

# Rational Actor Models in Political Science<sup>\*</sup>

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## Abstract

There can be little doubt that Rational Choice Theory (RCT) - with its emphasis on the 'instrumentally rational' individual as the foundation of the political process - has significantly enhanced the scope of political science. This paper details many of the areas of political science in which our understanding of events has been significantly enhanced by the application of RCT. But, in the end, RCT in political science raises the same questions that it does in economics. These essentially stem from the fact that for RCT, whether in economics or in political science, choice and preference are regarded as synonymous. In consequence, as Amartya Sen has pointed out, no attention is paid to the motivation underlying an action. As Leif Johansen – one of the giants of public sector economics – expressed it: “economic theory in this, as well as in some other fields, tends to suggest that people are honest only to the extent they have economic incentives for being so. This is a *homo economicus* assumption which is far from being obviously true”. In RCT models, a person is given *one* preference ordering and, when all is said and done, this preference ordering represents his *Weltanschauung*. Can one preference ordering do all this? The argument of this paper is that no society can be viable without some norms and rules of conduct. Such norms and rules are necessary for viability in fields where strict economic incentives are absent and cannot be created.

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## 1. Introduction

Lohmann (1995) observed that, in recent decades, rational choice theory (hereafter, referred to as RCT) "has become the rising star of political science....even though rational choice scholars constitute a minority of political scientists, they publish a disproportionate number of articles in the *American Political Science Review* and they are sought after by leading political science departments" (p.127). If this is indeed the case, then what is this magic formula which gives this minority such power and influence and, conversely, what is the attitude of the majority of political science scholars, who would not describe themselves as "RCT persons", towards this group: do they view RCT theorists as redeemers of political science who will place the subject in its rightful place among the panoply of social sciences that like to think of themselves as 'quasi-scientific'? or is RCT simply a dark art and its practitioners the high priests of an occult faith which, by promoting the worship of Beelzebub, profanes the true deity?

In this context, it is worth pointing out that the RCT literature also travels under a variety of other names: *inter alia* public choice theory; social choice theory; game theory; rational actor models; positive political economy; the economic approach to politics. However, regardless of the *nom-de-guerre* adopted by RCT, it always builds on the assumption that people choose, within the limits of their knowledge, the best available means to achieve their goals. They are presumed to be 'instrumentally rational', meaning that they take actions not for their own sake, but only insofar as they secure desired ends<sup>1</sup> (Chong, 1995).

More specifically, Green and Shapiro (1994) identify four salient features of RCT: (i) RCT involves utility maximisation or, under conditions of uncertainty, expected utility maximisation, which is to say that confronted with an array of options, the rational actor

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<sup>1</sup> One can note parenthetically that an implication of the consequential evaluation of actions, which underlies 'instrumental rationality', is that it is diametrically opposed to a *deontological* approach which decides whether or not to undertake an action upon its essential 'rightness', irrespective of its consequences (Sen, 2001). For example, the deontological insistence of a Mahatma Gandhi (or Martin Luther King or Nelson Mandela) on a non-violent movement – or the deontological refusal of the Democratic Unionist party in Northern Ireland to have any truck with Sinn Fein - *irrespective of its consequences*, would fly in the face of the consequential approach of RCT. The *Bhagavad Gita* (the sacred book of Hindus which is generally regarded as constituting the blue-print for the manner in which a 'good' Hindu should lead his (her) life) is based upon Krishna recommending a single-minded pursuit of duty without thought of the consequences.

chooses the one which affords (or is likely to afford) him (her) the greatest welfare; (ii) RCT requires that certain consistency requirements must be satisfied: each individual must be capable of ranking options in terms of the welfare they offer him (or her) and preferences must be transitive<sup>2</sup>; (iii) the relevant unit for the study of the political process is the individual: it is the individual, and not groups of individuals, which is the basic building block for the study of politics; (iv) RCT claims universality in the sense that it applies to all persons at all times.

The rationale for RCT begins with the observation that in politics, as in economics, individuals compete for scarce resources and that, therefore, the same methods of analyses used by economists might also serve well in political science. As Tullock (1976) observed, "voters and customers are essentially the same people. Mr. Smith buys and votes; he is the same man in the supermarket and in the voting booth". Although the incursion of the analytical methods of economics into political science - which is the hall-mark of RCT - began in the 1950s, it was not until at least three decades later that the trickle became a flood. Today, not only is RCT disproportionately represented in the pages of leading political science journals but it has also expanded beyond political theory into new fields like international relations and comparative politics (Green and Shapiro, 1994).

This application of economic principles to non-market areas, be they in politics or elsewhere, may be viewed in a 'thin' sense, meaning an *inclination* on the part of individuals to satisfy their preferences; alternatively, it may be viewed in a 'thick' sense, meaning that whatever the ends people pursue - deciding on a party for which to vote, deciding on whether or not to start a family - they do so through instrumentally rational behaviour by choosing a course of action which is 'utility-maximising' (Ferejohn, 1991). The point is that, as Friedman (1995) reminds us, the *possibility* that people's political behaviour *may* be underpinned by considerations of self-interest is often transformed into the assumption that their political behaviour *is* determined by self-interest. For example, one of the founders of public choice theory<sup>3</sup> argued that "the burden of proof should rest with those who claim that wholly different models of behaviour apply in the political and economic realms of behaviour" (Buchanan, 1984).

