared to obtain substantial benefits at the expense of growers (BAE 1983, p. 10).

The initial opposition to the regulated marketing arrangements arose within the grower organisations which had traditionally been staunch supporters of the arrangements. While the heated debate within these organisations resulted in defeat for those seeking reform, their arguments and those of the IAC and the BAE undoubtedly contributed to the ultimate acceptance of a measure of deregulation. As Olson (1982) has emphasised, there are far greater difficulties in exerting effective political pressure when there are marked differences of view within an interest group.

The provision of information and the development of an appropriate decision-making process were important steps in securing reform in wheat marketing. The 1983 IAC report recommended:

(i) deregulation of the domestic market;
(ii) reduction in cost pooling;
(iii) provision of more information to assess the performance of the Wheat Board.

Only a small step toward deregulation was made in the 1984 legislation governing wheat marketing. This involved the use of direct sales under permit for feed wheat and provided the industry with some experience in operating under a free market.

Intense concern about low returns to producers during the 'farm crisis' of the mid 1980s focused attention on marketing costs in wheat. In 1986, the government took the unusual step of establishing a Royal Commission in order to obtain more information about the efficiency and costs involved in the wheat handling, transport and storage system (Commonwealth of Australia 1986). The major conclusion of the Royal Commission was that these costs could be substantially lowered by allowing greater competition in these activities (Royal Commission into Grain Storage, Handling and Transport 1988).

In the 1989 legislation, the industry has been substantially deregulated, with complete deregulation of the domestic market, and with the Wheat Board being allowed greater flexibility in the trading options which it provides to growers. The outcome in this case appears to involve harnessing private interest pressures to achieve reforms which were consistent with both these private interests and a more broadly defined public interest. In this case, this process was relatively difficult and protracted because of opposition from other interest groups. The provision of information from IAC inquiries and the Royal Commission appears to have played an important part in achieving reform.

Wheat marketing reform appears to have been similar in process to the deregulation of the banking sector discussed by Harper (1986). In both cases, the regulations appear to have outlived their usefulness to their primary beneficiaries, making deregulation consistent with a private interest model as well as the public interest. Despite this, a number of inquiries were required to obtain information and to change views on the desirability of deregulation. As in the case of banking, the actual process of deregulation still required a sustained political effort.

Dairy marketing

The case of dairy marketing is similar to that of wheat marketing in having involved an IAC inquiry process followed by protracted negotiations among private interest groups where political pressure, rather than the information provided by the IAC, appeared to play the major role. In this case, however, the benefits to the industry from the regulations were substantially greater than in the wheat industry, with transfers from domestic consumers being the major factor contributing to an effective rate of assistance to this industry in 1987 of 127 per cent (IAC 1988).

Sieper (1982) provides a detailed description of dairy marketing policy in the early 1980s, concluding that the private interest model served especially well to explain the structure of assistance. A particular complication in this industry is the division of responsibility between Federal and state governments, with the Federal government having export control powers and the state governments having responsibility for marketing of fluid milk. The negotiations involved in formulating the new policy were protracted, primarily because of the strategic behaviour of the state industry organisations.

Since fluid milk is sold at a substantial premium over manufacturing milk, there is an incentive for processors to take advantage of this differential and supply the fluid milk market in another state. Such narrowly rational behaviour leads to an outcome which no supplier would prefer. The fluid milk premium will disappear if each state seeks to take advantage of higher marginal returns available in other states. Further, the simple approach of appealing to government for a regulatory ban on interstate trade in milk is made difficult by the explicit Constitutional prohibition of such restraints on interstate trade under Section 92.

Public choice theory suggests that the intensity of such a strategic interaction problem will be diminished in an iterated game (Hardin 1982, p. 145) and this prediction is consistent with the nature of the negotiations. The negotiations in this case were drawn-out, with threats of incursions from Victoria into New South Wales, and counter threats of deregulation until agreement was finally reached on a compromise.

The dairy marketing arrangements introduced in 1986 resulted in a more direct link between the world price and the domestic price than had previously prevailed. However, the major change introduced in these arrangements was the abolition of the practice of pooling (or averaging) returns from all sales in each market for dairy products, and the system of allowances for transport and other costs used to support these arrangements. The system of export pooling, and possibly also the system of pooling on the domestic market, might have allowed the industry to price discriminate in order to increase returns (Sieper 1982). However, it involved inefficiencies because it reduced the incentive for processors to respond to changes in the composition of market demand or to invest in market information.

