

Recent Economic Perspectives on Political Economy, Part I*

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Abstract

In recent years some of the best theoretical work on the political economy of political institutions and processes has begun surfacing outside the political science mainstream in high quality economics journals. This two-part paper surveys these contributions from a recent five-year period. In Part I, the focus is on elections, voting and information aggregation, followed by treatments of parties, candidates, and coalitions. In Part II, papers on economic performance and redistribution, constitutional design, and incentives, institutions, and the quality of political elites are discussed. Part II concludes with a discussion of the methodological bases common to economics and political science, the way economists have used political science research, and some new themes and arbitrage opportunities.

In recent years some of the best theoretical work on the political economy of political institutions and processes has begun surfacing outside the political science mainstream – published in high quality economics journals or appearing as working papers on web sites devoted to economics and political economy.¹ Partly this is a consequence of a greater receptivity of economics outlets to this genre of work – greater than in the past, for certain, and possibly greater than in mainstream political science venues at present. Partly this is a result of economists coming more firmly to the conclusion that modeling governments and politicians is central to their own enterprise. Whilst many of the key insights of this recent research have been taken on board by formal political theorists, despite not always appearing in the mainstream political science journals, they are often lost to a wider political science audience. There is a need, therefore, to provide scholars with “peripheral vision,” facilitating exposure to more specialized theoretical literatures that are not otherwise easily accessible to the general reader. This is our intention in the present essay and its companion.

Having set as an objective the surveying of political institutions and political economy scattered in many places outside mainstream political science, our task would be unmanageable without setting some limits. We have set three requirements. First, we have restricted our attention to the leading economics journals publishing theoretical political economy in the most recent five years at the time at which we embarked on this project (2000-2004)². These are the *American Economic Review*, *Econometrica*, *Journal of Economic Theory*, *Journal of Political Economy*, *Quarterly Journal of Economics*, and the *Review of Economic Studies*.

Our second requirement is to focus exclusively on theoretical contributions, leaving a vast empirical literature to one side. Third, we also put to one side a considerable body of work in international political economy, at least in part because there are some recent surveys available.³

Even with these restrictions, however, we harvested nearly 100 articles that might have qualified for our survey, still too many to take on in a review essay. That there were as many as 100 articles that satisfied our restrictions is testimony to the vibrancy of analytical political economy outside the political science mainstream. At this point, before pruning further, we scanned through the abstracts of the articles we had identified with an eye to sorting them in some intelligent fashion. We settled on a substantive partitioning: (1) elections, voting and information aggregation, (2) parties, candidates and coalitions, (3) economic performance and redistribution, (4) constitutional design and 5) incentives and the quality of political elites. This is not perfect, with fuzzy boundaries and considerable overlap. And we could not resist holding in reserve a sixth category – pure theory – since there are some exemplary theoretical papers that are purely analytical yet potentially illuminating for many of the substantive topics. (Those we mainly handle in extended footnote discussions.) We feel the substantive emphasis is the proper way to make the point that peripheral vision of the sort we hope to provide here is useful to political scientists working in core areas of the discipline. We take up the first two topics in Part I, and the remaining three in Part II.

Within this framework we have pruned our selection of articles further for the sake of manageability. We are left with fifty-eight articles which we cover in the main text and notes, though we draw attention to many more along the way. In each category we want to describe themes in the substantive literature and the contribution each of the selected articles has made to them. We must be brief in general, but one service we hope this and the companion paper provide is to make substantive scholars aware of papers he or she may find relevant. We elaborate a few papers more fully to serve as exemplars.

1. Elections, Voting and Information Aggregation

Voting and elections constitute one of the earliest applications of economic reasoning to the study of politics with a focus on *preference aggregation* providing the mainstay of this literature.⁴ Arrow's work has of course been hugely influential, showing that no mechanism exists for the mapping of rational individual preferences into a social outcome which satisfies his minimalist criteria. The lesson from Arrow's work, and the huge social choice literature which it spawned, was that political institutions mattered for understanding outcomes. The game-theoretic revolution in economics in the late 1970s and early 1980s did much to stimulate further interest among economists in an explanatory role for political arrangements. A game, after all, is a body of rules that describes strategic interactions among players.⁵ Rules enumerate the players and their strategy sets (namely, who participates, when he or she has a choice to make, what his or her options are, and what he or she knows at the time a choice is taken), and characterise the manner in which player choices combine into outcomes. In effect, they provide a connection between individual values (preferences) and social choices (collective outcomes), to borrow words from the title of Arrow's famous monograph. The strategic interaction may be "economic" or "political" – it is often hard to tell.⁶ However, the rules of engagement – the game form – have the "look and feel" of a political institution or constitution. The first papers we look at provide a game-theoretic focus on classic questions in this genre.

Myerson's technically elaborate analysis of two-candidate elections addresses a weakness in the existing literature; existing models focus on the case where the number of voters who turn out is known. Whilst the size of the electorate is likely to be large, its exact size is uncertain and such uncertainty may influence a voter's decision to go to the polls.⁷ In other work Myerson has shown that population uncertainty is nicely captured by Poisson processes, so he develops models here entirely in terms of what he calls "large Poisson games." Players (voters) in these games are described by their type (e.g., their preferences); their pay-offs are determined by the actions they take (whether to vote and for whom to vote) and the profile of actions taken by others. Myerson applies his Poisson analysis to two-candidate, winner-take-all elections. He shows that a voter's *pivot probability* – that is, her probability of making a difference in the election – depends upon the relative competitiveness of the candidates in a counter-intuitive way. In particular, if candidate A is expected to receive more votes than candidate B, then a B-voter is *more* likely to be pivotal since she is more likely to make or break a tie if her candidate is trailing.⁸ Myerson initially assumes that voting is costless and that everyone participates (though n is unknown ex ante). He then shows that his results are robust to *abstention* (adding an additional source of

uncertainty about n) and/or *costly voting* (so that a voter type now consists of a policy preference and a voting cost). He proves that when the expected policy benefits are greater from candidate A than candidate B for a randomly chosen voter, then candidate A's probability of winning converges to one as n gets large. In large electorates, that is, Myerson's result tells us that "any candidate who does not choose a policy position that maximizes the players' expected benefits can be beaten almost surely by a candidate who chooses a policy position that maximizes the players' expected benefits."⁹ Moreover, he invokes backward induction to suggest that rational candidates will therefore adopt a (not-necessarily-unique) welfare-maximising position so that, in equilibrium, a welfare-maximising result is guaranteed in two-candidate large- n elections (and convergence if the welfare-maximising position is unique).¹⁰

In a second paper, Myerson applies his results about pivot probabilities in large Poisson games to "scoring rules."¹¹ A scoring rule – in the three-candidate case on which Myerson focuses – is characterised by two parameters, A and B , with $0 \leq A \leq B \leq 1$. An (A,B) *scoring rule* is an arrangement in which a voter gives one point to her most-preferred candidate, zero points to her least preferred, and either A or B points to the middle-preferred candidate. $(A,B) = (0,0)$ is the plurality rule (in which one point is awarded the most preferred candidate and zero for the others). $(A,B) = (1,1)$ is negative voting (in which zero is awarded to the least preferred candidate and one to the others). $(A,B) = (0,1)$ is approval voting (in which one is awarded to as many as two of the candidates, and zero to the remaining one or more).¹² $(A,B) = (\frac{1}{2}, \frac{1}{2})$ is the Borda count. Myerson calls (A,B) rules near $(0,0)$ *best-rewarding* rules and those near $(1,1)$ *worst-punishing* rules. Borda and approval voting rules lie between these extremes. He assumes voters are instrumentally rational – in a word, *strategic* – and so care about their votes only in terms of their pivot probabilities (as defined above). "So this theory of rational voting necessarily implies that voters' decisions may depend on the relative probabilities of various ways that one vote may be pivotal in the election, even though these pivot probabilities may be very small in a large election."¹³ Precisely how to behave strategically is a non-trivial problem in which voter preferences and voter beliefs about the actions of others come into play. Myerson addresses these in the context of large- n elections with uncertain populations (as in his earlier paper), where the number of voters of each (preference) type is a Poisson random variable. He identifies a number of fascinating perverse equilibria both for best-rewarding and worst-punishing voting rules.¹⁴ Rules lying between, like approval voting, are shown to have desirable properties.