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<sup>2</sup> A preferred to B and B preferred to C must imply that A is preferred to C.

<sup>3</sup> Public Choice theory applies the principles of economic analysis to political (that is, 'public') decision-making. It is interpreted in this chapter as being synonymous with RCT.

## 2. Rational Choice Theory in Politics

In this chapter, the application of RTC to politics is interpreted in the sense of applying RTC to 'public' decisions, where it is assumed that the actors on the political stage base their actions on self-interest. In short, RTC is, for the most part, interpreted as 'public choice' theory, in the sense defined above, or, as Tullock (1988) succinctly put it, "the invasion of politics by economics". The intellectual foundations of public choice theory lie in five seminal texts: Arrow (1951); Downs (1958); and Olson (1965); Tullock (1967); and Nordhaus (1975). Each of these is discussed below.

Public Choice derives its rationale from the fact that, in many areas, 'political' and 'economic' considerations interact so that a proper understanding of issues in one field requires a complementary understanding of issues in the other. Much of economic activity is carried out in a market environment where the protagonists are households, on the one hand, and firms, on the other. Both sides, according to the rules of economic analysis, have clear objectives: households want to consume goods in quantities that will maximise their utility and firms want to produce goods in quantities that will maximise their profits. The market allows households to reveal their preferences to firms and for firms to meet these preferences in such a way that the separate decisions of millions of economic agents, acting independently of one another, are reconciled.

However, a significant part of economic activity involves the state<sup>4</sup> and is, therefore, carried out in a non-market environment. One reason for the existence of such non-market activities is the existence of 'public goods' or goods supplied by government to its citizens. Of course, the scope of non-market activity depends on the country being considered: in Sweden, a range of services - provision of child-care facilities, health, education - are provided by government; in the USA these services are provided by the market.

Another reason for government involvement in the economy is due to the fact that markets do not always operate efficiently. When they do not, because of 'market

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<sup>4</sup> Between one-third to one-half of GDP in most countries of the OECD is generated through the activities of government.

imperfections' leading to 'market failure', then governments have to step in to correct such inefficiencies. These interventions may take the form of corrective taxes and subsidies and/or it may take the form of regulation and directives. At the macroeconomic level, governments are responsible for stabilising, and promoting, its performance with respect to a number of economic variables: unemployment, inflation, the exchange rate, national income etc..

But, whatever the nature, and degree, of governmental intervention in the economy, the basic problem that democratically elected governments face is of acting in a manner consistent with what its citizens desire. People express their demands through their votes; if there is a mismatch between the demand for, and supply of, outcomes then the political market will take 'corrective action' analogous to the corrective action that economic markets take when the demand for, and supply of, goods and services is not in harmony.

It was dissatisfaction with the inability and failure of traditional political science methods to address basic issues in political economy that led to the emergence of the new discipline of 'public choice'. These basic issues were *inter alia*: what factors influence votes? what is the 'best' system of voting for ensuring a correct revelation of preferences? can the actions of individuals be made more effective when they act collectively? what is the role of re-election concerns in determining the supply of government output? is there the possibility of conflict between different departments of government? The new discipline of public choice explicitly addressed these issues and its analysis of was explicitly predicated on the assumption that the behaviour of individuals and institutions was motivated by self-interest.

In so doing, public choice theory forcefully reminds political scientists of the view held by Machiavelli and Hobbes that many, ostensibly public-spirited, policies may be motivated by self-interest; with similar force it reminds economists of the unreality of basing analysis of economic policy on the assumption that the state is a 'benevolent dictator' acting so as to do 'the greatest good for the greatest number'. More generally, the arrival of public choice signalled a shift from a 'normative' to a 'positive' analysis of the political process: the subject matter of public choice was what political actors actually do, not what they should do.

### 3. Voting Procedures

A major contribution of public choice theory has been to expand our knowledge and understanding of voting procedures. The voting problem is one of selecting, on the basis of the declared preferences of the electorate, one out of an available set of options. Stated in this manner, the voting problem is akin to the problem of social choice where individual preferences are to be aggregated to arrive at a notion of 'social welfare'.

For example, every individual in society may rank different 'projects' according to the net benefits that they expect to obtain. The problem is that such a ranking by individuals may not lead to a social ranking that is to a ranking to which all individuals in society would subscribe. For example with three individuals (A, B and C) and three projects (X, Y and Z) suppose the rankings are as given in the table below:

**Table 1: Cyclical Social Preference under Pair-wise Voting**

<i>Preference Ordering</i>	<i>A</i>	<i>B</i>	<i>C</i>
First Choice	X	Z	Y
Second Choice	Y	X	Z
Third Choice	Z	Y	X

Then in a sequence of pair-wise comparisons: X versus Y, Y wins since both A and C prefer Y to X; Y versus Z, Y wins, since both A and C prefer Y to Z; X versus Z, Z wins since both B and C prefer Z to X. The implied social ordering is that X is preferred to Y; Y is preferred to Z; but Z is preferred to X! The cyclical nature of social preferences arises from the fact that the social ordering is not transitive or, in the language of electoral studies, there is no *Condorcet winner*. Indeed, the problem of social choice is not unlike that of voting behaviour: in both cases the issue is one of translating individual preferences into an agenda for collective action that faithfully represents these preferences. This was a point noted by Black (1948).