The reform of the dairy pooling arrangements might be given a private interest interpretation like that offered by Harper (1986) for the banking sector. The centralised system of marketing was more suited to an earlier era of relatively small, localised cooperatives for whom the acquisition of market information was costly. However, by the early 1980s, the structure of the processing sector had changed dramatically following a wave of mergers and acquisitions. The resulting large firms were able to undertake their own market research and marketing at a lower per unit cost, and stood to gain by undertaking their own marketing.

Overall, the reforms in dairy marketing during the period under study seem amenable to interpretation using a private interest model. While the IAC inquiry process may have assisted initially with the provision of information, the final outcome was shaped by a negotiating process strongly consistent with the private interest model and its predictions.

Sugar marketing

The process of reforming the sugar marketing arrangements commenced with an IAC report intended to provide a negotiating basis for legislation to replace the Commonwealth/Queensland legislation which expired in 1984, and to recommend whether short term assistance should be granted to the industry. The IAC (1983) recommended the provision of some assistance to the industry, and a substantial deregulation of the industry.

The actual policy changes in the industry followed a remarkably protracted period of discussion and negotiation, and two additional major inquiries, one internal to the industry and the other a tripartite inquiry representing all major interest groups involved in the industry (the Savage Inquiry). The process seems best characterised as consistent with the private interest model, augmented by information inputs from three major government sponsored inquiries.

The sugar industry in Australia is tightly regulated, with controls on the total area of cane, deliveries of cane and particular restrictions on how and where production can take place (Borrell and Wong 1986; Connell 1987). Since the producer price of sugar is pooled across domestic and export sales, restrictions on output would be consistent with the private interests of the producers if domestic production were not large relative to domestic consumption. Participation in successive International Sugar Agreements up to 1984 may also have made supply control consistent with the interests of the industry. However, production now greatly exceeds domestic consumption, meaning that the transfers from the domestic market are likely to have only a minor impact on the producer price and the price provisions of the International Sugar Agreement seem unlikely to be revived.

Under current conditions it seems that the industry and the economy as a whole has little to gain and potentially much to lose by supply controls which restrict the efficient production of sugar on land which typically has a much lower return in alternative uses (Borrell and Wong 1986). Sugar is a relatively homogeneous product and Australia faces many competing suppliers on world markets so there seems little likelihood that supply controls would substantially raise average export prices. Under these circumstances an increase in supply resulting from relaxation of output controls would not disadvantage existing growers. Despite this, proposals for deregulation of the industry experienced intense opposition.

Despite considerable effort invested by the Federal government, and general support for some degree of deregulation by the State government (Queensland Government 1988), reform in the industry has been limited. Some additional flexibility has been introduced with land assignments allowed to 'roam' where a change in location is desired, instead of being rigidly fixed, and some additional flexibility in milling arrangements has been introduced, but the basic regulatory structure remains.

At least a partial explanation for the difficulty involved in achieving reform appears to lie in the structure of decision-making rules in this industry. These rules involve a strong emphasis on equity which allows individual growers or groups of growers effective veto rights over changes in matters ranging from cutting and milling arrangements for local areas to the total area used for cane production. Such a rule is analysed by Buchanan and Tullock (1962) who conclude that it is likely to involve high decision-making costs. In the case of sugar, it seems likely that these costs are particularly large.

Fundamental reform in this industry may require a change in these rules, or the formulation of policy proposals which explicitly take them into account. If, for instance, all current participants in the industry were to receive a share of any new production rights, and such rights were made transferable, then less resistance to allowing expansion might be expected from the 'land-locked' growers who typically oppose expansion under current rules.

1986 Rural Policy Statement

The 1986 Rural Policy Statement was brought down in April 1986 (Commonwealth of Australia 1986) at a time of rural 'crisis' and considerable pressure from farm organisations. While the package was an attempt to diminish the pressure on the government from rural interests (Gerritsen and Murray 1987), perhaps its most important feature was that it contained relatively little direct assistance.

Some of the major initiatives involved in this statement were:

(i) assistance tied to the restructuring of the sugar industry;
(ii) expansion of the Rural Adjustment Scheme;
(iii) expanded efforts to liberalize world agricultural trade; and
(iv) a Royal Commission into the Handling, Transport and Storage of Wheat.