Both of these papers are technical *tours de force*. Each assumes, however, that the set of items being voted on, whether candidates, motions, or policy bundles, is taken as exogenous.

Yet, and the full force of this comment applies especially to the latter paper, alternatives on offer often *depend* on the voting rule (as M. Duverger informed political scientists half a century ago). Consequently, welfare comparisons of various voting rules need to take this endogeneity into account. We pick up this point again in our discussion of “strategic candidacy” in section 2.

Myerson’s papers focus on how uncertainty (over the size of the electorate) affects the act of voting. In fact, uncertainty lies at the heart of much of everyday political life. Politicians ponder voters’ desires; committee members deliberate which policy is best in a world subject to shocks; and legislators second guess which (if any) political advocate is telling the truth. Communication between agents affects and can help eliminate such uncertainty. Voters signal when they go to the polls; leaders make speeches to prospective followers; committee members deliberate and thereby not only convey their preferences but also reveal privately held information about the world. Political institutions and procedures provide means by which various kinds of information can be aggregated, thus forming vital channels of communication. The literature on information aggregation analyses different aspects of these procedures.

Information aggregation is generally desirable, making it more likely that informed outcomes are reached. But this view presumes that the actions of individuals truthfully convey their observations of the world. This need not be so, of course. In a formative series of papers, which provides a reference point for much of the literature in our survey, Feddersen and Pesendorfer have analysed simple information aggregation scenarios in which actors share common interests.¹⁵ One such real world example is the problem faced by members of a jury who would all agree upon a verdict if all uncertainty over a case were removed.¹⁶ That work has shown that any procedure which aggregates private information, such as a jury system, may suffer from strategic, that is non-informative, voting.

Much of the literature on information aggregation which we survey is normative, focussing on how far short of the benchmark of perfect aggregation different procedures fall. But there are positive implications, too. Whilst aggregation is problematic, politicians and commentators do in fact draw inferences from such aggregation procedures. For example, politicians do not disregard election returns; indeed, quite the contrary, they pore over results in an attempt to establish what went right/wrong and why. As discussed in the papers below, the inferences they draw can affect the incentives of voters. Although most formal theories of voting behaviour make quite limited assumptions about the messages voters send when casting their votes, the literature we discuss is informed by a richer set of motivational assumptions.

Piketty, for example, suggests a realistic yet (formally) novel motivation for voters.¹⁷ Instead of affecting a current contest, a voter may want to communicate her preferences to others with an eye to affecting future contests. In suggesting this, Piketty sees voters as laying part way between “sincere” and “strategic.” They do not always vote for their favourite candidate – hence they are not always sincere – but they do occasionally vote contrary to their nominal preferences and in circumstances other than what strategic voting would require. Hence they are not narrowly strategic either.

Piketty thus broadens our conception of what it means to act strategically in an electoral contest by addressing the signalling component of the voting act.¹⁸ He develops this in a two-period voting game – a dynamic setting being essential to the idea that voting may be predicated on more than its current-period effect (as measured, say, by Myerson’s pivot probabilities).¹⁹ The main contribution is the identification of circumstances in which a Party A supporter can, by not voting for A this time, communicate to it her preferences for A to offer something different next time. This will ordinarily happen when Party A has a large lead and is unlikely to be involved in a tie. As Piketty shows, such communicative voting biases current-period election results toward closer outcomes. But then if a close outcome is anticipated, a voter will hesitate to pursue the communicative aspect of her current vote since her current-period pivot probability rises. Thus, contra Duverger, in three-party contests the vote proportion of the least successful party need not be driven to zero; some voters may forgo influence in the present election, voting instead for the least competitive party as a means of signalling their unhappiness with the most competitive options; by so doing they influence future contest and, in this respect, are not “wasting” their vote.

Drawing on Piketty’s line of analysis, Razin observes that a winning candidate in an election can, in principle, respond to the details of the election result ex-post by re-crafting her policies and also by positioning herself more effectively for the next campaign.²⁰ That is, Piketty-like communication by voters can have an immediate effect, as well as an effect on a future contest, *if politicians are responsive*. Consequently, voters may affect the policy of a responsive candidate contemporaneously, even if they are not pivotal for the election result. Razin, in effect, suggests a dual motivation for voting – an electoral motivation and a signalling motivation, the former occurring because of current pivot probabilities and the latter occurring despite them.

Razin’s model is of two (ex post) responsive candidates, one left-wing and one right-wing, competing on a unidimensional policy space. There is a common shock to the electorate about which each voter is imperfectly and privately informed. After the election the winning politician

will try to extract information about this common shock from the election returns in order to craft policy appropriate to his or her objectives.²¹

As in many models of this type, the key intuition can be gleaned by focussing upon the behaviour of more moderate voters- those with no particular ideological profile. Suppose that such a voter observes a left shock. If her vote could decide the election then, based on this private information, she would prefer to vote for the left candidate. Given that she has observed a left shock, then she must believe that the mood of the electorate is to the left and thus that the left wing candidate is sure to win. Moreover, her belief must be that a winning candidate from the left would, in inferring the mood of the electorate, implement a left policy. But, of course, a moderate voter would prefer a more moderate policy and, in the event of a left candidate victory, wishes to signal her preference. She can only do so by voting for the right-wing candidate.

The key comparative static reported by Razin is that the conflict between influencing the outcome and voting your preference is most stark when candidates are polarized. He reports that, "...when candidates are polarized, signalling and election motivations are in conflict with one another. When voters think about being pivotal in the election, they prefer to vote for one of the candidates; to use their vote as a message to influence the policy of the winning candidate they prefer to voter for the other candidate."²²

Razin's assumption about politicians takes an observation found in earlier literature – the idea that winning politicians need not be bound by the promises they make to get elected – but gives it a novel interpretation.²³ Alesina and others have noted that politicians exhibit "flexibility" owing to a lack of ability to commit. Electoral promises, in this view, cannot and should not be taken at face value; they lack credibility since politicians have private motivations of their own and ex post opportunities to implement policies other than those on which they may have campaigned. If, for example, politicians have policy preferences (in addition to, or instead of, office preferences), then the winning candidate may well implement favourite policies despite his or her campaign promises. Razin gives an alternative interpretation of politician flexibility, which he calls "responsiveness", attributing post-election adaptations to the information elicited from vote signals about what the electorate really wants (given the private information of voters about shocks that affect their preferences).

