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Climate change: a rational choice politics view*

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Reduction in carbon dioxide emissions constitutes a global public good; and hence there will be strong incentives for countries to free ride in the provision of CO_2 emission reductions. In the absence of more or less binding international agreements, we would expect carbon emissions to be seriously excessive, and climate change problems to be unsolvable. Against this obvious general point, we observe many countries acting unilaterally to introduce carbon emission policies. That is itself an explanatory puzzle, and a source of possible hope. Both aspects are matters of 'how politics works' – i.e. 'public choice' problems are central. The object of this paper is to explain the phenomenon of unilateral policy action and to evaluate the grounds for 'hope'. One aspect of the explanation lies in the construction of policy instruments that redistribute strategically in favour of relevant interests. Another is the 'expressive' nature of voting and the expressive value of environmental concerns. Both elements – elite interests and popular (expressive) opinion – are quasi-constraints on politically viable policy. However, the nature of expressive concerns is such that significant reductions in real GDP are probably not sustainable in the long term – which suggests that much of the CO_2 reduction action will be limited to modest reductions of a largely token character. In that sense, the grounds for hope are, although not non-existent, decidedly thin.

Key words: climate change, expressive voting, global public goods, public choice.

1. Introduction: who owns the question?

If you spend much of your time hovering over the boundaries between disciplines (as I do) you discover soon enough that one of the battlegrounds involves the ownership of problems. This is certainly so in the climate change case. The meteorologists, for example, think climate change is basically a scientific problem. The philosophers think it is basically a moral problem. The economists think it is basically an economic problem. Of course, in some measure, it is all the above. But here, I want to advance and defend the view that climate change is essentially a political/institutional problem.

For the purposes of the exercise here, I shall take it that there is a broad scientific consensus on several putative 'facts': that carbon (and related) emissions have dramatically increased the concentrations of carbon dioxide in the

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atmosphere; that these increased concentrations will (or may well) have dire consequences for the world's climate and hence for the global ecological system; and that reduction in carbon emissions is therefore an urgent policy imperative. Economists are often inclined to be skeptical about the second and third of these claims – related perhaps to the incentives and selection effects that they see as dominating academic environments (attention-seeking in the domain of academic esteem/reputation; and grant-seeking in the domain of research financing). However, even if one thought that predictions of the climatic and other effects of increased carbon dioxide concentrations were pretty much a matter of conjecture and that no-one can really *know* what the effects of those increased concentrations will be, one might well think that the downside risks (associated with the more extreme scenarios) are sufficiently plausible as to constitute a case for reduction in total world emissions – or at least, that they do so unless the cost of carbon emission reduction turns out to be very much higher than anyone thinks. This posture is, I take it, more or less that adopted in the Stern (2006) and Garnaut (2008) reports[1], and it seems to me to be a responsible one in the circumstances.

But alongside this *scientific* consensus, there is similar professional consensus – among economists – to the effect that decentralised action in relation to public goods involves incentives to free-ride that can only be satisfactorily overcome by explicitly collective action. The explicitly collective aspect lies in the property that the contribution of each must be directly matched at 'appropriate rates' with the contributions of others. In the absence of such direct and enforced matching, agents will rationally free-ride. This is the basic point of Samuelson's canonical public goods articles in the mid-1950's. The central ambition of his demonstration of large-scale 'market failure' in relation to public goods supply was to create an intellectually defensible case for 'public expenditure' – hence the titles of Samuelson's papers. And by 'public' here, Samuelson means to invoke the coercive power of the state to tax. To be sure, subsequent experimental evidence has dented the force of the market failure claims somewhat. It seems that in analogous n-person prisoners' dilemma experiments, some proportion of experimental subjects *will* act 'co-operatively' even in tolerably large number settings – and this is especially so if there is prior discussion[2] and a capacity to punish at some cost to the punisher.[3] Even so, in almost all such experiments, the proportion of 'co-operators' is rather less than half the population of players; and the

[1] It is also the posture adopted in much of the philosophical literature. See for example Broome (1992).

[2] Which on the standard rational actor view shouldn't make any difference: it is after all VERY cheap talk!

[3] Clearly, punishment is also 'irrational', providing a public benefit to all others and hence replicating the prisoners' dilemma problem at this higher level – unless punishers derive some private benefit from punishing. It turns out that co-operators as well as defectors in the substantive game can be objects of 'punishment' – which suggests that there may be an intrinsic desire to punish.

