Chapter 1
Public Choice and Constitutional Political Economy[1]

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Introduction

Public choice – or the economics of politics – is a relatively new science located at the interface between economics and politics (Rowley 1993, Mueller 1997, Shughart and Razzolini 2001). It was founded in 1948 by Duncan Black, who died in 1991 without ever achieving full recognition as the Founding Father of the discipline (Tullock 1991). Its practitioners seek to understand and to predict the behavior of political markets by utilizing the analytical techniques of economics, most notably the rational choice postulate, in the modeling of non-market decision-making behavior.

Public choice thus defined, is a positive science concerned with what is or what conditionally might be. Its dedicated journal is *Public Choice*, introduced by Gordon Tullock in 1966 and now ranked among the thirty most important journals in social science, worldwide. Its intellectual home is The Center for Study of Public Choice, now located in The James M. Buchanan Center for Political Economy at George Mason University in the Commonwealth of Virginia.

The public choice research program was launched in 1948 by Duncan Black's paper on the rationale of group decision-making. This paper demonstrated that, under certain conditions, at most one motion is capable of securing a simple majority over every other motion. Specifically, if voter preferences are single-peaked over a single-dimensional issue space, a unique equilibrium exists in the motion most preferred by the median voter. For Black (1948), this result was the political science counterpart of the competitive market equilibrium in his own discipline of economics. However, Black was by no means convinced that the median voter theorem would hold in practice. His paper clearly identifies conditions in which majority voting would cycle across pair-wise choices.

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In 1950, Arrow, without recognizing Black's insight about cycling, demonstrated that when Black's condition of single-peaked preferences does not hold, the unique vote equilibrium will not hold and voting cycles may prevail (Arrow 1950). Arrow incorporated this insight into his famous 1951 book, *Social Choice and Individual Values,* outlining a difficulty in social welfare (Arrow 1951). These papers fundamentally challenged Black's initial theoretical notion of political stability and offered an alternative theoretical viewpoint that political markets are inherently unstable. In so doing, Arrow seized (perhaps unfairly) for himself the reputation of first establishing the instability theorem. In any event, these alternative viewpoints would be subjected to extensive empirical evaluation throughout the first half a century of the public choice research program.

In 1957, Anthony Downs moved public choice from its early beginnings in analyzing committee decisions and direct elections in an environment essentially devoid of institutions to its subsequent preoccupation with the institutions of democracy and representative government (Downs 1957). In a far-reaching contribution, he laid the foundations for an ambitious research program that would apply rational choice theory to every aspect of the political market place. Without apparently having read Black's (1948) contribution, and having no clear concept of the importance of the median, as distinct from the mean or the mode, as a measure of central tendency, Downs utilized the spatial economic theory of Harold Hotelling (1929) to emphasize the predictable dominance of the middle voter in two party democracies, thus offering a falsifiable theory of democracy that would attract a large volume of high quality empirical research.

However, even while re-establishing the notion that political markets, under favorable circumstances, may reflect the preferences of the middle voter and even while forcing the rational choice analysis of economists down the throats of reluctant political scientists, Downs sowed the seeds of doubt that subsequently generated fruitful research on public choice. He noted that, in an environment where information is complex, costly to acquire, and offering little economic returns to those who acquire it, members of the electorate may economize in its acquisition, relying on ideology, as represented by political party brand images, to direct their voting decisions. He also noted that members of the electorate might rationally abstain from voting in situations where they could not distinguish between the policy positions of rival candidates or political parties.

Such doubts notwithstanding, Downs (1957) essentially replicated the theoretical work of Black (1948), reinforcing the notion that political markets are inherently stable and reflect the preferences of the middle voter. Down's truly original contributions consist of extending the 1948 insight of Black to the real world institutions of politics and in introducing the individual self-seeking, rational choice approach to the analysis of politics.

The classics of public choice reviewed so far focused attention exclusively on voting in unconstrained majority-vote democratic environments as exemplified by the United Kingdom. As such they were only of limited significance, arguably, for a constitutional republic, such as the United States of America, a republic that deliberately was not designed to be a democracy as is usually defined. In 1962,

Buchanan and Tullock ingeniously shifted the public choice perspective away from the environment of parliamentary democracy as envisaged by Downs (1957) to reflect the institutions of a constitutional republic as envisaged by the authors of *The Federalist* (most especially James Madison) almost two centuries earlier.