Voting is the quintessential electoral act, but it is not the only one; elements of campaigning and electioneering have also been the subject of formal analysis. Besley and Coate (BC) embed their contribution in a growing political-economy-of-lobbying literature, but underscore their contribution's novelty in wedding lobbying activity to electioneering.²⁴ We will

take up some papers on campaign contributions shortly, so let us be clear here that this is *not* about campaign contributions. Lobbyists in the BC model seek to influence an elected politician by offering her “bribes,” either of the traditional sort or in slightly disguised form (post-electoral career employment for example, or current employment of a spouse or child), not campaign contributions. Thus, unlike in the famous Stigler/Peltzman model, lobbyist payments do not affect a politician’s probability of winning an election, but rather constitute utility-enhancing subsidies.²⁵ As well as influencing the policy choices of politicians (the level of a public good and the uniform head tax to finance it) such subsidies may have an indirect effect: they affect the willingness of potential candidates of different political persuasions to stand for office (a politician’s type is parameterized by her personal preference for a public good). BC develop their famous citizen-candidate model (see section 2 below) to take account of these features of the political process.²⁶ Specifically, their equilibrium involves interaction between lobbies and politicians in the form of a set of bribe schedules and a public good level conditional on bribes received; and interaction between voters and candidates in the form of a vector of votes cast by voters with rational expectations over policy (on the basis of the declared candidates and the bribes such candidates attract).²⁷ In short, BC *combine* an electoral process and a policy process in the same model and in so doing explore whether these effects can cancel each other out.²⁸ They show conditions under which, in equilibrium, an electoral phase can neutralize subsequent lobbying, thus affirming the value of combining these two features.²⁹

The final papers in this section deal with campaign spending as signalling phenomena. In a very insightful paper, Prat presents a “...model of campaign advertising with multiple lobbies...combining a signaling model of noninformative advertising with common agency”.³⁰ In this model, there are voters, politicians, and lobbyists. Voters are rational and retrospective, caring about policy and what Prat refers to as *valence* (competence, bargaining skill, intelligence, etc.). Voters all value valence identically, but are heterogeneous in their policy preferences. Politicians are office-seeking and produce (multidimensional) policy, responding to their circumstances with an eye to reelection. An incumbent is characterised by an announcement of a proposed deviation from the ideal policy of the median voter on each dimension (observed by everyone) and a valence (observed by lobbyists only). A challenger is completely unknown and thus is characterised by an expected policy (zero deviation from the median), an expected valence (drawn from a common knowledge distribution but not observed), and no campaign spending. There are many lobbyists, each interested in only a small subset of policy dimensions. To simplify, Prat assumes that on each policy dimension there is a “right” lobby and a “left” lobby offering campaign contributions to politicians in exchange for beneficial political positions.

Given the large number of policy dimensions, and hence the large number of lobbyists, each campaign contribution is assumed to be negligible in its effect on reelection prospects.

The key feature of this model is asymmetric information. Lobbyists know more about the valence of a politician than voters do. Lobbyists are assumed not to care about valence, per se, but to value it indirectly because voters do. This is because their investments in politicians have a greater return if a politician is reelected, and, if voters learn their value, higher valence politicians are more certain of reelection than lower valence politicians. Hence lobbyists are more highly disposed toward politicians with higher valence.³¹ Consequently, voters, whilst not capable of directly observing valence, *can* observe campaign spending and update their beliefs about candidate quality on that basis. Prat calls spending by a politician from his or her campaign-contribution budget *non-directly informative advertising*, since it is the fact of the advertising (and the amount of campaign spending), not its substantive information content, that allows voters to form updated beliefs about (unobserved) politician valence.

Prat notes that this formulation stacks the deck in *favour* of campaign contributions, since it emphasizes the usefulness of campaign expenditures. In the model, voters draw the correct inferences from spending (i.e., higher spending from higher-valence politicians); lobbies are not overwhelmingly powerful inasmuch as their contributions are individually negligible; politicians are not corrupt (they don't pocket the contributions but rather use them to provide indirectly useful information to voters). Nevertheless, Prat shows that even under these benign circumstances, campaign contributions may still have a deleterious effect on voter welfare. Since campaign spending is a signal of candidate quality, "good" candidates must sell out to lobbyists to convey this fact to voters. If lobbyist policy preferences are sufficiently extreme relative to that of, e.g., the median voter, then voters may be worse off from a system of private campaign contributions, despite the informational benefits of campaign expenditures, than some alternatives.³²

Prat's model draws on some of the same machinery as that of Besley and Coate.³³ But inducements in Prat's model take the form of contributions through which politicians signal voters by advertising their qualities, whereas BC assume inducements go directly into the politician's pocket. Prat refers to his model as "a coherent story of campaign advertising as money burning" in reference to the fact that advertising plays no direct or substantive role, functioning only as an indicator of an otherwise unobservable politician type-variable.³⁴ In this sense he acknowledges that his is an incomplete story, since advertising and more general

lobbying have substantive consequences both in terms of informing voters and informing other politicians.

In a related paper, Coate distinguishes the indirectly informative advertising that is the focus of Prat's attention from directly informative advertising, which helps uninformed voters sharpen their beliefs about candidate policy positions.³⁵ Coate is interested in the impact of different means for financing elections and their respective impact on the kinds of politicians that win office. He notes that high-quality politician types benefit from a policy of unrestricted campaign giving by lobbyists for all the reasons Prat provides. But this will mean in equilibrium that high-quality candidates will trade favours for lobbyists in exchange for campaign contributions and will thereby increase their reelection rates. Voter cynicism is one of the by-products of such a system. *Restricted* finance – limits on contributions – will dampen the advantages of high-quality types, but not entirely, and will have the salutary effect of reducing voter cynicism (since voters realize that winning politicians will have had fewer incentives to sell out to lobbyists). Coate suggests that the only losers under a more restrictive campaign finance regime are lobbyists who can elicit fewer favours from winning politicians. Going a step further, restricted finance combined with *publicly financed matching grants* – i.e., taxpayer financed “clean” contributions as a substitute for lobbyist-provided “tainted” money – will make up some of the shortfall that otherwise accompanies restricted finance, thereby reinstating some of the directly informative advertising that would otherwise be lost with limits on funding, but without additional favours going to lobbyists. This mixed system preserves some of the advantages of private financing – indirectly informative advertising that benefits high-quality politicians – whilst also making up for potential losses in directly informative advertising. A fully publicly financed system, on the other hand, will produce a pooling equilibrium in which voters will not be able to sharpen their beliefs about candidate quality.

The nice feature of all these papers on campaign finance is that they are essentially normative in their purpose, but use clever positive models in order to tease out normative conclusions.³⁶ More generally, the signalling papers we have reviewed in this section build on the existing information aggregation literature, which highlights the difficulties involved in effective communication, to broaden our understanding of what it means to act rationally given these problems. When information is imperfectly aggregated, so that residual uncertainty remains, communicating plays a role, sometimes welfare-enhancing, in the resulting political equilibrium.

The papers reviewed have focused on indirect communication – from voters to elected politicians through voting and from politicians to voters through campaign fund-raising. In the

papers by Picketty and by Razin, politicians draw inferences from election outcomes and adapt policy to what they learn (immediately or in the next campaign) thus providing incentives for voters to communicate their preferences. In the papers by Prat and by Coate, voters draw inferences about candidate quality from the financial contributions politicians attract. Of course, many everyday political scenarios involve communication of a more direct kind such as when an agent directly advocates a particular policy line. In a classic paper which precedes and informs many of the papers in our survey, Crawford and Sobel analysed a scenario in which a perfectly informed but biased agent (a voter, a lobbyist) attempts to reveal her information and thereby influence the actions of a less well informed policy-maker.³⁷ Specifically, the agent observes the true value of some underlying parameter and transmits a message via costless verbal communication. In equilibrium she can never reveal the “true” state of the world to the policy maker but, as long as there is some consensus between the policy-maker and the agent, some information can be conveyed. The agent can, for example, credibly convey whether the true state of the world lies either above or below some threshold, thus providing a rough guide of the terrain and allowing the policy-maker to rule out certain scenarios. Strategies based on such “garbling” of information are known in the literature as *partition strategies*.