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proportion tends to decline over repetitions of play.[4] As Samuelson points out towards the close of the first of his papers, although we might imagine individuals being programmed to behave in a manner required to achieve the optimality in public goods supply, there will always be the temptation to defect – to snatch some 'selfish benefit' of precisely the kind that economic agents are taken to pursue in their market roles. Samuelson's logic suggests considerable skepticism about the capacity of rational agents to resist such temptations – in keeping with the broad assumption of predominant self-interest[5] that is mainstream in economist circles. And the economics profession has followed him in that respect – accepting the general proposition that public goods do indeed constitute the core of an 'economic theory of the state'. The central notion is that individuals can, in principle, gain by the creation of explicitly collective contracts in which all are compelled to contribute: each gives up her capacity to free-ride in return for being able to prevent others from free-riding. The state is seen as the institutional embodiment of those collective contracts.[6]

In what follows, I am going to take this 'economic' consensus, no less than the scientific one, as authoritative. And I am also going to take it that carbon emission reduction *is* a global public good – that such reductions are more or less jointly consumed and non-excludable for all the world's population, and specifically for all national polities.[7] This economic consensus is also registered in the Stern and Garnaut reports – registered in the sense at least that it forms the basis of their understanding of the seriousness of the challenge that global emissions/climate change pose for the world. It is, for example, presumably what Stern has in mind when he refers to global warming as the biggest problem the world has ever had to face. But in neither the Stern or the Garnaut case, it seems to me, do these reports take the 'global public goods' aspect of the challenge seriously *enough*. It is as if this aspect is wheeled in essentially for *motivational* purposes: it plays a 'we are going to have to try very hard to solve the emissions challenge' role. But in both cases, the reports move on to discuss the policy issues as if they were essentially part of an exercise in rational *global* policy design – a kind of utilitarian calculus in relation to the optimal level of global emissions. And that is to assume the real problem away. The free-rider aspect is not so much an incidental complication – something that makes the problem 'especially hard'. It just *is* the problem, the centerpiece in a proper diagnosis of the global emissions disease.

[4] See Sally (1995) for a nice discussion, based on the whole sample of published experiments up to that time.

[5] When I say 'predominant' here, I mean widespread across the population, as well as playing a significant role in each individuals motivational structure.

[6] See Buchanan (1976) for a detailed exposition of this view.

[7] As far as I know, no-one disputes the 'global public goods' characterisation. This is what makes the global emissions problem categorically different from say the Murray–Darling basin or other purely national pollution problems.

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Or at least, this is so if one takes the economists' consensus on free-riding at face value. And if one does not, then there is an additional puzzle – namely, why one needs government action *at all* in relation to global warming. After all, if it is possible for 250 or so autonomous states to strike a voluntary deal to reduce carbon emissions, why should it not be possible for individuals to do much the same. To be sure, the number of potential free-riders escalates hugely once we move to the individual level. But the essential logic of the n-person prisoners' dilemma remains the same whatever the 'n' in question is, provided that it is considerably larger than 2. In short, if there *is* a solution to the free-rider problem short of effective global government (and by 'effective' here, I mean with the power to coerce non-co-operators) this is an important fact, not just for carbon emissions but also for the rationale for government in general, and yet more generally for the foundations of political philosophy.

Actually, there are puzzles anyway in the carbons emission case. For it is a striking fact that at least some countries (and some sub-national units like the state of California in the US; and it seems the city of Canberra) are introducing carbon emissions reduction policies *essentially unilaterally*.[8] Australia is one of these but by no means the only one – or the first. Europe has its own policy guidelines. The US is, we are told, likely to introduce something in the next few years. Japan has an emissions policy in place. And so on. In fact, the general picture is one of unilateral action by individual states (or relatively small collections of states) either independently of more global action or in anticipation of it (the prospect of an international agreement more stringent than Kyoto with larger numbers of countries signing up emerging from Copenhagen in 2009). That fact is *prima facie* a puzzle. Typically, the rational strategy for players in prisoner's dilemma situations whenever there is an attempt to organise collective action is the 'I'll-fumble-you-pay' strategy, familiar from occasions when economists go out for a drink together!

So, whether the ambition of climate change analysis is the normative one of trying to identify sources of hope for a solution to the problem, short of (hopelessly implausible) world government, or the purely positive one of trying to explain current, apparently irrational, unilateral policy action on the part of a number of countries, the issues remain much the same: they are issues about how the institutions of (national) democratic politics work. They are, in short, 'public choice' issues. Hence my claims in relation to 'who owns the question?'

2. The orthodox public choice response

2.1 General background

In taking the general point about the incentives to free-ride in n-person prisoners' dilemma situations as given, I am committing to the core claim that it is not in the aggregate national interest of a country like Australia to reduce

[8] The state of play is very nicely summarised in Aldy and Stavins (2008).

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its carbon emissions to globally efficient levels. To repeat: if the Australian government tracked the national interest in formulating its policies, it would do *relatively little* (and perhaps nothing at all) to reduce carbon emissions.[9] This is not, of course, to say that it would do nothing in relation to global warming. What it would do is to work out the optimal response to global warming (or climate change) *treated as a fact about the future*. Given that the scientists are right, Australia ought to be planning for a climatically different future – probably a hotter drier one. And this means a range of policy initiatives ranging from development of drought-resistant crops to investigation of desalination plants, from building of sea-walls to cooling sea-water. To conceive of response to climate change as a major policy issue does not commit one to encouraging policies aimed at *prevention*. For, simply put, prevention is not something that the Australian government can secure.

Of course, this claim that it is not in Australia's national interest to reduce carbon emissions is not uncontroversial in certain circles. Some critics would regard the claim as morally outrageous; others as hopelessly quietist. And these responses are not to be ignored entirely – although it is the fact of them rather than the normative force of them that is interesting (and which will play a role in the subsequent discussion). But in my view, the claim itself is uncontestable. And people who dispute it simply do not understand the nature of the problem!