The Calculus of Consent (Buchanan and Tullock 1962) differed sharply from earlier contributions in the emphasis provided by Buchanan and Tullock on methodological individualism and universal consent. More important for public choice and constitutional political economy, however, was the insight provided by Buchanan and Tullock's constitutional economic theory. The authors were able to demonstrate that at the constitutional stage, an individual rationally would choose to abide by a vote ratio that minimized the sum of his expected external costs and his expected decision-making costs from collective action. Whether this vote ratio is some minority vote, a simple majority or some supra-majority vote depends on the minimum point of the aggregated function. This result was a direct challenge to political scientists who at that time almost universally endorsed the majority rule.

The Calculus of Consent also challenged the new welfare economics of Paul Samuelson and Kenneth Arrow that systematically paved the way for government intervention in free markets on the grounds of widespread market failure. Buchanan and Tullock noted that all categories of market failure – monopoly power, public goods, externalities, limited and asymmetric information and moral hazard – were evident much more in the political than in the ordinary markets, not least because of the ubiquitous presence of indivisibilities in the political markets.

With this insight, Buchanan and Tullock leveled the playing field in the debate over the respective merits of the political and economic markets (Goetz 1991). By directing attention to the difference between 'choices over rules' and 'choices subject to rules', the book also provided the logical foundations for the constitutional political economy research program.

Although Downs (1957) and Buchanan and Tullock (1962) discussed the role of interest groups in political markets, neither of them analyzed interest group behavior from the perspective of rational choice theory. This lacuna was filled by the fifth and final founding father of public choice, Mancur Olson, whose book *The Logic of Collective Action* (1965) fundamentally challenged the conventional political science view of interest group behavior.

Whereas political science viewed interest groups as reflective of underlying voter preferences and as suppliers of relevant information to political markets, Mancur Olson offered a radically different interpretation. Because the objectives pursued by interest groups have profound characteristics of 'publicness', rational choice predicts that their efforts, typically, will be eroded by free-rider problems, so that groups will be difficult to form and to motivate. Predictably, the outcome is the under-provision of interest group pressures in political markets.

However, such difficulties are not uniform across groups. Existing groups have decisive advantages over potential groups in the competition for political favors; groups offering concentrated benefits are more effective than groups offering dispersed benefits; small groups are more effective than large groups; groups that can coerce supply (e.g. professional associations and trade unions) are more

effective than those that cannot; and successful large groups must rely on providing selective (private) benefits to members in order to attract support for policies with public good/bad characteristics (for a trenchant critique of this view, however, see Stigler 1974).

Thus the logic of collective action suggests that competition among interest groups does not simply reinforce an underlying voter-directed political equilibrium. Rather, it predictably distorts the underlying political equilibrium in favor of policies favored by the more effective interest groups, policies that typically provide concentrated benefits for the few financed by dispersed taxes on the many.

Alternative Perspectives in Public Choice

Like all successful intellectual innovations, public choice has given birth to a new generation of scholars, journals and research institutions, offering a diversity of approaches and methods, not all of which correspond to those adopted by the 'founding fathers' (Mitchell 1988, 1989, 2001). Four schools currently dominate the 'public choice' landscape, namely Rochester, Chicago, Virginia and Political Economics, each worthy of a brief discussion.

Rochester

The intellectual entrepreneur of the Rochester school of positive political theory was William Riker, who began to consider the applicability of the rational choice approach and game theory in political science during the late 1950s (Riker 1962). In 1964, he strengthened this presence by transforming his introductory text on American government into the first book on rational choice aimed at undergraduate majors in political science (Riker 1964).

By rejecting the then fashionable behavioral school in favor of the rational choice theory, Riker indicated that he was stepping outside conventional political science in order to embrace the challenge from economics on its own terms. By employing game theory, Riker indicated that conflict and conflict resolution were an integral part of public choice, a view that was not universally shared by the leading Virginian scholars at that time (Buchanan and Tullock 1962).

By 1973, Riker and Ordeshook felt that they were able to define politics as 'the mystery of how social science evolves out of individual preferences' (Riker and Ordeshook 1973, p. 6). Their book demonstrated that the mystery would be resolved by mathematical political science buttressed by the use of rigorous statistical methods. Once again, Buchanan and Tullock, the joint leaders of the Virginia School, were uncomfortable with this choice of scientific method.

The Rochester School encompasses well-known scholars such as Riker, Aranson, Mckelvey and Banks (all now deceased), Ordeshook, Brams, Enelow, Hinich, Munger, Aldrich, Schofield, Fiorina, Ferejohn, Shepsle, Weingast, Romer and

Austin-Smith. It consistently applies positive political science to the study of elections, party strategies, voting agenda manipulation, interest groups, coalition formation, legislative behavior and bureaucratic behavior. The rational choice approach is deployed unremittingly in this research program.