These “cheap-talk” analyses, based on sender-receiver scenarios, have a very different structure to the information aggregation models based on group decision-making. Nevertheless, the tensions highlighted in the cheap-talk literature are present within institutions which do have as part of their remit the aggregation of information. Committees are a prime example; they are often composed of experts (or those who acquire expertise through specialization in the committee’s jurisdiction or mission). And yet such experts are not always neutral. For example, a hiring committee may fail to hire the best candidate due to the biases committee members have for particular candidates. Indeed the problem is even more pronounced, since service on committees is often most attractive to those with an axe to grind. Selection bias in committee membership exacerbates the dilemma of trying to distinguish expertise from advocacy in its report.³⁸

Li, Rosen, and Suen (LRS) address questions of information aggregation within the cheap talk framework. They focus upon the tension on a committee between the revelation of (private) information and its aggregation on the one hand, and strategic manipulation of that information on the other.³⁹ The latter may take the form of *exaggeration* and/or *obfuscation*. In their motivating analysis a hiring committee must decide whether a candidate is qualified or unqualified for a post. Absent any bias on the part of its membership, the committee would wish

to minimise the risks of two types of errors: i) the hiring of an unqualified candidate and ii) the rejection of a qualified one. Members of the committee observe a private signal of the true state of the world, and, absent any strategic incentives, they could effectively and efficiently aggregate these signals into an outcome which minimise the risk of errors. The key advance in LRS is in analyzing how the private signals of committee members are transformed into a collective decision in the presence of strategic incentives for members to misrepresent their information. They analyse “efficient information sharing” in which the outcome is deterministic (in the sense that the candidate is hired if the pooled signals are sufficiently high) and is strictly monotonic (in the sense that higher signals increase the probability that the candidate is hired). In a result similar in flavour to that of Crawford and Sobel, they show that perfect aggregation of information is unattainable when committee members are biased and that any efficient outcome involves the use of partition strategies. There are, however, a number of different decision mechanisms that entail the use of partition strategies. For example, the members could indicate yea or nay on each candidate’s suitability or provide each candidate with a raw score.⁴⁰ LRS show that a plurality-like decision rule is optimal given the problem the committee faces.

In line with the cheap-talk scenarios, LRS assumes that the distribution of private information is exogenous (and effectively costless to those possessing it). In another paper from this sub-species of the literature, Persico focuses on the problem of information-aggregation that arises when the acquisition of private information is *costly*.⁴¹ When the social benefits of information are higher than the private benefits to the agent who must bear costs to collect it, incentives must be provided to that agent or information will be under-acquired. Persico has in mind a common interest situation, much like that facing a jury or a management team, in which the difficulty does not entail preference divergence – no one has a vested interest in the particular course of action taken except to want to “do the right thing.” The problem is to induce agents to engage in costly information acquisition in order to figure out exactly what the right thing is. If information acquisition is costly, then individuals will be loathe to invest in it. Persico points to two structural features that may provide (dis)incentives to acquire costly information: the size of the decision making body, n , and the decision rule, R (the number of votes needed to make a decision). He derives the optimal decision ratio, R/n , as a function of the quality of signals. He finds that large plurality rules (as is common in Western juries) are suboptimal when the information is noisy. He shows that if p is the probability a binary signal reveals the true state (indicating which of two courses of action to take, like “convict” or “acquit”), then the optimal decision ratio, R/n , approaches p (and, interestingly, does not depend on agent preferences or the cost of information). “[C]onsensual rules cannot be optimal unless the available information is

sufficiently accurate.”⁴² This suggests that unanimity rules common in juries cannot be optimal unless jurors have extreme confidence in their information.⁴³

Voting, campaigning, and other activities associated with elections are ultimately concerned with picking winners. But, as the papers of this section demonstrate, they also entail as a by-product the transmission of information. Sometimes this information will directly affect who wins; at other times it will affect what the winners do once they have won. Moreover, the aggregation of information, inferred from actions like voting, speech making, conspicuous spending and other forms of signalling in the electoral context, also arises in the deliberation of committees and juries. The papers reviewed here suggest just how far the analysis of collective choice has moved from its early social choice roots and first-generation spatial models.

2. Parties, Candidates, and Coalitions

In the classic spatial model of elections, Downs showed how the insights of Black’s median voter theorem apply in representative democracies where citizens demand and parties supply public policy. Although he attributed some generality to his approach by demonstrating the robustness of his conclusions to variations in preferences in the electorate, Downs’s insights were built on a fairly restrictive set of assumptions. There is a single issue dimension; parties are office-seeking; they are able to commit to implementing the policies they pledge (because office-seekers don’t care about policy);⁴⁴ and the number of parties is exogenously fixed (at two). The literature we survey in the present section maintains unidimensionality and focuses mainly on the last three of these assumptions.

The absence of a commitment technology produces a time consistency problem whenever a party has policy preferences and pledges policies that do not correspond to its ideal. Mechanisms facilitating credible commitments have thus concerned political economists, and continue to be a point of focus in the recent literature.⁴⁵ Ellman and Wantchekon take a novel approach to this problem in focussing upon the links between parties and external groups who control sources of unrest.⁴⁶ Their analysis is of a two-party scenario where each party has an ideal policy on one side or the other of, and equidistant from, the median position. Parties are policy-seeking, are unable to commit, and thus each party wins the election with equal probability. A *strong* party can take a costly action to overturn an election outcome unfavourable to it. This is because it is aligned with an external group – a terrorist organisation, an activist trade union, or organised capital for example – which has the opportunity to cause social unrest. Surprisingly, the existence of this threat allows a *weak* party, that is a party which is not aligned with such a group, to

commit to policies which are close to the median. Specifically, the weak party can pledge a policy which makes the strong party just indifferent between accepting the result of the election and overturning the result through activating its threat. The weak party's pledge is credible because it can point to the adverse consequences of an ex post deviation if it should win the election. In this sense the threat capability of the strong party acts as a commitment device for the weak party, thereby ensuring election victory for the latter.

Although their model is simple, Ellman and Wantchekon bring a novel insight to the spatial model of party competition. They highlight that the positions taken by political parties are affected not only by their desire to win elections, but also by the extra-constitutional resources they wield. The role of such extra-constitutional resources is also an important theme in the work of Acemoglu and Robinson, which we discuss in the first section of Part II of our essay.

Ellman and Wantchekon deal with the issue of commitment within the framework of the spatial model. Other papers utilise the alternative citizen-candidate framework⁴⁷ These models have several advantages: they endogenise the entry decision of candidates; they provide a natural resolution to the issue of commitment; and they do not treat candidates as a distinctive breed but rather as individuals drawn from the general population of citizens. Candidates, like other citizens, receive utility from the policy implemented, have no means of commitment, and thus will always implement their ideal policies if elected. The equilibria of these models are subtly different from those of the Downsian model. For example, two-party equilibria do not imply median convergence. Moreover, in contrast to the Downsian model, there exist equilibria where more than two candidates enter the race. In addition, the equilibria of these models are generally more robust than those of the standard spatial model; in particular, equilibria exist even in multidimensional settings.

A key insight of the citizen-candidate model is that candidates may enter an election for strategic reasons other than winning the election. A candidate can influence an election, and hence policy outcomes, by entering an election she has little chance of winning. Dutta, Jackson and Le Breton (DJB) search for voting procedures which satisfy the Arrowian criterion of Pareto optimality and an additional condition of "candidate stability", i.e., procedures that are not influenced by candidate incentives to exit the election. They extend the Besley-Coate citizen-candidate model, which deals with candidate competition under plurality rule, showing that when the sets of citizens and candidates are distinct, that is where candidates are not voters, no voting procedure satisfying Pareto optimality also satisfies "candidate stability". In the case where there is overlap between the set of citizens and candidates, there are voting procedures which satisfy

these requirements; however the requirements of voting procedures which do satisfy these criteria are onerous and “exhibit a strong imbalance of power amongst voters”.⁴⁸

In developing a citizen-candidate rationale for endogenous candidacies further, DJB bring an important additional insight to the table. They highlight the fact that it is only through an understanding of the strategic nature of candidacy that we can make useful comparisons between voting procedures. That is, if we are to identify the impact of electoral systems on political outcomes, we need to consider their effects on candidates as well as on voters.