The first two items in the list do involve the traditional response to a perceived 'crisis', that of throwing money at the problem to satisfy private interests which are exerting pressure. However, in this case, the funding supplied was linked to achieving some desirable objectives. In the case of sugar, the assistance was provided explicitly as an incentive to the industry to accept deregulation of its marketing structures. Funding for the Rural Adjustment Scheme was increased substantially, and a change in its funding approach from direct lending to providing an interest rate subsidy greatly increased the ability to provide funding. While it is unclear how the provision of subsidised credit through adjustment schemes can facilitate economically desirable adjustment, the existence of such a scheme may have a political second-best role, in helping to deflect pressures for other assistance.

The farm 'crisis' focused attention on the negative effects of agricultural protection in the major developed country markets and ensured that the GATT negotiations on trade liberalisation received a high priority in government. The Royal Commission into Wheat Handling focused on domestically induced costs imposed on producers. The advantage of this form of inquiry was its greater ability to obtain information from the (government owned) bulk handling authorities.

The 1986 Policy Statement was brought down as a response to intense pressures for action at a time of perceived 'crisis'. In most areas it appears to have been successful in deflecting these pressures into proposals consistent with the traditional public interest criteria.

The 1988 assistance reforms

The 1988 assistance reforms were part of a coordinated program of assistance reduction designed to increase competitiveness across the economy. Unlike the 1986 Rural Policy Statement, the government did not appear to be under direct pressure to introduce such a statement at the time. Rather, it appears to have been part of a broader public interest strategy of overall micro-economic reform.

This assistance package involved a wide range of assistance reductions across industries and sectors. The general principle in the package was to reduce over the four years to 1992 nominal tariffs above 15 per cent down to 15 per cent and tariffs between 10 and 15 per cent to 10 per cent. Exceptions were made, in response to traditional private interest pressures, for the high cost textiles, clothing and footwear sectors and for the motor vehicle sector. Even in these industries, substantial reductions in assistance were made. Some reductions in direct agricultural assistance were introduced, although the generally lower level of initial assistance to agricultural industries meant that they generally experienced smaller reductions in assistance than other industries. The reduction in the average level of assistance provided under the policy was approximately one-third (IAC 1988), making this a major shift in protection policy.

The National Farmers' Federation had advocated such a policy of across-the-board assistance reduction since the late 1970s, as noted by Kerin (1983). The formal support of this interest group would have removed one potential obstacle to introducing such an assistance package. The Industries Assistance Commission had earlier analysed the effects of such a general reduction in assistance (IAC 1982). A review of the effects of assistance reductions across the newly-merged Primary Industries and Energy portfolio provided up-to-date information on the effects of particular assistance changes (Martin *et al.* 1988).

The implementation of this assistance package was primarily the responsibility of the Structural Adjustment Committee of Cabinet, a subcommittee of Cabinet introduced in 1987 to allow senior economic ministers to focus on medium term economic issues. This institutional innovation appears to have had a major influence on the successful adoption of this reform.

This reform seems difficult to interpret in terms of the private interest model. As some of the major contributors to the literature on the private interest model concede, this model is designed more to explain deviations from the general level of protection than the choice of a tariff regime (see Brennan and Pincus 1987, p. 30). The apparent success of the 1988 package suggests that governments may have more discretion in choosing a trade regime (e.g. relatively open or relatively closed) than they would in choosing the protection level for particular industries.

Another possible inference to be drawn from this experience is that economists seeking to influence the policy process might target their advocacy more to the general principles involved in choices of tariff regimes, rather than to specific assistance levels for particular industries. Studies of particular industries provided, for example, in the course of an IAC inquiry might make their greatest contribution by influencing attitudes on the overall effectiveness of protection.

Natural resources policies

The management of natural resources has been a major area of institutional innovation in recent years. Increasing pressures on resources and an increased awareness of the institutional options for improved resource utilisation have contributed to this development. Major institutional innovations have included the Murray–Darling Basin Agreement of 1987 (Clark 1989), the development of fishery management schemes (ABARE 1986) and the establishment of the Resource Assessment Commission.