But, of course, to say that a government that tracked the best interests of its citizens would do virtually nothing to reduce carbon emissions is not the end of the story – at least not from a public choice viewpoint. Because it is by no means axiomatic that government policy *will* track the national interest. Indeed, much public choice theory has been devoted to explaining why such tracking will in general *not* occur.

Take tariff policy as a simple example. The accepted wisdom among economists is that tariff protection reduces aggregate well being in the economy.[10] But tariff protection can nevertheless emerge from political processes *because it secures politically beneficial redistributions* – say, from consumers of imported goods to producers of import-competing goods; or more specifically from voters at large to voters in marginal electorates. Political parties aiming to maximise their chances of re-election are likely to find it advantageous to conduct such redistributions, because the effective political power of those who benefit exceeds that of those who lose. These differentials in political power can come about either directly *within* the electoral process (as in the

[9] The Nash independent adjustment equilibrium in public goods supply may have individuals making positive contributions – but at a level way below that required for Pareto optimality.

[10] With transition costs, there is likely to be a discrepancy between introduction of a tariff regime (aggregate welfare diminishing) and abolishing an existing one (more ambiguous). But the example is not affected by such nuances. It can be thought of as applying to the introduction of tariff protection in an initially free trade situation.

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differences between marginal and non-marginal electorates) or somewhat independently – via differential capacity to make campaign contributions, or to exercise influence over voters (via public endorsement, say), or in some political systems (not, of course, Australia's) to offer bribes or threats of a more personal nature.

Moreover, the patterns of political equilibrium so constructed can be remarkably stable, as international negotiations on tariff reductions generally seem to suggest. Even when 'access to foreign markets' is on the table in such negotiations, one's own trade barriers often prove very difficult to change. And it seems clear that the problem at stake here is essentially a 'political' one, rather than an 'economic' one.

In the picture of politics that I have offered so far – the picture that is at stake in the tariff example – the central explanatory feature is the differential political power/influence of different groups. This differential power may be attributed to different capacities to organise (the central theme in the work of Mancur Olson[11]) or to features of the electoral structure. But in fact, such differential political power is not necessary to produce the general result. As public choice scholarship has emphasised, the same features can emerge directly under majority rule even when every voter has exactly the same electoral power. It is always possible to redistribute from some minority to some corresponding majority – and there is no necessary presumption that the losses endured by the minority will be less than the gains secured by the majority in such transfers. This possibility is the centre-piece of the analytics in Buchanan and Tullock's (1962) book and more generally underlies the idea that there is no determinate equilibrium in majority rule models except under rather special circumstances. This fact provides scope for the 'strategic agenda setter' to secure via majority approval any outcome she wants. The relevant theorem is McKelvey's (1976): in general[12], there exists a path from any point in policy space to any other point, such that all moves along that path are majority approved.

In particular, a strategic agenda setter who is committed to global carbon emissions reduction will seek to construct a policy regime under which a policy of reduced carbon emissions emerges as a political equilibrium, whatever the aggregate benefits of the policy (and specifically whether positive or negative). As I understand it, that is the ambition of the schemes that Garnaut (2008) and McKibbin and Wilcoxin (2008) variously propose. The task, as they conceive it, is to design the carbon policy regime such that it will perform the function that a successful tariff system performs – specifically, the regime

[11] I have in mind both the original 'public goods' book – Olson (1965) – and the subsequent account of the 'rise and decline of nations' – Olson (1982). The basic idea here is that some groups can internalise public goods provision by making that provision complementary with some private good in the provision of which the group can exercise an effective monopoly.

[12] Specifically, unless the political space is uni-dimensional (i.e. has only one issue) and voter preferences are 'single-peaked.

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will exploit strategic redistributions so as to construct a stable political coalition around the carbon reduction policy.[13]

2.2 Policy instrument choice

One central element in this manoeuvre is the choice of policy instrument – the choice, that is, of re-tradable carbon emission entitlements, rather than carbon taxes. There are, in fact, two primary advantages of the entitlements ('cap and trade') system:

1. First, the quotas create economic rents for possible distribution within the politico-economic system.
2. Second, the government has discretion over how exactly those rents are distributed.

The first of these points is clear enough[14], but it may be worth underlining the central features by appeal to a simple diagram (Figure 1) relevant to a single country, A. On the horizontal axis is shown the level of carbon emissions in A each year. On the vertical axis is shown marginal value/marginal cost as in a familiar demand/supply diagram. Carbon is an input into productive processes and costs a certain amount to use – represented for simplicity here by the constant average (and marginal) cost curve for carbon emissions labelled MC. There is a derived demand curve for carbon emissions based on the value of the goods produced, labelled DD. So in the absence of any restrictions policy carbon emissions in country A in the year will be C_0. Let the government determine a desired level of carbon emissions of C_1, less than C_0. It could achieve that desired level by imposing an annual tax on carbon emissions at rate t^* per unit. Or it could create emission permits up to an aggregate level of C_1. If it made such permits re-tradable, and transactions costs were not too high, then firms would buy and sell the permits until the marginal benefit of the permit across different firms was identical: the aggregate costs imposed by the scheme would then be minimised and the outcome exactly the same as under the uniform tax arrangement. But because the level of carbon is reduced, the effective price of carbon would have increased to MC + t^* per year, just as under the tax. Prices of goods that use carbon in