A criticism of citizen-candidate models, which applies to DJB, is that they do not allow a role for political parties. Their paper, as others in the same tradition, fails to distinguish between a representative democracy where elections takes place between competing parties (with candidates representative of their respective parties), and those in which candidates compete independently. A paper by Morelli addresses the concerns of DJB and explicitly establishes a role for political parties within the citizen-candidate framework.⁴⁹ Previous analysis of Duverger's law had focused on the effects of strategic voting within a single district with a fixed number of candidates.⁵⁰ It is not clear, however, that this approach can identify the relationship between voting strategies and the reduction in the number of parties in accordance with Duverger's law since, as pointed out by DJB, to make useful comparisons across voting systems we need to take strategic candidacy into account. To analyse this feature, Morelli builds a model of endogenous candidate entry and party formation in a multi-district environment. At the first stage of the game, party leaders form parties consisting of heterogeneous sets of prospective candidates who compromise over policy. By assumption, the existence of a party allows politicians to make credible policy commitments. Whereas parties serve as commitment devices, strategic candidacy is important also. Once the party system is in place, prospective candidates decide whether to enter the race. After votes are cast, the electoral system translates these votes into seats in a parliament that then makes policy decisions under majority rule.

The paper shows how strategic candidacy can help voters to coordinate. For example, suppose that, in a single-member district with plurality rule, candidate A receives a plurality of votes, say 40%, when all vote sincerely. Now suppose that the remaining 60% of voters rank A last, but half of these prefer C over B and the other prefer B over C. In this case supporters of B and C have a strong incentive to vote strategically, but face a problem on whom to coordinate. This problem is resolved when only one candidate, either B or C, stands for election. It may be easier for B and C, compared to their respective voters, to resolve this coordination problem. Consequently, strategic candidacy is a *substitute* for the strategic voting that had been seen as the

Duvergerian mechanism that produces a reduction in the number of candidates under plurality rule. In his model Morelli shows that under plurality rule, the equilibrium number of parties is unaffected by the type of voting strategies, strategic or sincere, which are employed.⁵¹ Morelli thus shows that Duverger's Law relies upon strategic coordination amongst candidates rather than strategic coordination amongst voters.

In a highly counter-intuitive result, Morelli provides the conditions under which Duverger's law is *reversed* in that the number of candidates is higher under plurality than under PR. A necessary condition for this to occur is that voters' preferences are heterogeneous across regions. Morelli's insights into the workings of Duverger's Law with complete information complements the results of recent analysis showing that, with incomplete information, standard strategic voting need not lead to Duvergerian outcomes.⁵²

Levy also models political parties as commitment devices. In a citizen-candidate scenario, candidates lacking commitment ability can choose to form parties and offer to the electorate a credible compromise policy position in the interval between their ideal points (a setup similar to Morelli).⁵³ Absent political parties, in one dimension the unique equilibrium consists of the candidate representing the median running alone (and winning the election unopposed). Adding the possibility of party formation does not affect this result: Levy shows that the commitment ability provided by parties does not enlarge the set of equilibrium outcomes; the median citizen running alone remains the unique equilibrium. In a one-dimensional world, therefore, commitment ability does not suffice to establish a role for political parties. Levy shows, however, that this result is overturned in the multidimensional case. In that case a policy compromise can be broached between two candidates (who form a political party) and the payoff associated with that compromise is such that neither candidate has an incentive to defect by standing as an independent.⁵⁴ Thus, in the multidimensional setting, Levy establishes a role for political parties.⁵⁵

Both Morelli and Levy bring important insights to the role of political parties, shedding light on cases which, absent such rational analysis, might appear perplexing. Morelli's work provides theoretical underpinnings for the fact that India, for example, continues to produce many effective parties despite the use of plurality rule, relating this to the fact that the distribution of median voter preferences is non-uniform across districts. Levy's work also has insights relevant to the study of Indian party politics. She provides a rationale for the formation of the Indian BJP which brings together disparate political factions, speaking both to the demands of Hindu

fundamentalist groups, who want targeted benefits to Hindu communities, and free-market elements who want a reduced role for the state.⁵⁶

We move now from parties and candidates to recent contributions to the study of government coalitions. This is a prime area of research for rational choice scholars at least since Riker's seminal contribution which provided theoretical underpinnings for predictions concerning coalition size.⁵⁷ Such has been his influence that work on minimum winning coalitions is often seen as *the* rational choice contribution to the study of government coalitions. However, there need not be a unique minimum winning coalition. Empirically, furthermore, many majoritarian governments which form are of larger than minimum winning size, and not all governments that form even attain majoritarian status, i.e., many survive as minority governments.

The formal political science literature has gone some way toward addressing these concerns. Laver and Shepsle, analyse government formation as a process distinct from coalition building.⁵⁸ In their model a government consists of an allocation of portfolios between parties who cannot pre-commit to implementing any policy other than their ideal policy. Baron and Ferejohn, in a seminal piece in the rational choice literature, showed the existence of equilibria in multi-dimensional space when government formation is viewed as a sequential bargaining process between a formateur, who has proposal rights, and the remaining legislators in the legislature.⁵⁹

A number of recent papers that have developed its insights. Jackson and Moselle analyse a situation where legislators must make decisions over both a positional issue and over a purely distributive good.⁶⁰ Suppose that the legislature were to decide on each of these issues separately. In the case of the positional issue then the median voter theorem applies; in the case of the distributive good then the Baron and Ferejohn bargaining model suggests that a minimum winning coalition will form in which the proposer offers each member's continuation value to a strict majority of the legislators. Jackson and Moselle show that in a situation where a randomly recognised proposer can make a proposal over either or both of these dimensions, she will always choose to bundle the issues together. The reason is that a proposer is in a unique position to extract gains in both dimensions. If an extreme proposer, for example, proposes on both dimensions she can extract policy concessions whereas she would be hemmed in by median voter preferences on the positional issue if she unbundled the proposal. We draw attention to this key insight since a similar dynamic is at work in several of the papers we address below. An intriguing result in this paper is that all legislators are excluded from the winning coalition with positive probability; hence a coalition which *excludes* the median legislator may form.

Baron and Diermeier (BD) make a major contribution in developing the Baron and Ferejohn model with regard to government formation in multi-party settings, taking account not only of the legislative process of government formation but also how this affects the behaviour of voters in proportional representation systems.⁶¹ They model a three-party legislature where each party has a fixed ideal point in a two-dimensional policy space. The utility function of each party has two elements: the first is related to the benefits received from the policy implemented by the government; the second is from office benefits received. The basic structure of the model is familiar. At the government formation stage a formateur selects a coalition which bargains over policy and the distribution of office spoils. If the coalition fails to agree to a policy, a status quo policy is implemented. Voters anticipate the likely policy outcomes of this procedure before casting their votes. The model assumes that office benefits and policy benefits enter politician utility functions in an additively separable fashion. Some previous models have been based on the assumption that politicians are either office-seeking or policy-seeking, or that the allocation of office benefits in the form of cabinet portfolios can be seen as the allocation of the right to determine policy. As BD argue, however, not all office benefits can be seen in terms of the influence which this grants the office holder over policy. For example, seats on supervisory boards entail straightforward perks which often do not come with policy-making powers. This separation of office and policy benefits provides the critical feature of their model, namely that the formateur is able to trade policy concessions in return for office benefits.

The key parameters of the model are the ideal points of the parties and the position of the status quo. BD show that, if no party has a majority of seats, a minimum winning coalition will form and the formateur always chooses as a coalition partner the party which is most disadvantaged by the status quo. Because this party is relatively disadvantaged by the status quo, its support is “cheaper” in the sense that it requires a lower level of office benefits in compensation for its policy loss. It is not, however, always the case that the formateur will choose a minimum winning coalition. If, for example, the status quo is far away from both potential partners' ideal points, then the formateur prefers a universal coalition including all parties. The intuition is the same. Since both parties are disadvantaged by the status quo, the formateur can extract more office benefits for itself in return for implementing a policy that is preferred by his coalition partners to the otherwise unattractive status quo.