More generally, the possibility of intransitivity in social rankings – of the sort described above – is not necessarily the result of obtaining such rankings from pair-wise majority rule voting; intransitivity can occur from the application of any rule for creating social rankings which satisfies certain minimal properties. This was demonstrated by Arrow (1951), in his celebrated 'Impossibility Theorem', when he showed that any social rule

which satisfied a minimal set of fairness conditions<sup>5</sup> could produce an intransitive ranking when two or more persons had to choose from three or more projects.

Arrow's result rendered all democratic rules of collective action suspect - the idea that the state could act in terms of a well-defined social interest by aggregating over individual preferences (Bergson, 1938) was now rendered invalid. The work of Black (1948) and Arrow (1951) work also drew attention to the potentially unstable nature of majority coalitions. Although the problem of cyclical voting had been known of since Condorcet (see below), Black's and Arrow's work brought out its relevance to political science. Variations and extensions of Arrow's (1951) result have taken the form of investigating whether the theorem would continue to be true when one or the other of these axioms was weakened. One line of investigation that has been extensively followed is to relax the requirement that social choice must be based on social *ordering* (complete, reflexive and transitive). Another has been to restrict individual preferences to 'single-peaked' preferences<sup>6</sup>: Arrow showed that if individual preferences are single-peaked and the number of voters is odd, then majority decision will yield transitive social preference<sup>7</sup>.

The relevance of the work of Black and of Arrow (*op. cit.*) to the voting problem lay in attempting to identify: (a) the desirable conditions that any voting system should satisfy and (b) a voting system that satisfied these conditions. May (1952) showed that when there were only two alternatives, majority voting was unambiguously the best. The problem was to extend this result when there were more than two alternatives. In such situations, different voting systems could be constructed, all of which seemed fair and reasonable - and all of which, in the event of two alternatives, yielded majority rule - but, which nevertheless yielded different outcomes.

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<sup>5</sup> These conditions were the axioms of: *unrestricted domain* (individuals had transitive preferences over all the policy alternatives); *Pareto choice* (if one project made someone better off than another project, without making anyone worse off, then it would be the socially preferred choice); *independence* (the ranking of two choices should not depend on what the other choices were); *non-dictatorship* (the social ordering should not be imposed).

<sup>6</sup> So that the alternatives are arranged in a line so that everyone's intensity of preference has only one peak.

<sup>7</sup> This result earlier discussed in Black (1948) cements the relationship between voting theory and social choice theory.

One possible system is plurality ('first-past-the-post') in which each voter votes for exactly one option and the option receiving the largest number of votes wins. One problem with this system is that it is based on an incomplete revelation of preferences: there is no requirement for a voter to rank the options for which he (she) did not vote. As Table 2 shows, on the basis of votes cast by 60 voters, A wins by plurality, yet A would lose against B alone (25 to 35) and against C alone (23 to 37).

**Table 2: Plurality Voting**

	<i>23 voters</i>	<i>19 voters</i>	<i>16 voters</i>	<i>2 voters</i>
1 <sup>st</sup> preference	A	B	C	C
2 <sup>nd</sup> preference	C	C	B	A
3 <sup>rd</sup> preference	B	A	A	B

This then points to a second defect of plurality voting which is the fact that it is subject to agenda manipulation and that the presence, or absence, of options - even if those options cannot win - can affect the outcome.

The alternative is for each voter to rank the alternatives in order of preference (as in Table 2 above) and then the appropriate electoral rule would aggregate these individual rankings into an overall ranking. Such a procedure is termed an 'ordinal procedure'. One possible electoral rule, based on an ordinal procedure, is the *Borda count*: in the presence of N options, assign N points to the option ranked first, N-1 points to the option ranked second and finally one point to the option ranked last. A Borda count applied to the data in Table 2 sees C a comfortable winner with 138 points, A coming second with 105 points and B finishing last with 91 points. The Borda count method, however, is also susceptible to false revelation of preferences: voters, irrespective of their true preferences, would be inclined to give the lowest preference vote to the candidate they thought was most threatening to their preferred candidates electoral prospects (Miller, 1987).

Both plurality and ordinal procedures may be multistage procedures - so that the chosen option only emerges after successive rounds of voting - by combining either of them with the possibility of elimination. Thus, plurality plus run-off eliminates all but the two strongest candidates in the earlier rounds leaving a simple run-off between the two candidates for the final round. An alternative is to eliminate in each round the weakest

candidate and to choose a candidate after N-1 rounds of voting. Although both these voting procedures - and variants thereof - are reasonable they don't necessarily lead to the same outcome. For example, in Table 3, taken from Miller (1987): C wins under plurality; A, with 50 points, wins under a Borda count; and B wins against C either under plurality with run-off or with successive elimination of the weakest candidate.