Until the early 1980's, with the notable exceptions of Riker and Aranson, the Rochester School focused primarily on abstract theoretical analysis, largely ignoring institutional details. In part, this reflected a reaction against the institutionalising of conventional political science. In part, it reflected the preoccupation of the Rochester scholars (Riker excepted) with spatial voting models (see, for example, Enelow and Hinich 1984). As empirical work in public choice analysis gradually eroded confidence in the 'vote motive' as a primary determinant of political market behavior, and as Virginia School interest-group theories began to play an ever more important role, the research program of the Rochester School appeared to be in significant decline.

The program was rescued during the early 1980s by such scholars as Kenneth Shepsle and Barry Weingast who shifted direction and initiated influential research into the institutions of the US legislature and the federal bureaucracy. Drawing heavily on recent research findings in the new institutional economics, these scholars have blended political science with economics to the extent that it is now extremely difficult to unravel the primary focus. Initially, the Rochester program was chauvinistic, directed almost exclusively at US institutions and surprisingly narrow, ignoring the complex interactions between the separate branches of a compound republic. More recently, it has extended its focus to the international arena and has begun to model very effectively the interactive behavior of the separate branches of the US government.

The Rochester program, for the most part, eschews normative discussion. Its practitioners, whatever their personal philosophies, report neutrally on such matters as cyclical majorities, log-rolling, interest-group politics, legislative stability, bureaucratic discretion, coalition formations and the like. Some, like Shepsle (1982) are skeptical about constitutional reforms. Others like Fiorina (1983) are hostile to studies that find fault with the federal bureaucracy. Riker and Aranson were notable exceptions to this apolitical neutrality. However, they are no longer with us.

Chicago

The Chicago political economy research program (CPE) was a relatively late starter, launched by George Stigler's 1971 article on economic regulation (Stigler, 1971). Like so much of Chicago scholarship, this program largely ignored preceding non-Chicago work in the field and still fails to cite much of such work in its own publications. In rebuilding the wheel, however, it has made distinctive contributions to public choice literature.

Although Stigler retained the mantle of leadership of the Chicago Political Economy Program until his death in 1991, leading Chicago economists such as

Gary Becker, Sam Peltzman and William Landes and leading legal scholars such as Richard Posner quickly joined the program. Although the Chicago School itself has a lengthy pedigree in normative as well as in positive analysis – including Frank Knight, Jacob Viner, Henry Simons and Milton Friedman – CPE, under the arguably deconstructive influence of Stigler, was overtly positive, asserting for the most part that 'what is, is efficient'. Although economists could observe, explain and predict, attempts to change the course of history, by and large were deemed to be futile and wasteful uses of scarce resources (Rowley 1992, pp. 38–41).

CPE is a body of literature that analyses government from the perspective of the rational choice theory and the neoclassical price theory (Mitchell 1989, Tollison 1989). It views government primarily as a mechanism utilized by rational, self-seeking individuals to redistribute wealth within the society. Homo economicus is modeled almost exclusively as an expected wealth-maximizing agent (Reder 1982). From this perspective, 'fresh-water economics' mocks the 'salt-water economics' of the east coast academies for their adherence to the public interest theory of government: 'Get your heads out of the sand you hay-bags!'

Ironically, however, CPE ends up with a view of the political process that is not far distant from that of the school of public interest. Specifically, political markets are viewed as technically efficient mechanisms for satisfying the preferences for redistribution of individual citizens working through efficient pressure groups. This interpretation of the political process emanates from a fundamentally flawed application of Chicago microeconomics to the political marketplace.

CPE draws on the tight prior equilibrium methodology applied by Chicago economists in their analysis of private markets (Reder 1982) in its study of transfer politics. The thrust of this methodology is towards instantaneous and durable equilibrium, with political markets always clearing. In equilibrium no individual can raise his expected utility (wealth) without reducing the expected utility (wealth) of at least one other individual. Political agents (brokers) clear political markets without invading them as principals. They are driven by constraints, not by preferences. There is no role for ideology in the CPE research program.

The auxiliary hypotheses of the CPE program ensure that political market equilibrium is tight and instantaneous. It is assumed that all political actors are price-takers; that there is no discretionary power in political markets; that the prices at which individuals agree to contract are market-clearing prices consistent with optimizing behavior; that such prices reflect all economically relevant information; that individuals engage in optimal search; and that all constraints on political market behavior are efficient, reflecting expected utility maximizing behavior on the part of those who create or modify them.