[13] As the Green Paper (p27) puts it: 'The green paper consultation process is intended to provide an opportunity for stakeholders to place information on emissions and production levels before the Government. The Government strongly encourages stakeholders to provide any relevant information to inform the final decision, being mindful of the Government's overall disposition that these sectors should contribute, along with all other sectors and households, to the national abatement task. Information provided through the consultation process will be taken into account when the Government makes final decisions on thresholds and shares. The Government intends to ensure that an appropriate degree of support is provided to emissions intensive trade exposed firms taking account of both the risk of carbon leakage and the efforts required of the rest of the economy.' [I am grateful to a referee for bringing this quotation to my attention.]

[14] It is exposited nicely in Buchanan and Tullock (1975).

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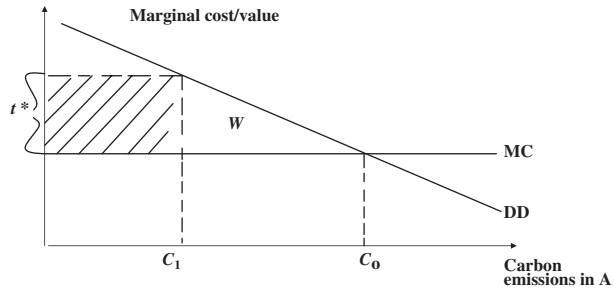

Figure 1 Cap-and-trade as rent creation.

their production would rise by t^* per year per unit of carbon used; and consumers would pay that much more for the goods in question. It would not matter how the permits were initially allocated across firms: subsequent trading would ensure the cost-minimising outcome. If the permits were auctioned, then the total revenue from the auction scheme would be the same as under the carbon tax – the shaded rectangle in Figure 1.

Suppose some of the permits are given away to businesses – say half of them. Then recipient businesses receive an asset worth t^* per year per unit carbon for each permit they receive. It is as if the revenue that would have been derived under the tax option is earmarked to the firm as a perpetual deal. According to how many permits a firm received and how many it retained in the C_1 equilibrium, some firms would gain more than others. But business as a whole would expect to gain to the extent that permits were given out free.[15] If half the permits are given out freely, then their expected net gain is an annual equivalent of $\frac{1}{2}C_1t^*$.

It is worth emphasising that, at the margin, every firm will have an incentive to reduce its carbon emissions; however many permits it received, each extra unit of carbon emitted costs t^* per year either in extra permits bought or in permits not sold. This is to be contrasted with the case in which some firms are given a tax exemption under an otherwise equivalent carbon tax. For any exempted firm, there is no incentive to reduce carbon emissions at all. Indeed there will be an incentive for such a firm to acquire carbon-using technologies or produce carbon-intensive goods so as to obtain maximal value from its exemption.

So, if the intention is to provide firms with some advantage in the implementation of the scheme, and some incentive to lend political support for the scheme, it will be better to do this via a permit scheme than via a tax regime.

[15] This simple treatment presumes that (average and) marginal costs of production are constant and that conditions are perfectly competitive. If some firms generate monopoly profits, then the reduction in output under the permit scheme will cost them that profit on the units not produced – a loss which the gift of valuable permits may not fully offset. If there is 'producer surplus' then specific factors in the production of X will benefit at the expense of the general consumer/wage-earner.

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And since, as I believe, the whole policy construction is designed expressly to buy business support, this consideration speaks in favour of using permits/quotas rather than taxes. Of course, the tax revenues could also be used to buy support; but in the permit/quota case, the revenues are effectively earmarked to the permit recipient and capitalised, so there is a substantial immediate benefit on offer, which the firm could not expect to receive under any favourable expenditure deal (unless of course that favourable deal were absolutely guaranteed in perpetuity).

The second aspect of the arrangement is that, to the extent that government gives out permits free (as well as auctioning off the residual), it has complete discretion in the distribution of these across firms (and across other politically influential stakeholders). Unlike tax exemptions, which can be withdrawn, and which are in any event a matter of public record while ever they remain in place, free permits are a one-off deal, which in the resultant trading process we would expect to be re-shuffled anyway. It may well seem natural to the general public that firms be 'compensated' to some extent for the 'costs' they have to endure in reducing carbon emissions. But of course under broadly competitive conditions, business as such will endure minimal costs[16] in reducing carbon emissions. These costs will be mainly borne by consumers of their products – in a manner that those consumers will not share in the bonanza from the allocation of valuable capital assets (carbon emission permits).

This is why, I take it, the business lobby has by and large been a reasonably enthusiastic player in the whole carbon emissions reduction policy. Businesses (the influential ones) expect that there will be something major in the policy *for them*; and it is a critical feature of the shrewd design of policy that there should be! If business could not be bought off, then the policy would probably not get off the ground politically. The 're-tradable emissions permit scheme' achieves nothing that a carbon tax would not achieve more simply and publicly; unless, as I say, it is a more or less express intention of the scheme to provide some business 'exemptions' – for which read 'marketable assets'.