**Table 3: Multi-Stage Voting**

	<i>4 voters</i>	<i>4 voters</i>	<i>2 voters</i>	<i>9 voters</i>
1 <sup>st</sup> preference	A	B	B	C
2 <sup>nd</sup> preference	B	A	D	D
3 <sup>rd</sup> preference	D	D	A	A
4 <sup>th</sup> preference	C	C	C	B

The way out, as proposed by Condorcet in 1785, was to have a pair-wise comparison of alternatives, choosing, at each comparison, the alternative with greater support. An alternative that wins over all the others is then selected the preferred option and is termed the *Condorcet winner*. Thus, in Table 2, the Condorcet winner C beats A, 37-23 and beats B, 41-19. However, as Table 1 showed, and as Table 4 shows, a Condorcet winner need not exist: in Table 3 demonstrates the phenomenon of 'cyclical voting' - also termed the 'paradox of voting' - whereby A beats B (33-27); B beats C (42-18); and C beats A (35-25).

**Table 4: The Paradox of Voting**

	<i>23 voters</i>	<i>17 voters</i>	<i>2 voters</i>	<i>10 voters</i>	<i>8 voters</i>
1 <sup>st</sup> preference	A	B	B	C	C
2 <sup>nd</sup> preference	B	C	A	A	B
3 <sup>rd</sup> preference	C	A	C	B	A

The question, therefore, is whether it is possible to specify conditions under which cyclical voting will not occur. This was addressed by Black (1948 and 1952) using the concept of 'single-peaked' preferences. Suppose that the set of alternatives can be represented in one dimension - for example, choice between different levels of public expenditure - and suppose that for each voter there is a preferred level of expenditure - which may be different for different voters - such that preferences drop monotonically for levels on either side of this optimum. In such a case (see Fig. 1) voter preferences are said to be *single-peaked*. Under single-peaked preferences, the median voter decides

in the sense that the preferred choice of the median voter is the Condorcet winner. This result, which is the celebrated *Median Voter Theorem*, is illustrated In Figure 1 in which there are five voters -  $V_1$  to  $V_5$  - each with single-peaked preferences. In a pair-wise contest, the preferred choice of the median voter,  $V_3$ , will beat the preferred choice of all other voters.

#### 4. How Voters Decide

The notion of single-peaked preferences has a certain plausibility in terms of single-issue politics. Although the notion of a single-peak can be extended to multidimensional issues, the results are far more complex and will not be reported here. However, if voters distil the complexity of issues facing them into a personal ideological position (extreme left; left; centrist; right; extreme right) then the Median Voter Theorem can be used to predict outcomes in a two-party democracy (Hotelling, 1929; Downs, 1958). Suppose that voters are distributed along the spectrum of ideological positions from 'left' to 'right' as shown in Figure 3. Then, if the initial party positions are L and R, R wins: R obtains votes from those to the right of R as well as votes from those between X and R, where X is the mid-point between L and R; L receives votes from voters to its left as well as the votes of those between L and X. However, L can increase its vote, as can R, by moving closer to the centre. Inter-party competition will then ensure that each party will occupy the 'middle ground' that is adopt the ideological position of the median voter.

Downs' (1958) book is regarded as "one of the cornerstones of contemporary rational actor theory" (Monroe, 1991) and, not coincidentally, the theory of voting contained within it accords most closely with standard economic theory. In a Downsian world, each voter was rational in the sense that he (she) voted for the party that was believed to offer him (her) the greatest benefits. Party manifestos were an important way by which voters evaluated these benefits and consequently, for Downs, such manifestos were a means of winning elections.

But because collecting information on parties was expensive, no voter would attempt a comprehensive evaluation. Instead, each voter would confine his (her) evaluation to those areas where party differences, in the voter's view, were significantly large. When

two parties tried to achieve an election-winning position along an ideological position, Downs argued (building upon Hotelling's (1929) result) that they would - as discussed above - converge upon the median voter's ideological position. In summary, therefore, Downs made a seminal contribution towards understanding the nature of party competition, rational ignorance and spatial voting.

## **5. Interest Groups and Collective Action**

One way that people can reveal their preferences is by voting; another way is by associating with like-minded persons to form 'interest groups' which then lobby government for favourable treatment. The problem is that it does not follow from the fact that a group of people have a common interest that they will form an interest group and bear the cost of collective action. Olson (1965) pointed out that collective action is vitiated by the 'free rider' problem of public economics: an economically rational person would not participate in (and share the costs of) an interest group because he (she) cannot be excluded from any benefits that may accrue from the activities of the group. Consequently, a great deal of potential collective action will not, in fact, materialise. This view - emphasising as it did the primacy of the individual - flew in the face of those in political science who regarded organised groups as the basic units in politics.

Olson (*op. cit.*) argued that two conditions were required for collective action to occur. First, the number of persons acting collectively should be relatively small so that if one person decided to 'free ride', the group would be rendered ineffective and no benefits would accrue. Second, the group should have access to 'selective incentives' by which it could penalise those who have not, and reward those who have, borne the cost of collective action. Trade union 'closed shop' arrangements, by which only members can get jobs, is one example of selective incentives. Selective incentives are less often available to potential entrants and to low-income groups. Thus it is the employed, rather than the unemployed that are organised, and it is the professional groups - doctors, teachers, lawyers - that are better organised than unskilled occupations. For this reason, Olson (1982) observed that, in the main, collective action would be anti-egalitarian and pro-establishment. Olson's work elevated the "free rider" problem to a central position in political science. In Mueller's (1989) view, "the free rider problem pervades all of collective choice".