The auxiliary conditions imposed by CPE do not produce a political market equilibrium based on perfect foresight. Random disturbances cannot be accommodated by the model. Nor will political actors utilize uneconomic information. The system responds with stochastic analogs of determinist general equilibrium. A particular feature of CPE, as of the Chicago School more generally, is the presumption that only propositions derived from the tight prior equilibrium theory are valid. In a sense, CPE demands that the findings of empirical research must be

consistent with the implications of the standard price theory (Reder 1982). This is a dangerous perversion of the methodology of positive economics advanced by Milton Friedman (1953).

Ultimately, the Chicago presumption must give way if confronted with relentlessly adverse evidence. But this can take a very long time, given the malleability of statistical techniques and of political-economic data. When Gary Becker (1976) remains willing to defend in-kind transfers as carrying lower excess burdens than lump sum transfers of income, when George Stigler (1992) argues that all long-lived trade protection tariffs are efficient, when William Landes and Richard Posner (1987) defend U.S. tort law as being economically efficient, and when the *Journal of Political Economy* publishes papers that defend the U.S. federal farm program as an efficient mechanism for transferring income to wealthy farmers, there is justifiable cause to worry whether CPE scholars and their journal editors ever look out from their ivory towers and survey the real world.

Virginia

The Virginia School, with its early roots in the economics of Frank Knight and Henry Simons at the University of Chicago (Mitchell 1988, 2001) and of Lionel Robbins at The London School of Economics, is the most far-reaching program in public choice, provocative because many of its practitioners do not hesitate to step across the divide separating science from moral philosophy. Under the early intellectual leadership of James M. Buchanan, Gordon Tullock and Ronald Coase, the Virginia School established itself in the teeth of active opposition both from orthodox neoclassical economics and from conventional political science. It has challenged successfully, inter alia, Keynesian macroeconomics, Pigovian welfare economics, Musgravian public finance and the veneration of simple-majority democracies.

From the outset, the Virginia School differentiated its research program from the early public choice contributions of Duncan Black (1948) and Anthony Downs (1957) through its focus on the logical foundations of a constitutional democracy. In 1962, Buchanan and Tullock published *The Calculus of Consent*, arguably the single most important text ever written in public choice and constitutional political economy.

This book demonstrates that individuals are capable of long-run expected utility maximization when establishing the rules of the game, even though they will resort to short-run expected utility maximization when playing under those rules. Because constitutional rules are designed to be durable, individuals confront generalized uncertainty with respect to the impact of such rules on their individual lives. This generalized uncertainty makes possible near-universal consent regarding rules even among a heterogeneous electorate without reliance on the artificial assumption of the veil of ignorance later used by John Rawls in his famous book, *A Theory of Justice* (1971).

The Virginia tradition commenced in earnest in 1957, with the founding by James Buchanan and Warren Nutter of *The Thomas Jefferson Center for Studies in Political Economy* at the University of Virginia. For a decade, Buchanan, Tullock

and Ronald Coase pioneered a research program that would fundamentally change the playing field of political economy throughout the Western world by providing an effective scientific counter-balance to the early postwar onslaught by neoclassical economists targeted against the capitalist system.

Throughout the period 1945–1957, Keynesian macroeconomists, Pigovian welfare economists, Arrovian social choice theorists and Musgravian public finance scholars had waged an unrelenting war against free markets, alleging near-universal market failure and exploring the appropriate public sector responses by benevolent and impartial democratic governments. Even such an old-style, free market economist as Milton Friedman (1962) was forced onto the defensive, devising ever more exotic methods of government intervention designed to minimize the discretionary power of government while recognizing that private markets were widely beset by such problems as monopoly, externalities, public goods and bounded rationality. Even Harold Demsetz, whose writing always stressed the importance of a comparative institutions approach to policy formation, had no theory of government from which to launch a scientific counter-attack.

In a tour de force, Buchanan and Tullock (1962) provided the missing theory of government and placed the advocates of market failure on the defensive (Goetz 1991). If problems of monopoly, externalities, public goods, and bounded rationality afflict private markets, they simply ravage political markets that confront individuals with massive indivisibilities and severely limited exit options. The scene was set for a program of scientific endeavor that would expose government failures and for a program of moral philosophy that would support constitutional reforms designed to restrict the scope and size of government.