A key feature of this model is that, unlike in the Laver-Shepsle portfolio allocation models, policy outcomes are necessarily efficient in the sense that there are no policy positions which make all coalition partners better off than with the policy actually implemented. This entails that

the policy chosen by the government is determined by the ideal points of the parties, whereas the government which forms is determined by the position of the status quo relative to the ideal points. This in turn allows BD to fully characterise a political equilibrium in which electors vote for parties and parties form governments. In equilibrium the formateur does not wish to include an additional party in government nor banish any party which helps form the government. Moreover, voters can use their votes to influence the probability that a given party is selected as formateur and, in equilibrium, have no incentive to change their voting behaviour. The model makes important contributions – identifying the effects of the key parameters upon the composition of the government and the policy it produces; illuminating the broader picture of government formation, specifically why coalitions of varying size may form; and finally, developing an understanding of how coalition formation affects voter choices. The fact that policy and office utility are entirely separable in agent preferences, so that portfolios may be assigned independently of policies to be implemented, is problematical, a clear direction for further refinement.

We started this section by highlighting the lack of a commitment technology in the classic Downsian model. Indeed, a key theme which links many of the papers in this section is a focus on commitment. That this should feature in economists' treatment of political problems is not surprising, and the results offered provide compelling insights about the nature of parties and coalitions. Nevertheless, much still needs to be done. The papers by Levy and Morelli focus on parties as commitment devices, but it is assumed rather than demonstrated that parties do in fact have this quality. Although plausible, this assumption lacks micro-foundations. What is it about parties that allows commitments which could not be made by candidates in the absence of a party structure? Perhaps it is their long lives over many electoral cycles, giving a role for repeat play as Alesina has suggested. Moreover, the papers by Baron and Diermeier, and by Diermeier and Merlo⁶², take as a starting point the efficiency of policy outcomes in the bargaining process between parties. This begs the question which to some extent motivated Laver and Shepsle, namely what happens when parties cannot commit to compromise policies?⁶³

We have covered a considerable amount of ground and body of work. Our survey, of course, is no substitute for going directly to the cited papers. We hope, however, we have whetted the reader's appetite by providing ample evidence of much that is central to political science on the agenda of economics. In Part II we continue the survey, turning our focus to redistribution, constitutional design, and incentives of political elites.

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¹ An excellent though rather technical survey is Antonio Merlo, "Whither Political Economy? Theories, Facts, and Issues," PIER Working Paper 05-033, December 2005. It may be found at the web site of the Penn Institute for Economic Research (<http://www.econ.upenn.edu/Centers/pier/Archive/05-033.pdf>).

² There are many other journals we might have included, not to speak of a wealth of web sites. For example, the *European Journal of Political Economy* is a very fertile source of articles on political economy topics, as is the *Journal of Public Economics*. The Elsevier web site on economics and finance lists 106 journals, many of which contain articles of relevance to this essay. See http://www.elsevier.com/wps/find/S04.cws_home/main.

³ On the general field of IPE, see Jeffrey Frieden and Lisa Martin, "International Political Economy: Global and Domestic Interactions" in Ira Katznelson and Helen V. Milner, eds, *Political Science: The State of the Discipline* (New York: W.W. Norton, 2003); and David Lake, "International Political Economy: A Maturing Interdiscipline" in Barry R. Weingast and Donald Wittman, eds, *The Oxford Handbook of Political Economy* (Oxford: Oxford University Press, 2006), pp. 757-778. On international monetary relations, see Jeffrey Frieden and Lawrence Broz, "The Political Economy of Exchange Rates" in Weingast and Wittman, eds, *The Oxford Handbook of Political Economy*, pp. 587-601; and Jeffrey Frieden and Lawrence Broz "The Political Economy of International Monetary Relations," *Annual Review of Politics* 4 (2001). On international trade, see Helen Milner, "The Political Economy of International Trade," *Annual Review of Politics* 2 (1999), 91-114.

⁴ In the modern era, the classic is Anthony Downs, *An Economic Theory of Democracy* (New York: Harper & Row, 1957).

⁵ Political scientists tend to refer to generic participants as *actors*, economists tag them as *agents*, and game theorists call them *players*. We will use all these labels interchangeably.

⁶ Is dividing a surplus an economic activity or a political activity? Producing and consuming the surplus might conventionally be regarded as economic activities, but dividing could be either. If

the division is produced by market forces, then it is economic; but if it is produced by a non-market institution or process – e.g., a legislative decision, bargaining between labor and capital, voting by members of a board of directors – then we are prepared to call this political. Indeed, even in those cases in which the division is produced by the market, the fact that market institutions themselves and the results they produce are sustained and enforced by non-market means leads some to regard even these as at least partly political.

⁷ Roger B. Myerson, “Large Poisson Games,” *Journal of Economic Theory* 94 (2000), 7-45. The machinery developed here is quite general, but the main application is to two-candidate contests. This analysis extends Ledyard’s famous work, which takes n as large but known. See John Ledyard, “The Pure Theory of Large Two-Candidate Elections,” *Public Choice* 44 (1984), 1-41.

⁸ That is, her candidate is more likely than the other candidate to be tied with the other candidate or trailing it by a single vote.

⁹ Myerson, “Large Poisson Games,” 30.

¹⁰ It would appear, though Myerson does not make this point, that the uniqueness of the welfare-maximising position is quite consequential. If it is unique, then two rational candidates will converge to it, all (exclusively policy-motivated) voters will be indifferent, and thus citizens will participate or not according to the flip of a coin when voting is costless (though the outcome, also randomly determined, will necessarily be welfare-maximising). If, on the other hand, there are multiple welfare-maximising positions, and the candidates do not converge, then there are positive incentives to vote, as individual voters will not be indifferent, and turnout will be non-negative.

¹¹ Roger B. Myerson, “Comparison of Scoring Rules in Poisson Voting Games,” *Journal of Economic Theory* 103 (2002), 219-51.

¹² Since voting all zero or all one in any of these rules is equivalent to abstaining, they have been excluded from the analysis.

¹³ Myerson, “Comparison of Scoring Rules,” 221.

¹⁴ One example will have to suffice. In voting under a best-rewarding rule, suppose there are two voter types, equally represented in the population. Type 1 prefers \underline{c} to \underline{a} to \underline{b} , whereas type 2 prefers \underline{c} to \underline{b} to \underline{a} . If B (the *maximal* points a voter may assign to her middle-ranked alternative) is less than $\frac{1}{2}$ (a property of a voting rule tending toward best-rewarding), then voter type 1 (2) will strategically assign her full point to \underline{a} (\underline{b}) and her maximal middle-point allocation of B to \underline{c} .

In expectation, both a and b will obtain more points than c, since $B < \frac{1}{2}$, and the contest will essentially boil down to a versus b, *even though c is unanimously preferred to both*. A symmetric example (in which A , the *minimum* a voter may assign to her middle-ranked alternative, is greater than $\frac{1}{2}$, a property of voting rules tending toward worst-punishing) establishes that a universally loathed candidate can be a serious competitor under a worst-punishing rule.

¹⁵ Timothy J. Feddersen and Wolfgang Pesendorfer “The Swing Voter's Curse”, *American Economic Review* 86 (1996), 408-24. Timothy J. Feddersen and Wolfgang Pesendorfer, “Voting Behavior and Information Aggregation in Elections with Private Information”, *Econometrica* 65 (1997), 1029-58.

¹⁶ Timothy J. Feddersen and Wolfgang Pesendorfer “Convicting the Innocent: The Inferiority of Unanimous Jury Verdicts under Strategic Voting”, *American Political Science Review* 92 (1998), 23-35.