Of course, the average consumer-voter-taxpayer is going to lose out in all this. The net cost of the scheme, the t^*C_1, along with the allocative cost of the substitution (represented by the triangle W in Figure 1), is essentially borne by consumers. In return, they will get a global emissions reduction that is a very tiny fraction of the whole and perhaps with negligible climatic effect. So why would consumers consent? Why would they not vote against such policies in the overall political equilibrium?

There are three kinds of answers accessible to mainstream public choice reasoning. One is that enough consumers benefit from the spending of auction revenues and in their capacity as stakeholders in business (as

[16] There may be some 'producer surplus' forgone. This does not appear in Figure 1 because the average (and marginal) cost curve is assumed constant. But if carbon sources are internationally traded at world prices then that constant-cost assumption may not be too wide of the mark.

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shareholders) that there is only a net minority of the community who bears the entire burden. A second possibility is that consumers are poorly organised and cannot readily present their interests in the way that better organised business interests can. I confess I find neither of these answers convincing on its own. The first seems empirically implausible to me. And the second seems irrelevant to the extent that what is at stake is an electoral process in which agents are assumed to pursue their interests (much as they do in market settings). You do not need to organise to cast a vote!

2.3 Rational ignorance

The third appeal, and the most persuasive in my opinion, is to the idea of 'rational voter ignorance'. The thought here has been a familiar one in public choice circles from the outset. Downs (1957) in his seminal book, observed that the inconsequential character of any individual vote means that individuals will not rationally take the trouble to acquire the information necessary to identify their interests clearly. Voting itself may be a cheap act (in compulsory voting environments like Australia's, a negatively priced one); but acquiring the information to cast an intelligent vote that would defend one's interests, especially in environments where the issues are complex and the considerations diffuse is a costly activity. In buying a new car or a new washing machine, rational agents will scour the consumer reports and interrogate the web and search out the best deals; in their electoral roles by contrast, they will settle for whatever information is near at hand and which they can absorb at low cost. They will do this because, whereas in their market roles they actually get the product they choose, at the ballot box they almost invariably will have no effect on the electoral outcome whatsoever. The only case in which J's vote will be decisive is where there is an exact tie among all other voters[17]: in all other cases, J's vote will not influence the electoral outcome. And the probability of an exact tie among all other voters is very tiny. So it's just not worth spending large amounts of time investigating what the policy platforms of rival candidates are, or what the implications of those policies are for one's own condition – even if you vote at all.

Now, understanding the prisoners' dilemma and understanding the incidence of regulation policies may not be rocket science for the professional economist but it is tricky for the ordinary punter. And it is by no means clear that any of the political candidates will have a clear incentive to explain it all – especially if they are committed to the policies they themselves promote. This is the point at which consumer and voter organisations might have a role to play – in supplying accurate information about what is in the consumer's

[17] More accurately, when J cannot either break or make a tie. When there is an exact tie among all others, she can break a tie. That can only happen when the total number of voters is odd (which is the simpler case to deal with). If the total number of votes is even then she can make a tie, in which event we have to specify some tie-breaking procedure – tossing a coin perhaps.

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general interest and what the consequences of complex and subtle policies for different groups of voters might be. And this provides the reason why being poorly organised might make a difference: poor organisation means a lack of resources for accurate information dissemination.

Interestingly, in the McKibbin *et al.* scheme as I understand it, the plan is to give voter ignorance a special twist by allocating some of the carbon permits to individuals (as well as businesses). McKibbin's concern seems to be precisely to engineer a scheme that will be robust to political shocks. To do that, there has to be a critical mass of people (a simple majority even, perhaps) who see themselves as having a sufficient stake in the carbon scheme that they will not lightly consent to its being dismantled. But of course for any scheme that imposes net losses in total, such stability can only be secured either by loading the net cost exclusively on some minority or making the scheme so complex that everyone can believe that he is a winner.

Of course, everyone *can* be a winner, if the 'everyone' in question is expanded to the entire world. The marginal benefits of the global reduction in carbon emissions summed over the entire global population will, on our assumptions about the science, unquestionably be positive. It's just that Australians will bear the entire cost of the exercise and for Australians that imposes a net cost. Nothing in the standard public choice story would suggest that Australians would be willing to pay that cost to benefit the rest of the world. So anyone who wants Australians to do it had better not make it clear to them that that is what they are doing.

Perhaps it should be noted here that, although the capacity to formulate stable political equilibria of this kind may be good for the possibility of reducing global emissions, it is not especially great news for democracy. If governments can secure the outcome they want in cases like global warming, they can do it for tariffs, or making wars, or anything else that takes their fancy: democracy becomes just a rather elaborate (and highly deceptive) form of government dictatorship – dictatorship by the 'agenda-setter' as public choice economists might put it! This is not an attractive message.

However, there is more to be said here. Mainstream public choice tells only part of the story – and in my view only a small part – which brings me to the 'revisionist' account of the electoral process.