The Murray–Darling Basin Agreement followed the accumulation of evidence about the costs associated with the previous, non-cooperative approach to management of this resource (e.g. Quiggin 1988). Further, its structure, with up to three ministers from each state allows the formation of coalitions across states, potentially reducing the intensity of negotiating failures by incorporating interactions across issues (see Hardin 1982, p. 180). Whether these interactions will be sufficient to diminish the extent of failures in interstate policy coordination remains to be seen.

The rapid expansion of fishery management schemes in recent years is consistent with the private interest model. Fishing groups seek to use the power of the state to control levels of output (and inputs). Given the common property nature of a fishery, such intervention can generally lead to an overall efficiency improvement, and hence allow all parties to be made better off. A wide variety of policy instruments have been used in fisheries management, including combinations of different instrument types such as overall output quotas distributed as negotiable quotas (Wonder, Morris and Wilks 1989). Distributional issues arising from the process of quota allocation, and the incidence of the costs of management schemes have caused significant conflict, but the presence of substantial overall efficiency gains has typically provided scope for these conflicts to be resolved.

The establishment of the Resource Assessment Commission to advise on resource use issues (Prime Minister 1988; Kerin, Richardson and Cook 1988) is consistent with the contractarian approach of influencing policy outcomes by achieving agreement on a set of rules for policy formulation, rather than by focusing on particular outcomes. There is a clear parallel between the role of this Commission and that of the Industries Assistance Commission in industry policy. Just as the IAC has changed the nature of the debate and the decision-making process in the assistance area, this Commission could have a major impact in the resources area.

There is, however, a need for caution in too literal an interpretation of the IAC model, since the process generating policy intervention in the environmental and natural resources area seems to be significantly different. While the private interest model provides a powerful model of patterns in assistance policy, it seems less suited to explaining intervention in response to conservationist pressures. The simple private interest model of Olson (1965), for instance, would tend to predict that national environmental groups would be weak, since they represent large groups and the benefits they seek are very widely distributed. Only if the normal private interest model is extended to take into account factors such as political entrepreneurship (Olson 1965), moral considerations and, the desire to participate does the apparent strength of such organisations in recent years seem explicable.

Whatever the underlying process, there remains a widespread view that the current process of case-by-case political decision-making in this area is *ad hoc* and costly (e.g. Clark 1989, p. 14). Since the process appears to be heavily influenced by perceptions rather than information and analysis, there may well be scope for the Resource Assessment Commission to make a major contribution through the provision of information and a consistent analytical framework.

International trade

Negotiations under the GATT highlight the importance of rules for achieving policy reforms. Interestingly, the framework of rules used in the GATT process is not directly that which might be envisaged by economists beginning from a public interest perspective. In essence it attempts to harness mercantilist horses to a free trade wagon. As Pincus (1984, p. 1179) notes, the method used tended to emphasise multilateral negotiations under the principal supplier rule in the 1950s while flexible application of tariff-cutting formulae became the norm in the 1960s and 1970s. However tenuous the link between these rules and pure free trade, they have allowed progressive and substantial reductions in tariffs on manufactured products.

Virtually all trade distortions reduce world welfare even in those rare cases (e.g. the large country case) where they lead to a potential Pareto improvement in the imposing country. In the absence of an established international negotiating framework, there is no mechanism to internalise the costs imposed on trading partners by trade distortions. Even with a negotiating framework, there is still a possibility that mutually beneficial reforms will not occur because of strategic behaviour such as that observed in Prisoners' Dilemma problems; if a country does not believe that other countries will reciprocate when it lowers protection, it may not be willing to lower protective barriers which have support from domestic pressure groups. As Hardin (1982, p. 186) notes, however, these problems become less serious when the 'game' is played repeatedly and the possibility of retaliation for non-cooperation emerges. Perhaps for this reason, the GATT negotiations have been organised into sequential rounds.

In most cases, trade liberalisation leads to unilateral gains for the liberalising country. However, liberalisation may not occur because of difficulties in compensating the losers, and possibly because of a lack of understanding by the potential gainers of the extent of their losses from protection. International negotiations can potentially assist in forming a new coalition for liberalisation. Exporters who stand to gain directly through improved market access as well as indirectly through reductions in the costs imposed by protection may be moved to exert additional pressure for liberalisation. Consistent with this, the NFF has strongly supported international trade initiatives designed to lower agricultural protection.