¹⁷ Thomas Piketty, “Voting as Communicating,” *Review of Economic Studies* 67 (2000), 169-91.

¹⁸ The most populous sub-species on voting and elections in our sample of articles consists of studies of signalling in political contests. We therefore discuss signalling models in a number of the substantive contexts of this essay. There are, however, additional papers on signalling and communication that we will not discuss in detail but to which we wish to draw the reader's attention. W. Dessein, “Authority and Communication in Organisations,” *Review of Economic Studies* 69 (2002), 811-838 is concerned with a comparison of the advantages of communication relative to delegation in organisations; when preference conflicts between a principal and an agent are not too large (made precise), it is better to delegate to the better informed agent than to communicate with her. Vijay Krishna and John Morgan, “A Model of Expertise,” *Quarterly Journal of Economics* 116 (2001), 747-775 examine communication between a decision maker and experts, deriving conditions under which it is rational to seek out advice from different kinds of experts. In “A Simple Model of Voice,” *Quarterly Journal of Economics* 116 (2001), 189-228, Abhijit Banerjee and Rohini Somanathan take up the issue of how the characteristics of a group and its leadership affect the use of “voice,” giving special emphasis to the degree of preference heterogeneity in the group. In David Spector, “Rational Debate and One-Dimensional Conflict,” *Quarterly Journal of Economics* 115 (2000), 181-200, an argument is provided as to why multidimensional differences in beliefs among members of a group with homogeneous preferences either vanish or are no more than one-dimensional when public communication is possible.

¹⁹ Piketty, “Voting as Communicating,” 169 notes that “although this trade-off between infinitesimal probabilities of being pivotal [in today’s contest versus tomorrow’s] can seem to rely on excessively sophisticated rationality, we argue that the predictions we obtain about communicative voting are very intuitive and reasonable.” He also notes that he draws heavily on the techniques developed by Myerson for large-n Poisson games.

²⁰ Ronny Razin, “Signaling and Election Motivations in a Voting Model with Common Values and Responsive Candidates,” *Econometrica* 71 (2003), 1083-1119.

²¹ Razin assumes voters are homogeneous in their preferences, but have independent information about how these preferences have been perturbed by the shock. This produces sufficient “heterogeneity” to make this an interesting framework.

²² Razin, “Signaling and Election Motivations,” 1084.

²³ An early statement of the ex post flexibility of politicians is found in Alberto Alesina, “Credibility and Policy Convergence in a Two-Party System with Rational Voters,” *American Economic Review* 78 (1988), 796-806.

²⁴ Timothy Besley and Steven Coate, “Lobbying and Welfare in a Representative Democracy,” *Review of Economic Studies* 68 (2001), 67-82.

²⁵ George J. Stigler, “The Theory of Economic Regulation”, *Bell Journal of Economics and Management Science* 2 (1971):137-146 .Sam Peltzman, “Towards a More General Theory of Regulation”, *Journal of Law and Economics*, 19 (1976), 211-240.

²⁶ Timothy Besley and Steven Coate, “An Economic Model of Representative Democracy,” *Quarterly Journal of Economics* 112 (1997), 85-114.

²⁷ A bribe schedule is a function giving the payment a lobbyist will make to the politician for each level of the public good.

²⁸ Many electoral models don’t have a subsequent policy-selection and -implementation phase, whereas many policy models have lobbyist activity and policy choice but no prior electoral component.

²⁹ A distinguished sub-literature on electoral systems describes the impact of electoral arrangements on economic performance as well as on political results. We mention in passing a paper by Lizzeri and Persico (LP) on electoral systems that we revisit in Part II on economic performance and redistribution. Alesandro Lizzeri and Nicola Persico, “The Provision of Public Goods Under Alternative Electoral Incentives”, *American Economic Review* 91 (2001), 225-239.

The two Myerson papers just surveyed focus on the *political* consequences of electoral rules, whereas LP are interested in whether the economic content of electoral results depends upon electoral rules – in this case, promises by candidates in an election to provide either a national public good or a profile of targeted pork-barrel goods. As we report in section 1 of Part II, there is a strong relationship between the equilibrium economic content of such promises and the type of electoral system.

³⁰ Andrea Prat, “Campaign Spending with Office-Seeking Politicians, Rational Voters, and Multiple Lobbies,” *Journal of Economic Theory* 103 (2002), 162-89. The quotation is at 164. Also see Andrea Prat, “Campaign Advertising and Voter Welfare,” *Review of Economic Studies* 69 (2002), 999-1018.

³¹ It is unclear why a lobbyist wouldn’t also value valence *directly*. A high-valence politician would be expected to be more successful in delivering on policy promises than a low-valence politician.

³² Two papers on reputation complement the kind of analysis offered by Prat. Jeffrey Ely and Juuso Valimaki, “Bad Reputation,” *Quarterly Journal of Economics* 118 (2003), 785-814, provide a clever theoretical rationale for how even the best of intentions of a long-run player to develop a good reputation will often have perverse consequences, much as Prat’s good politicians must “sell out” to special interests in order to signal their quality. In Steven Tadelis, “The Market for Reputations as an Incentive Mechanism,” *Journal of Political Economy* 110 (2002), 854-882, the question is raised of whether reputational incentives atrophy as a short-run agent reaches the end of her career. In economic contexts it may be possible to impound the agent’s reputation – like “good will” in the value of a firm – thereby making incentives “ageless.” Political parties may play an analogous role, compensating career-end politicians for good behaviour late in the day in exchange for post-career “care and nurturing.”

³³ In particular, each uses the Bernheim-Whinston menu-auction approach in which lobbyists offer a schedule of inducements related to the movement of political positions toward those preferred by the lobbyist.

³⁴ Prat, “Campaign Spending with Office-Seeking Politicians,” 182.

³⁵ Stephen Coate, “Pareto-Improving Campaign Finance Policy,” *American Economic Review* 94 (2004), 628-55.

³⁶ The reader is also directed to David Strömberg, “Radio’s Impact on Public Spending,” *Quarterly Journal of Economics* 119 (2004), 189-221. This falls outside our categories, because it is primarily empirical in nature, so we will be brief. The paper calls attention to mass media as sources of electoral information. In particular, if political (pork barrel) spending is more widely publicized to voters having access to mass media, then political credit claiming is made more likely, and reelection prospects are enhanced. The hypothesis of higher spending on those groups and geographic areas with greater media saturation is tested on data concerning New Deal spending in the US at the dawn of mass radio.

³⁷ Vincent P. Crawford and Joel Sobel, “Strategic Information Transmission,” *Econometrica* 50 (1982), 1431-1451.

³⁸ Indeed this problem has been recognised by political scientists using the cheap-talk framework to analyse the relationship between a legislative majority and a committee. See Thomas W. Gilligan and Keith Krehbiel, “Asymmetric Information and Legislative Rules with a Heterogenous Committee”, *American Journal of Political Science* 33 (1989), 459-490.

³⁹ Hao Li, Sherwin Rosen, and Wing Suen, “Conflicts and Common Interests in Committees,” *American Economic Review* 91 (2001), 1478-97.

⁴⁰ When scoring rules are employed, as in Crawford and Sobel, the optimal coarseness or fineness of the partition (in this second-best world) is a function of the degree of underlying “latent” consensus among those possessing private information. A relatively coarse partition will eliminate most strategic manipulation (since within-category claims cannot be differentiated), but will limit the benefit of aggregating information. A relatively fine partition, on the other hand, will allow for aggregation, but encourage strategic manipulation. When group consensus is relatively high, the categories of the partition into which private information is revealed may be made finer, with associated information-aggregation advantages, since the incentives to exaggerate are restrained.

⁴¹ Nicola Persico, “Committee Design with Endogenous Information,” *Review of Economic Studies* 71 (2004), 165-91.

⁴² Persico, “Committee Design,” 167.