## 6. Collective Action and Rent-Seeking

One of the reasons that collective action would be retrogressive is that it would lead to 'rent-seeking'. Tullock (1967) was the first to analyse rent seeking. It is a well known proposition in economics that monopoly price will be higher (and output lower) than price (and output) under competitive conditions. This enables a monopolist to earn 'rent', equivalent to the loss in consumers' surplus from not producing the competitive output at the competitive price. The amount of this rent is the area of the triangle L in Figure 3, below.

However, in order to obtain these rents interest groups would be prepared to invest resources in order to secure a monopoly position. Hence the true cost of monopoly is, therefore, not just the loss in consumers' surplus but also the total resources invested in 'rent-seeking activities'. Such rent-seeking activities may take the form of airline cartels lobbying for a monopoly over a particular route; less obviously, it may also take the form of a trade union lobbying a firm for 'single union' recognition. In general, one can categorise three types of expenditure (Buchanan, 1980) associated with rent-seeking: (i) expenditure undertaken to secure a monopoly; (ii) the efforts of public officials to react to such expenditure; and (iii) third party distortions caused by the rent-seeking activity. For example, in a country with exchange controls, commodities may only be imported with an import licence. Businesses may lobby government to be granted such licences and the prospect of earning monopoly rents (as businessmen) or of benefiting from the largesse of businessmen (as bureaucrats) may dictate the careers of young persons.

The above analysis raises the question: what is wrong with rent seeking activities? The answer is that many rent seeking activities produce profit with producing output. Such activities have been described by Bhagwati (1982) as 'directly unproductive profit-seeking activities'. The consequence of contemporary interest in rent-seeking is that a great deal of government activity is regarded with suspicion by conservative economists: the feeling is much of public sector activity is concerned with providing rents to special interest groups and for that, if for no other, reason, small government is good government.

## 7. The Political Business Cycle

A key proposition in public choice is that economic activity tends to revolve around election dates, with governments seeking favourable outcomes just before an election and postponing unfavourable till just after an election. The phenomenon to which this gives rise is known as the political business cycle and, since Nordhaus' (1975) seminal work in formalising and clarifying the nature of these cycles, this has been one of the most researched areas in political economy.

Nordhaus (*op. cit.*) focused on the short-run trade-off between inflation and unemployment. In his model, the electorate was only concerned about inflation and unemployment and rewarded, or punished, its government according as to whether it performed well, or badly, on these two fronts. But, given the existence of the trade-off, it was impossible for a government to do well with respect to both inflation and unemployment. Under these circumstances, Nordhaus (*op. cit.*) showed that there would be a political business cycle of the following form: immediately after an election, the government raises the unemployment rate and reduces the inflation rate - this depresses inflationary expectations and moves the Phillips curve<sup>8</sup> closer to the origin; closer to the election expansionary policies lower the unemployment rate and raise the inflation rate but - and this is the crucial point - since the government has 'invested' by bringing the Phillips curve closer to the origin, the inflation rate rises, but not by much. The government then fights the election on the basis of both a low unemployment and a low inflation rate.

## 8. Pathologies of Rational Choice Theory

In their celebrated book, Green and Shapiro (1994) offered a critique of RCT as it was applied to political science. Their essential point was while RCT had led to formidable *analytical* advances in political science, successful empirical applications of rational choice models had been few and far between. In their view, the root of the problem was

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<sup>8</sup> The Phillips curve, due to Phillips (1954), shows a negative relation between inflation and unemployment. The position of the curve depends upon the level of inflationary expectations - lower expectations move the curve in closer to the origin.

RCT had the overweening ambition to arrive at nothing less than universal theories of politics - theories that would be true at all times and in all places. It was this major methodological defect that led to a disjunction between theory and reality.

In presenting their critique, Green and Shapiro (*op. cit.*) were quick to concede the many achievements that have emanated from the application of RCT to political science. But, in terms of its consonance with reality RCT contains a number of pathologies. These have been succinctly summarised by Friedmann (*op. cit.*) and his summary is reproduced here:

- A. RCT scholars engage in 'post hoc theory development': first they look at the facts and devise a theory to fit them fail to formulate empirically testable hypotheses.
- B. If data contrary to the theory later appears, the theory is modified to fit the new facts.
- C. RCT theories often rely on unobservable entities which make them empirically untestable.
- D. RCT theorists engage in arbitrary 'domain restriction': the theory is applicable whenever it seems to work and not otherwise
- E. RCT theories are vague about the magnitude of the effects being predicted.
- F. RCT theories often search for confirming, rather than falsifying, evidence.

## **9. Case Study: Vote Transfers in the 1998 Elections to the Northern Ireland Assembly**

As the previous sections have indicated, our understanding of the voting procedures and of the logic of voters has been greatly enhanced by the application of RCT to political science. Yet, according to Green and Shapiro (*op. cit.*) explaining why people vote remains the Achilles heel of RCT. In a real world election, with a large number of voters, each voter knows that his (her) vote will have an infinitesimally small influence on the final outcome. Given the cost of going to the polling booth, it would be instrumentally rational not to vote. RCT would predict a zero turnout. Yet, a substantial number of people do, in fact, vote. The RCT response to this is either to exempt mass elections from the application of RCT on the grounds that instrumental considerations would not apply to voting in such elections (see point D of the previous section) or they modify their theory to include the 'psychic' benefits that people obtain from being seen to do their democratic duty (see point B of the previous section). Against this

background of the importance of voting both to RCT and its critics, it would be relevant to examine a case study involving voting and the post Good Friday elections to Northern Ireland's Assembly are particularly apposite.