3. Revisionist public choice: the expressive voting view

The characteristic feature of the conventional public choice view, described in the previous section, is its emphasis on politics as a battle of (necessarily rival) interests. It is true that those interests may, because of rational ignorance, be only dimly perceived; but even with rational ignorance, voters are taken to vote so as to promote their interests as they perceive them. In this conception of political process, public choice scholars have extrapolated agent motivations from market behaviour. In doing so, they have quite explicitly rejected any kind of 'two-hats' thesis (one for the market, the other for politics) on the

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grounds that any such thesis would imply an implausible schizophrenia in agent psychology. As Mueller puts it, in each of his influential encyclopedic survey volumes[18], the 'basic behavioural postulate of public choice is that man is a rational egoistic maximiser'.

In fact, the assumption of self interest (economic egoism) is not a core element in the fundamental logic[19] of public choice analysis, although it is a very powerful assumption empirically and predictively. It would be possible – and not totally implausible – to allow for some altruism in agent motivations. However, orthodox public choice *is* deeply committed to the logic of revealed preference as a core piece of the whole 'rational choice' paradigm. So only a very large amount of altruism on the part of the Australian voter (much greater than we see exhibited in other areas of public policy like international aid) could serve to explain carbon emissions restrictions of any scale.

In a variety of places and in several different collaborations[20], I have been involved in an attack on this interpretation of rational electoral behaviour. By an extension of the 'rational ignorance' argument, I have advanced an account of what 'truly rational' voting would look like – and more specifically why the logic of revealed preference does not apply to behaviour at the ballot box. Recognising that the individual vote is asymptotically irrelevant in deciding the outcome of any election, the right way to think about voting is, I claim, as an 'expressive' act. Voters 'show their support' for alternative candidates and the policy positions those candidates stand for, in much the same way as cheerers for a football team 'show their support' for their team. It is perfectly rational to cheer without any expectation that your cheering will change the course of the game.

Of course, no-one cheers for a team they do not want to win; and no more does a voter vote for a candidate that she does not want to win. But the critical question in the electoral context is this: what considerations are those that induce someone to cheer? Or to boo (in the case of negative voting)? And the critical point in posing that question is that there is *no logical connection* between the answer to it and the voter's 'interests' (or to the preferences that the agent would reveal in her market behaviour).

Consider the following simple example. Suppose there is a policy that if implemented will cost voter J an additional $5000 per year in taxes. Pose yourself this question: what does it cost J to vote for that policy? If you say: '$5000 per year', you would be wrong – you would have missed the point of the rational ignorance analysis. The right answer is: '$5000 per year times the probability that you will be decisive!' Now, the probability that you will be decisive is not zero; but under the most plausible methods of calculating it, it

[18] Mueller (1979, 1989, 2003). Each iteration is very considerably larger than its predecessor, the most recent running to well over 700 densely written pages.

[19] For an analysis of the distinction between a 'science of choice' and a 'logic of choice' see Buchanan (2000/1969).

[20] Most notably with Loren Lomasky in Brennan and Lomasky (1993); and with Alan Hamlin in Brennan and Hamlin (2000).

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is a very small number indeed. In an aggregate electorate of say 10 million voters, it is *at most* of the order of 1 in 4000 and is almost certainly very considerably less than that.[21] So the true cost to J of voting for the policy is little more than a dollar.

So, suppose that this policy bears on an 'issue of conscience' for J. It is a matter that is morally charged and highly salient to her. If it truly costs her a mere dollar or so to vote for the policy, it would hardly be conscientious of her to fail to do so. If she herself were to act to 'do her bit' in a market-like setting where she is decisive over the outcome for herself – if for example she was asked to make a voluntary contribution to the cause by the collector at the door – it would indeed cost her the full $5000 per year. But this is merely to underline the difference between the ballot box and the market place: the ballot box is characterised by a kind of 'veil of insignificance'.[22] At the ballot box, behaving in accord with your moral precepts is *cheap*: very, very cheap indeed.

Because this paper began with reference to the prisoners' dilemma, it might be useful to present the voter's 'dilemma' in the same terms. So suppose that the expressive benefit – the benefit, in the case at hand, of declaring your support for 'carbon emissions reduction' – is 10. Suppose that the instrumental cost to you if such policies are implemented in terms of loss of real income is 100. Consider now your rational calculus in voting. You can imagine three possible scenarios: where a majority of others vote *for* the policy; where a majority of others vote *against* the policy; and where there is an exact tie among all other voters. This exhausts the possibilities. In deciding how to vote, you examine the pay-off matrix, as illustrated in Table 1 below.

Focus first of all on the final column. This shows the payoffs to you of your own actions if you were decisive (i.e. if there were an exact tie among all other voters). If you express your support for the policy, you will gain the expressive benefit of 10. If you vote against the policy, however, you will save yourself the loss of 100 that you will endure when the policy is implemented. You know what you 'ought to do' – namely, you should think of the total benefit to all the world of your action (if you are a utilitarian) or you should do what is 'right' (if you are a deontologist with respect to the environment). But it costs you too much. You would choose not to implement the policy. But

Table 1 Actions of others

Your action	Majority for emissions policy	Majority against emissions policy	Exact tie ($P = 1/4000$)
Vote for policy	10	110	10
Vote against policy	0	100	100

[21] Clearly it depends on the expected closeness of the election. For a detailed analysis see Brennan and Lomasky (1993) ch 4.