⁴³ A related paper is César Martinelli, “Convergence Results for Unanimous Voting,” *Journal of Economic Theory* 105 (2002), 278-97. Here, information is costless. Conditions are derived

describing when the outcome of unanimous voting with private information converges to voting when information is entirely common knowledge. Although the costless information assumption is problematical, as Persico suggests, this paper generalizes a growing literature in jury decision making.

⁴⁴Calvert extended the Downsian model taking into account candidate policy preferences, but maintained the idea that candidates could credibly commit to policy. Randall Calvert, “Robustness of the Multidimensional Voting Model: Candidate Motivations, Uncertainty and Convergence,” *American Journal of Political Science* 39 (1985), 69-95.

⁴⁵ For example, Alesina showed that commitment could be credible with *repeated* two-party competition. See Alberto Alesina, “Credibility and Convergence in a Two-Party System with Rational Voters.”

⁴⁶ Matthew Ellman and Leonard Wantchekon, “Electoral Competition Under the Threat of Political Unrest,” *Quarterly Journal of Economics* 115 (2000), 499-531.

⁴⁷ These models originated separately in Besley and Coate, “An Economic Model of Representative Democracy” and Martin Osborne and Al Slivinsky. “A Model of Party Competition with Citizen-Candidates,” *Quarterly Journal of Economics* 97 (1996), 65-96.

⁴⁸ Bhaskar Dutta, Matthew Jackson and Michel le Breton, “Strategic Candidacy and Voting Rules,” *Econometrica* 69 (2001), 1013-1038. A related paper by the same authors develops insights of strategic candidacy with regard to one specific voting procedure: Bhaskar Dutta, Matthew Jackson and Michel le Breton, “Voting by Successive Elimination and Strategic Candidacy,” *Journal of Economic Theory* 103 (2002), 190-218.

⁴⁹ Massimo Morelli, “Party Formation and Policy Outcomes under Different Electoral Systems,” *Review of Economic Studies* 71(2004), 829-853.

⁵⁰ Gary Cox, *Making Votes Count: Strategic Coordination in the World’s Electoral Systems*, ((New York: Cambridge University Press, 1997).

⁵¹ The only case where sincere voting would not be a Nash Equilibrium is the case where all three candidates run. This case lies off the equilibrium path in that, under plurality rule, strategic candidacy always implies fewer than three candidates.

⁵² Myatt shows that with incomplete information, the ability of voters to coordinate strategically to produce a Duvergerian outcome under plurality rule relies upon the precision of voters’ private

signals concerning the rankings of the different candidates. A voter who is tempted to vote strategically, but is unsure about the constituency level ranking of candidates, may resist such temptation in the knowledge that his private information may be mistaken – thus producing non-Duvergerian outcomes. See David P. Myatt, “On the Theory of Strategic Voting,” mimeo, Oxford University, 2005.

⁵³ Gilat Levy, “A Model of Political Parties,” *Journal of Economic Theory* 115 (2004), 250-277.

⁵⁴ Levy provides an illustration in which the two dimensions represent taxation and targeting of benefits toward a particular constituency. An equilibrium party in this setting consists of a candidate who has a preference for low taxation and low levels of targeted benefits and the candidate who represents a constituency which is advantaged by targeted benefits and hence would like taxation to be high. The compromise policy provides for a moderate amount of targeting funded by a moderate amount of taxation.

⁵⁵ Levy’s paper goes some way toward providing an answer to the question posed by Krehbiel. Keith Krehbiel, “Where’s the Party?” *British Journal of Political Science* 23 (1993), 235-66

⁵⁶ In Bernard Caillaud and Jean Tirole, “Parties as Political Intermediaries,” *Quarterly Journal of Economics* (2002), 1453-1489, the authors analyse parties in terms of their informational role, focusing on competition between party factions. They show how different party organisational forms provide incentives for factions to engage in costly search for “good” policies.

⁵⁷ Using the assumption that legislators are interested purely in the benefits of office, Riker showed that the core of a coalitional game consists of the set of minimum winning coalitions - these are coalitions which, amongst all coalitions that would no longer maintain majority status if a single party were to leave the government, have the fewest number of legislators. William H. Riker, *The Theory of Political Coalitions* (New Haven: Yale University Press, 1962).

⁵⁸ Michael Laver and Kenneth Shepsle, “Coalitions and Cabinet Governments,” *American Political Science Review* 84 (1990), 873-890.

⁵⁹ David Baron and John Ferejohn, “Bargaining in Legislatures”, *American Political Science Review* 83 (1989), 1181-1206. This paper has transcended the boundary between the disciplines of Economics and Political Science. Evidence for this claim follows from the fact that numerous articles in our sample begin from the Baron-Ferejohn formulation. Anasstasos Kalandrakis, “A Three-Player Dynamic Majoritarian Bargaining Game,” *Journal of Economic Theory* 116 (2004), 294-322, explores divide-the-dollar bargaining that takes place over an infinite horizon in which

the reversion point (if a bargain fails to be struck) in period $t+1$ is the outcome in period t . With this endogenous reversion he shows, counter-intuitively, that asking for the entire dollar is an equilibrium proposal of this arrangement, irrespective of the status quo or the discount rates of players. In Peter Norman, “Legislative Bargaining and Coalition Formation,” *Journal of Economic Theory* 102 (2002), 322-353, a finite version of divide-the-dollar bargaining is examined in which a proposer randomizes over possible coalition partners comprising a minimum winning coalition. He finds that a multitude of equilibria are possible. Additional variations on Baron-Ferejohn divide-the-dollar bargaining are found in two companion papers: Hulya Eraslan, “Uniqueness of Stationary Equilibrium Payoffs in the Baron-Ferejohn Model,” *Journal of Economic Theory* 103 (2002), 11-30 and Hulya Eraslan and Antonio Merlo, “Majority Rule in a Stochastic Model of Bargaining,” *Journal of Economic Theory* 103 (2002), 31-48. The first extends Baron-Ferejohn to supermajority decision rules. The second allows for both supermajority rules and a stochastic surplus to be divided. Connected to this latter paper is Matthias Messner and Mattias K. Polborn, “Cooperation in Stochastic OLG Games,” *Journal of Economic Theory* 108 (2003), 152-168, which explores a repeat-play game in which the game parameters in each iteration are stochastic, as in Eraslan and Merlo, but also in which the players live “overlapping” lives – for example, term-limited legislators whose termination dates differ. Finally, in Avinash Dixit, Gene M. Grossman, and Faruk Gul, “The Dynamics of Political Compromise,” *Journal of Political Economy* 108 (2000), 531-568, a ruler (majority political party) must come to terms with the possibility that he or she (or it) will not be in power forever. Thus, in making a “take-it-or-leave-it” demand of a division of a surplus to the loyal opposition (it can make this demand because it doesn’t need the opposition to govern), the ruler takes on board the idea that not keeping everything today may open up the possibility for reciprocity when the ruler is out of power. It is testimony to the richness of the Baron-Ferejohn model that so much new economic research has been spawned by this now-standard, off-the-shelf, model in political science.

⁶⁰ Boaz Moselle and Matthew Jackson, “Coalition and Party Formation in a Legislative Voting Game,” *Journal of Economic Theory* 103 (2002), 49-87.

⁶¹ David Baron and Daniel Diermeier, “Elections, Governments, and Parliaments in Proportional Representation Systems,” *Quarterly Journal of Economics* (2001), 933-967.

⁶² Daniel Diermeier and Antonio Merlo, “Government Turnover in Parliamentary Democracies,” *Journal of Economic Theory* 94 (2000), 46-79.

⁶³ Put differently, as noted above, perhaps the mechanism of portfolio allocation limits precisely what policies a governing coalition can commit to. This would call into question both the ability of governing coalitions to commit to any policy on which they might compromise and the difficulty with the assumption that policy and office utility are separable.