Traditionally, voters in Northern Ireland have always voted along community lines: Unionist voters vote for Unionist parties – the larger, Ulster Unionist Party (UUP) and the smaller, Democratic Unionist Party (DUP) – and Nationalist voters vote for Nationalist parties – the larger, Social Democratic Labour Party (SDLP) and the smaller, Sinn Fein (SF). But the Assembly elections of June 1998 in Northern Ireland, which involved each of the 18 Westminster constituencies in the Province electing 6 members to the Assembly, was the first occasion that voters in the Province were pulled by another force. This was the referendum of May 1998, in which 71 per cent of voters said «Yes» to the Good Friday Agreement and 29 per cent said «No». The referendum has caused a fissure in Unionist politics with the UUP and its allies supporting the Agreement and the DUP and its allies opposing it bitterly. The result of this fissure was that it was only by a small majority – estimates vary from 52 to 58 per cent – that the Agreement was carried in the Unionist community. On the other hand, since both the Nationalist parties supported it, the Agreement was overwhelmingly endorsed by Nationalists.

The injection of the Agreement into Northern Ireland politics meant that, in the Assembly elections, Unionist voters were voting along two, opposing, dimensions: traditional community-based voting which meant sharing their support between the UUP and DUP and, on the other hand, Agreement-based voting which meant withholding their support for one, or the other, of the Unionist parties while simultaneously, for pro-agreement Unionists, crossing the community lines to share their support with the SDLP. The mechanism for sharing, or withholding support, was the system of Single-Transferable-Voting (STV) which underpinned the elections. Under this system each voter writes a number against the name of each candidate listed on the ballot paper and this number expresses the voter's preference for the candidate, the most-preferred candidate having 1 against his/her name. After voting for one's most-preferred candidate, support can be extended to another candidate (perhaps from another party) by giving him/her one's second preference; support can be withheld from a candidate by not giving him/her any preference or by giving a low preference. What makes the

system operational is that when a voter's most-preferred candidate is elected, by getting votes above the required «quota», the votes in excess of this quota (the «surplus» votes) are transferred to the other candidates using these lower preferences.

A good way of studying some of these transfer patterns is by examining how the surpluses of candidates *elected at the first count* was distributed. The reason is that, under STV, when someone is elected at the first count, *all* of his/her votes are examined to determine second preferences. However, if a candidate is elected at a count other than the first, only those votes received *at the count of election* are examined for subsequent preferences. This latter procedure may give a misleading impression of voter preferences for two reasons. First, it offers only a partial picture – the votes received at earlier counts are ignored for the purposes of transferring votes. Second, it may offer a misleading picture of preferences: a SDLP candidate may be elected and pass on his/her surplus but if the last transfers to the candidate were from an eliminated SF candidate then the destination of the surplus will reflect the preferences of SF, not SDLP, voters.

Table 5 shows the destination of the surplus of 23 candidates who were elected at the first count in the 1998 Northern Ireland Assembly elections. The transfers are classified as follows:

- it is *non-transferable* if no preference, other than a first-preference, was expressed on the ballot paper.
- it is an *intra-party* transfer if the second-preference was for a candidate from the same party as the elected candidate.
- it is an *intra-community/intra-Agreement* transfer if the second preference was for a candidate from a *different* party, but with the *same* community identity, and the *same* views on the Agreement, as the party of the elected candidate: transfers from the SDLP to SF (and vice-versa) would fall into this category.
- it is an *intra-community/cross-Agreement* transfer if the second preference was for a candidate from a *different* party and with *different* views on the Agreement, but with the *same* community identity, as the party of the elected candidate: transfers from the UUP to the DUP (and vice-versa) would fall into this category.
- it is a *cross-community/intra-Agreement* transfer if the second preference was for a candidate from a *different* party, with a *different* community identity, but with the *same*

views on the Agreement, as the party of the elected candidate: transfers from the SDLP to the UUP (and vice-versa) would fall into this category.

- it is a *secular transfer* if the second preference was for a candidate from a *different* party which did *not* have a community identity: transfers to the Alliance Party or the Women's Coalition constitute this category of transfers.
- all other second-preference transfers are classed as *other*.

The first thing to note about Table 5 is the disparity between the parties in the proportion of second-preference votes that they were able to keep within their party (the intra-party transfers). The least efficient undoubtedly were the UK Unionists in North Down and the Alliance Party in East Belfast: only 57 per cent of those voting for Robert McCartney in North Down and for Lord Alderdice in East Belfast named their respective mates as their second-preference. Indeed, 19 per cent of the McCartney surplus votes went to the two DUP candidates (intra-community/intra-Agreement transfer), neither of whom were elected and – this was the cruellest cut – 12 per cent went to the two UUP candidates (intra-community/cross-Agreement transfer), both of whom were elected. For the Alliance Party in East Belfast, the galling fact was that 13 per cent of the Alderdice vote was non-transferable.