Agriculture was not in the mainstream of past multilateral trade negotiations under the GATT and the special treatment of agricultural policy has probably contributed to the serious distortions which have emerged in world agricultural trade. As a major exporter of agricultural products, Australia stands to gain from liberalisation of world agricultural trade (Tyers and Anderson 1989, p. 211). The prospects for placing agricultural trade firmly on the negotiating agenda ultimately of achieving trade reform were probably assisted by the increasing pressures from developed country exporters of services and of intellectual property for improved trade policies in these areas, and by the increased interest of developed country exporters in trade opportunities for manufactures.

Australia's chief priority in the current multilateral trade round has been agriculture (Fitzgerald 1986), and a range of issues and regional cooperation coalitions have been used to pursue the objective of liberalisation in this area. Perhaps the most important such coalition has been the 'Cairns group' of agricultural non-subsidising countries formed to 'maximize these countries' leverage in obtaining a clear mandate for agricultural trade liberalization' (Fitzgerald 1986, p. 18).

Given the direct and clear Australian interest in agricultural trade liberalisation, and the increased commitment to domestic liberalisation evident in domestic policy, Australia has been a much more important player in the current GATT round than in previous rounds (Harris 1989). While the outcome is as yet uncertain, the prospects for reform are much better than in earlier rounds when agriculture was sidelined as a special case. If so, this would suggest that reform of agricultural trade policies depends not only upon private interest pressures but also on the rules under which these pressures interact.

Conclusions

The examination of agricultural policy reforms undertaken in this paper highlights the need for a relatively rich theoretical framework if the process of policy choice is to be adequately understood or influenced. While the private interest model remains central to understanding policy choices, it clearly needs extension if many policy reforms are to be explained.

In the period under study, the prior development of economically rational ideas about assistance policy is seen as being largely within the traditional public interest approach. The establishment of the IAC as an advisory body on agricultural (and other) assistance is consistent with a contractarian view – that in formulating a set of rules for policy choice individuals will be less concerned about their direct private interests, and may be prepared to support an approach consistent with overall efficiency.

In three case studies of single industry policy reform, the negotiation and debate following IAC inquiries generally appeared to involve the balancing of private interest pressures characteristic of the private interest model. Some policy changes such as the abolition of cost pooling in the dairy industry can be given a private interest interpretation in light of changes in industry structure. Conflict over the distribution of market milk rents is a pure private interest problem which required iteration of the negotiating process to reach a stable outcome. Deregulation of the wheat industry generally appears to have been in the interest of wheat growers, as well as that of the broader public. With opposition from groups benefitting from the regulations, a Royal Commission process proved to be a useful step in achieving reform. The sugar industry illustrated the possibility that restrictive policy decision rules within an industry could stifle reforms consistent with the interests of the group.

The 1986 Rural Policy Statement was a response to a major 'crisis' of low returns but was designed to harness the resulting pressures to achieve Pareto improving reforms. The 1988 industry assistance reforms were coordinated by the Structural Adjustment Committee of Cabinet and had a broad 'public interest' objective of improving competitiveness and efficiency. Support from farm organisations prepared to trade in some of their own assistance measures provided a private interest pressure for public interest reform.

Natural resources management has involved the development of new institutions for policy choice including the Murray–Darling Ministerial Council and the Resource Assessment Commission. The Uruguay Round of international trade negotiations has seen the development of new coalitions across issues in an attempt to achieve reductions in agricultural protection.

The establishment of the Resource Assessment Commission and the expansion of the role of the Industry Commission to broader micro-economic reform issues represent an interesting attempt to change the 'rules' of policy debate in these areas. The success of these attempts to apply the model pioneered by the IAC in the field of direct government assistance policy will provide an important indication of whether this type of reform is applicable beyond the field of assistance reform.

The diversity of policy outcomes surveyed in this paper seems to require significant extension of the pure private interest model if policy choice is to be understood. Private interest pressures are a crucial influence on policy, but actual outcomes also depend heavily on the decision-making process used, moral considerations and the availability of information. Given the much greater diversity apparent in the policy process than in the simple private interest models, an important role appears to remain for economists in providing information and in designing both policy rules and rules for choosing policy rules. In contrast with the pure private interest model of passive policy responses, what policy makers do remains important, not only for their choice of actual policies but for the processes which they establish to make policy choices.

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