[22] The term is Hartmut Kliemt's.

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recall: this is the case when you are genuinely decisive, when there is an exact tie among all other voters – a case that has a *very* low probability.

So consider now the other columns – those that emerge with probability 3999/4000. Here you have a *dominant strategy*: namely to vote for the policy as your conscience requires! Whatever everyone else does, it is best for you to vote your conscience: that way you will get the benefit of behaving in a moral fashion. Given the probabilities, the rational thing to do is to vote *for* the policy. The fact that it will make you worse off if implemented is asymptotically irrelevant.[23]

Now, I have described in the foregoing the kind of calculus an agent would go through if she were a decision-theoretic automaton. I do not think for a moment that this calculus actually describes the psychology of any voter. Economic logic is not, first and foremost, supposed to be an account of what goes through people's minds (although I shall have a little to say about that aspect in the next section). The point rather, is that there *are* reasons, grounded in rational choice logic, for something very like a two-hats thesis – a thesis according to which individuals, who in their market roles behave in a predominantly self-interested way, are likely to *vote* according to their moral (and other) values. The resultant picture of electoral process is not especially 'public choice-y'. Specifically, the connection between an individual's voting behaviour and her material self-interest is a purely contingent and empirical one.[24] Of course, interests *may* play a role in electoral politics – and this for several different reasons:

1. Because the '*public* interest' – or sometimes the interests of a group with which a voter strongly identifies – has a status as a moral value.[25]
2. Because candidates can often seek to 'woo' specific voter groups with expressions of special concern – with the political equivalent of flowers and chocolates operating as signifiers.
3. Because interests are correlated with expressive values in at least some cases. For example, policies that are good for universities are good for promoting the 'life of the mind' and other things that academics believe in – as well as being in the material interests of academics more narrowly conceived (e.g. higher salaries and better working conditions).

[23] A referee asks: how can we be sure that the moral payoff to voting for climate change policy (the 10 in Table 1 is less than the instrumental cost, the 100 in Table 1)? The simple answer is that if that were not so then individuals would do all that was required of them to reduce carbon emissions entirely individually: morals would be sufficient and no government action would then be required! Once we accept that climate change is a genuine global prisoners' dilemma problem, then moral payoffs have to lie below instrumental costs (at least for most individuals).

[24] In the mainstream account, that connection is stipulated as required for rationality – a claim that the expressive account demonstrates to be false.

[25] It is this view that I take it rationalises moral concern about carbon emissions – though the 'public' in question is the human race, not just the Australian citizen.

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However, in lots of cases, expressive considerations and interests come apart. War is one context where that is likely to be so. People may well vote enthusiastically for military adventures that are extremely costly in terms of both fiscal dollars and lives lost – precisely because expressive considerations are strongly invoked.[26] Being 'tough on crime' is another such example. Voters 'boo' crime and tend to cheer imposing penalties on criminals – largely independent of the costs of penal institutions and/or whether those institutions work to effectively reduce crime in the long run.

And climate change policy is, I want to claim, a third example. The possibility of global catastrophe is a highly salient and ethically charged issue. It is the kind of issue on which citizen voters expect their candidates to 'have views' and on the basis of which candidates' moral qualities are assessed. No-one who is entirely indifferent to the 'big issues of the day' deserves to take up space in high places – and on any reckoning, global warming and climate change are 'big issues', especially in Australia where the consequences of global warming may be especially dire.

It should therefore not be surprising if candidates on all sides declare their intensions to undertake, entirely unilaterally, policies designed to 'do something' about carbon emissions. They will do this not merely because of the interests of well defined and politically influential elites. Mobilising support (or at least minimising antagonism) in those quarters will probably be a necessary condition for success in getting emissions policy up. But on the expressive voting story, elite support will not be sufficient: the passions of voters – matters of prevailing public opinion and especially matters where popular opinion run high – are crucial. It is more difficult to construct a tariff regime in a setting where the general run of opinion favours free trade. You cannot mobilise a carbon emissions policy where most people think it is pointless. Most public choice scholars would agree. Where the expressive account of voting is distinct is in its insistence that voters' judgements as to whether such policies are 'ridiculous' or 'crucial' (or whatever lies between) are *not* driven by their own (vague) calculations of their individual interests. Such judgements are driven, rather, by individuals' political (and moral) *values*: and the axioms of rational choice supply no reason at all to think that individuals' political values will track their individual interests. On the contrary, there is every reason to expect a divergence of interests from values at the individual level – and specifically in a manner entirely hospitable to carbon emissions policy!

[26] I recognise that this observation goes somewhat against Kant's famous claim that democracy would promote 'perpetual peace' – and the (inevitably contested) empirical evidence in support of the claim that democracies are less bellicose towards one another than are non-democracies. See for example Ray (1998). But even if democracy is less warlike than other regimes, there is I think little evidence for the strong versions of the Kantian hypothesis that democracies have no bellicose tendencies at all.