Among the Nationalist parties, the party loyalty of SDLP voters was severely tested by the presence of SF candidates: Gallagher in Fermanagh and South Tyrone could only retain 60 per cent of his surplus for his party, losing nearly one-fifth of it to SF and even Hume, in Foyle, lost 15 per cent of his massive surplus to SF. By contrast, Adams in West Belfast and Neeson in East Antrim retained well over 80 per cent of their surplus for SF and the only reason for the 12 per cent haemorrhage from Adams' vote was the loyalty of voters' towards the SDLP's Joe Hendron.

There was considerable traffic, among Unionist voters, between the Yes and No sides of the Agreement (intra-community/cross-Agreement transfers). From the UUP, 17 per cent of Trimble's vote in Upper Bann, 10 per cent of Taylor's vote in Strangford and 6 per cent of Wilson's vote in South Antrim went to anti-Agreement Unionist candidates<sup>9</sup>. The DUP were no less affected by this cross-Agreement voter mobility: the leakage

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<sup>9</sup> The fact that 31 per cent of Roy Beggs' (jnr) vote in North Belfast went to anti-Agreement candidates is to be discounted because Beggs, though a UUP candidate, stood on a rejectionist ticket.

from the DUP vote to the UUP in North Belfast (Dodds), East Londonderry (Campbell) and Strangford (Iris Robinson) was respectively, 14, 10 and 9 per cent. Only the Reverend Ian Paisley, in North Antrim, was able to stem this haemorrhage: he passed on 93 per cent of his surplus to his son.

Against this background of intra-community traffic – both among Nationalist and Unionist voters – there was little evidence of cross-community mobility in voter preferences. Hardly any of the vote from Taylor, Trimble and Wilson went to SDLP candidates and SDLP voters returned the compliment when they restricted their second-preference vote to Nationalist candidates.

So what can one conclude from these results? Mainly that the mould of Northern Ireland politics is firmly intact. Voters, in the 1998 elections to the Northern Ireland Assembly, were prepared to move between candidates from «moderate» and «extremist» parties: the vote transfers between the SDLP and SF was evidence of that. They were prepared to swap between pro-Agreement and anti-Agreement candidates. But, even after the most momentous events in Northern Ireland's short history - events which offered Northern Ireland's voters an alternative to their traditional voting habits - they were not prepared to cross the communal divide. *Plus ça change, plus c'est la même chose.*

So how can RCT help us in understanding the outcome of the Northern Ireland Assembly elections. First, in the sense of Downs (1957), parties in Northern Ireland do have manifestos but, at the most basic level, these amount to no more than appealing to sectarian loyalties: vote for me because I represent a Unionist/Nationalist party and you are Unionist/Nationalist. Underlying this broad sectarian agenda, there is a second, class-based manifesto: as a middle-class/working-class Nationalist, vote for the SDLP/Sinn Fein; as a middle-class/working-class Unionist, vote for the UUP/DUP. At a primary level, the utility of voters is then determined by sectarian identity, and, given that sectarian identity has been taken account of, at a secondary level utility is determined by class identity. What the results do show is that while voters are willing to cross the class divide, they were not prepared to cross the sectarian divide even though the Good Friday agreement offered them incentives to do so.

These results can be 'rationalised' by RCT. Politics in Northern Ireland is mostly about distribution: the cake is sent over from Westminster and what Northern Ireland politicians (earlier civil servants) have to do is decide how to slice it. Given that much of the cake consists of public services, which have a strong geographical dimension, and given that Northern Ireland's two communities are concentrated in different parts of the region, it makes sense to stick with one's sectarian team through thick and thin: let a Unionist/Nationalist legislator elected and he (she) will look after you; flirt with the 'other side' and you could end up with nothing.

But what RCT cannot factor into its analysis elections are two items: the power of individual candidates; and the importance of party organisation. As was argued, neither Robert McCartney in North Down nor John Alderdice in East Belfast could convert individual popularity into party popularity. By contrast, the party discipline of Sinn Fein meant its vote leakage was minimal. The interplay between individual and party is a very important part of elections held under a Single Transferable Vote system and here it is imperative that an individual should not get bigger than the party. Yet the desire to stride the political stage like a Colossus (even so modest a political stage as that offered by Northern Ireland) is latent in all our politicians; but those who succumb to its siren call see their party's prospects irrevocably damaged. It is this kind of interplay that RCT with its emphasis on instrumental rationality cannot capture.

## **10. Conclusions**

There can be little doubt that RCT - with its emphasis on the 'instrumentally rational' individual as the foundation of the political process - has significantly enhanced the scope of political science. To list but some of its achievements:

- (i) RCT has raised the possibility that democratic institutions might be dysfunctional in ways not hitherto imagined (see the discussion of Arrow's Impossibility Theorem, above).
- (ii) RCT has 'explained' the cyclical nature of the economy in terms of electoral exigencies (see the discussion of Nordhaus' Political Business Cycle, above).
- (iii) RCT has 'explained' the tendency for party platforms to converge (see the discussion on Downs (1958) and the Median Voter Theorem, above).

- (iv) RCT has refined our understanding of the basis on which people vote (Downs, 1958; Frey and Schneider, 1978; Fiorina, 1981).
- (v) RCT has drawn attention to the wasteful nature of activities to which government involvement in the economy gives rise (see the discussion on Tullock (1967) and 'rent-seeking');
- (vi) RCT has 'explained' the tendency of governments to get ever larger in terms of the behaviour, and the manipulation, of democratic institutions (Peltzman, 1980; Meltzer and Richards, 1981);
- (vii) RCT has brought a fresh look to behaviour of bureaucracies and bureaucrats (Niskanen, 1971);
- (viii) RCT has refined our understanding of coalition formation in government through the use of new methods of analysis like game theory (Laver and Schofield, 1990; Laver and Shepsle, 1996).