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4. A suggestive experimental aside

Essentially what is at stake in the foregoing account is a possible partial solution to free-riding in n-person prisoners' dilemmas. Call this the 'partitioning device'. The idea is that in a standard public goods game with say 100 players, the players are divided into 10 groups of 10. In each group, the strategy choice is to be settled by majority rule (ties handled by coin toss), with the simple two-element action space – co-operate/defect. The prediction is that the level of co-operation will be higher: (a) than in the game played atomistically, with individual strategy choice for each of the 100 players; and (b), more importantly, than in the game played with ten individuals (holding constant individual incentives to defect). The (a) prediction is consistent with the notion that the smaller the number of players the smaller the incentive to defect. But the (b) prediction holds numbers of 'players' constant – it simply constitutes players not as individuals but as groups. If co-operation levels are higher in the case of group players than in the case of individuals, this is consistent with the presence of an 'expressive' element in individuals' choices when they are non-decisive.

Of course, given the huge and ever-expanding literature on public goods experiments, it may be that experiments of exactly this kind have already been conducted and the results well known in the relevant circles. But in the literature search that I have done, I have not been able to find anything of this kind. On that basis, this experiment seems to me to be one that, in relation to global public goods generally and to climate change issues in particular, would be of considerable interest.

5. Managing trade-offs among symbols

The general picture of democratic policy determination offered in the foregoing discussion may seem quite optimistic about the capacity of autonomously operating national polities to go a long way towards solving the global emissions problem without world government – or more or less equivalent international agreements with powers to compel compliance. I want to end by registering a more pessimistic note. The point of departure for this more pessimistic turn is this: although absence of decisiveness raises questions about how the 'rationality' of voters plays out, there is no analogous issue at the level of *political agents*. Political agents are decisive over policy choices; and they will have reason to make trade-offs between alternative sources of expressiveness in an entirely cost-effective manner.

Simply put, there are many things that will induce voters to cheer and many that are likely to induce them to boo. And of course different groups of voters may well cheer (and boo) somewhat different things. Some, for example, will cheer vigorously for policies of greater institutional support for same-sex unions – others will boo such policies as exhibiting a deplorable moral laxity. Some will cheer for military adventurism; others will no less

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vigorously boo it. Expressive preferences, no less than conventional instrumental ones, will involve choices – each individual will have to spend her limited vote in what seems to her the most satisfactory way. In this context, things like the overall 'performance of the economy' will weigh. And simple aphorisms like: 'spending good; taxes bad' will have a certain relevance to policy decisions.

In managing the relevant trade-offs, politicians themselves will not want to advertise the necessary 'cost' dimension to any expressive benefit. They will not be inclined to say things like: 'well, truth and justice are all very well, but think of all the apple pie forgone!' The point of political rhetoric is to declare oneself in favour of all the good things and against all the bad – and this even if bad things are entailed in getting the good, as they necessarily are in any real-world context.[27]

At the beginning of section II, for example, I remarked that a government that truly tracked the national interest would rationally free-ride on carbon emissions efforts. I see that claim as just articulating the logic of the global public goods problem. But I did not say that governments would *say* that that is what they were doing, even if they were. On the contrary, it will be entirely rational for government to express its concern over the problem of global warming, declare itself to be doing 'everything in its power' to do something about the problem, and to have an elaborate policy framework for doing just that. Anything else is likely to be interpreted by voters as the government's not really being concerned after all. But the government has to express its concern over many things – the state of the economy; global financial meltdown; keeping taxes low; the level of public debt; even petrol prices! And it is predictable that there will be a certain lack of candour in managing the trade-offs between those many concerns. The incentive is for a resort to tokenism on all fronts. (Not all such tokenism will be bad of course – because governments will not be ethically justified in acting on all of the electoral enthusiasms that are expressed.)

But in this kind of setting, there are attractions for a national government in maintaining total discretion over its own policy – of doing its carbon emissions control expressly as a unilateral exercise. And of ensuring that such international agreements as are reached are pretty undemanding – as we are now assured the Kyoto protocol was.[28] In short, the fact that we can explain unilateral action at the national level (and State level, as in California – and even city level, as in Chicago and perhaps Canberra) should not necessarily give us much confidence that the global carbon emission problem is likely to be solved.

[27] I take this to be an intrinsic feature of rhetoric. The cliché relating to the contrast between 'rhetoric and reality' (familiar from the title of many an economist's papers) simply makes the point.

[28] The common consensus seems to be that Kyoto made negligible difference – and would have made little difference to aggregate emissions even if the US had signed on.

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Whether it is solved or not will depend on exactly how democratic political processes work. The science and the economics will be relevant in suggesting what reductions would be optimal from the world's viewpoint. But the bottom line is whether anything vaguely approximating that level of reduction is likely to emerge – and this is centrally an issue of the broad working of *national* political institutions – and of electoral democracy most centrally. Here, the prospects are not hopeless. By a strange combination of compensating errors and 'unintended consequences' individual nations may hit on policies that are good overall, even if they are not entirely rational from the viewpoint of any of the nations taken individually. Such an outcome is certainly not inconceivable, for the reasons I have outlined. But it is a pretty long shot.

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