But, in the end, RCT in political science raises the same questions that it does in economics. Sen (1977) observed that, in economics, choice and preference are regarded as synonymous: I prefer A to B and, therefore, I choose A over B; I am observed to choose A over B and, therefore, it must be that I prefer A to B. Under such a tautologous formulation, there is a certain banality in interpreting everyone as acting in a self-seeking manner – by definition, every action is self-seeking since it involves choosing the preferred option. The problem is that in economics, no attention is paid to the motivation underlying an action. A person may act: for self-seeking reasons; out of sympathy for another person; out of a sense of commitment. Although 'sympathy' can be incorporated into a utility-maximising framework by allowing external effects (like the welfare of one's child) to affect one's utility, 'commitment' – which involves doing the 'right' thing even at the cost of suffering a reduction in utility – inserts a wedge between choice and preference: I choose to vote not because I prefer – over all the options available to me, queuing in front of a polling booth on a Saturday morning – but because I want to demonstrate my commitment to democracy. Similarly, I choose not to falsely reveal my preferences when it comes to pricing a public good because I have a more overriding commitment to honesty. As Johansen (1976) – one of the giants of public sector economics, which is a subject driven by the free-riding issue – expressed it:

Economic theory in this, as well as in some other fields, tends to suggest that people are honest only to the extent they have economic incentives for being so.

This is a *homo economicus* assumption which is far from being obviously true. No society can be viable without some norms and rules of conduct. Such norms and rules are necessary for viability in fields where strict economic incentives are absent and cannot be created.

In economics, a person is given *one* preference ordering and, when all is said and done, this preference ordering represents his *Weltanschauung*. Can one preference do all this? If it does, then, as Sen (1977) expressed it, the purely economic man is indeed close to being a social moron. RCT, notwithstanding its dazzling accomplishments, is in danger of sending the purely political man in the same direction.

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Table 5  
Northern Assembly Elections: June 1998  
Surplus Transfers from Candidates Elected at the First Count

From→ Type↓	McCartney <b>UKU</b> North Down (2,857)	Campbell <b>DUP</b> East Derry (456)	Dodds <b>DUP</b> North Belfast (1,600)	Gibson <b>DUP</b> West Tyrone (1,450)	Paisley <b>DUP</b> North Antrim (3,489)	McCrea <b>DUP</b> Mid- Ulster (3,224)	Robinson <b>DUP</b> Strangford (3,346)	Robinson P <b>DUP</b> East Belfast (5,562)	Alderdic e <b>ALL</b> East Belfast (487)	Neeson <b>ALL</b> East Antrim (159)	Adams <b>SF</b> West Belfast (3,106)	Doherty <b>SF</b> West Tyrone (462)
Non-Transferable	2	8	3	2	1	1	2	0	13	4	0	10
Intra-Party	57	70	68	-	93	84	84	82	57	66	84	83
Intra-Community Intra-Agreement	19	10	14	-	3	-	9	6	0		12	5
Intra-Community Cross- Agreement	12	11	14	84	2	14	4	11	0		0	0
Cross- Community Intra-Agreement	-	-	-	-	-	-	-	-	23	20	0	0
Secular	0	0	0	1	0	0	0	0	2	0	1	0
Other	10	1	1	13	1	1	1	1	5	10	3	2
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>		<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Figures in parentheses are surpluses  
Source: *The Irish Times*, 29 June, 1998

Table 5  
(Continued)  
Northern Assembly Elections: June 1998  
Surplus Transfers from Candidates Elected at the First Count

From→ Type↓	Beggs Jn <b>UUP</b> East Antrim (676)	Taylor <b>UUP</b> Strang- ford (3,070)	Trimble <b>UUP</b> Upper Bann (5,137)	Wilson <i>UUP</i> South Antrim (406)	Gallagher <b>SDLP</b> Fermanag h STyrone (842)	Hendro n <b>SDLP</b> West Belfast (168)	Hume <b>SDL</b> <b>P</b> Foyle (5,609)	McGrady <b>SDLP</b> South Down (3,036)	Maginness <i>SDLP</i> North Belfast (320)	Mallon <b>SDLP</b> Newry Armagh (5,847)	Rodger s <b>SDLP</b> Upper Bann (2,059)
Non- Transferable	7	2	0	3	6	29	1	3	3	3	3
Intra-Party	51	63	75	82	62	60	78	73	78	73	70
Intra-Community Intra-Agreement	5	16	0	0	19	7	15	8	12	16	18
Intra-Community Cross- Agreement	31	10	17	6	-	-	-	-	-	-	-
Cross- Community Intra-Agreement	0	1	1	1	0	0	1	1	1	1	0
Secular	3	4	5	7	11	0	3	8	3	4	3
Other	3	4	2	1	2	4	2	7	3	3	6
TOTAL	100	100	100	100	100	100	100	100	100	100	100

Figures in parentheses are surpluses  
Source: *The Irish Times*, 29 June, 1998