The Virginia School does not focus primarily on the vote motive as the fulcrum of political markets, in part because of the paradox of voting implicit in rational ignorance and rational abstentions in large numbers in elections (Rowley 1984), in part because of the lengthy period between elections (Mitchell 1988) and in part because of agenda control problems (Romer and Rosenthal 1978). Instead, a great deal of analysis is focused on the behavior of interest groups, the legislature, the executive, the judiciary and the bureaucracy. The results of such scientific inquiry rarely show the political market in a favorable light. Only through constitutional interventions do Virginians see much prospect of utility-enhancing institutional reforms (Buchanan, Rowley and Tollison 1987).

The Virginia research program analyses the government from the perspective of neoclassical price theory as a vehicle used by rational self-seeking individuals to redistribute wealth (Rowley 1992). In this respect, the protected core of the research program closely resembles that of the Chicago program. Yet, its auxiliary hypotheses – suggestive of widespread government failure – could not be more different.

Important differences in the auxiliary statements of the two programs explain this divergence. Virginia, unlike Chicago, does not assume that individuals are always price takers in political markets; significant discretionary power is recognized. Virginia does not assume, as generally as Chicago does, that political markets clear instantaneously and completely. Virginia does not assume that decision-makers in political markets are always fully informed about the present

or that they are capable of forming rational expectations over the future. Virginia does not excise human error or voter stupidity from its theory of political market behavior (Caplan 2007), and does not ignore institutions in favor of the black-box theory (Rowley 1997, Rowley and Vachris 1994).

That its conditional predictions about the quality of government performance differ so sharply from those of a Chicago program that applies unmodified private market theory to political market analysis is only to be expected.

Political Economics

Unlike the other schools outlined above, Political Economics was never geographically concentrated. Rather its contributors distinguish themselves methodologically from their public choice forerunners. Political economics is a strand of literature that emerged in the mid-1980s, a literature that deals with the same topics as public choice, frequently without recognizing the prior contributions of public choice scholarship (Tollison 2007). In a sense, it reinvents the wheel, while re-shaping that wheel in terms of analytical rigor and alleged generality. Its key contributors, Alesina (1987), Persson and Tabellini (2001, 2003), draw, from the rational expectations revolution in macroeconomics, the inference (Kydland and Prescott (1977)) that not all policies are equally plausible; only those that the policymaker has no incentive to abandon become credible. Constitutional rules are necessary to prevent decision-makers from exercising their discretion in a time-inconsistent manner.

The price of (perhaps excessive) rigor and generality often tends to be a weakening of predictive power. This appears to be the case with Political Economics. Their scholars utilize general equilibrium models and non-cooperative game theory to a greater extent than the other schools. However, econometric studies and experimental studies strongly support the partial equilibrium predictions of the Virginia School. In any event, there is much to be gained by increased interaction between Political Economics and public choice. The public choice literature regularly cites Political Economics contributions. This recognition is not reciprocated by scholars of Political Economics. As Robert Tollison (2007) tersely comments, "the work of Torsten Perrson, Guido Tabellini, Alberto Alesina, Daron Acemoglu and their colleagues is a welcome and strong sign of things to come. As we go forward, however, I hope that we shall not forget Alfred Marshall's dictum that we stand on the shoulders of giants (Tollison 2007, p. 4)."

The Vote Motive

The early contributions to public choice (Black 1948, Downs 1957) viewed the vote motive as a key determinant of political market equilibrium. Black (1948) deduced the median voter theorem whereby competing political candidates would be driven

by vote considerations to converge in policy space to a unique and stable equilibrium that reflected the policy preferences of the median voter.

Downs (1957) reinvented Black's wheel albeit without reference to the median voter. He focused on systems of two party representative governments and demonstrated that vote maximizing politicians would formulate policies to win elections rather than seek political victory in order to implement preferred policies. He also noted the tendency for such political competition to converge to the center of the voter distribution, albeit without distinguishing between the mode, the median and the mean, since he deployed normal distributions throughout his analyses.

This equilibrium offered little discretion to political parties unless they had no serious aspiration to govern. As such, it should have been attractive to those wedded to majority-based political outcomes. In reality, it was anathema to conventional political scientists because of its strict adherence to the rational choice approach.

In the event, the median voter theorem, while still attracting attention among public choice scholars, promised more than it could deliver. It rests on a stringent set of assumptions that coincide only rarely in political markets (Rowley 1984):

1. Two political parties must contest the election;
2. The policies at issue must collapse into one dimension of left-right space;
3. Voter preferences must be single-peaked over policy space;
4. Political parties must be able and willing to move across policy space;
5. Political parties must be well informed regarding the preferred policies of the voters;
6. Voters must be well informed regarding the policy positions of the competing parties;
7. Voters must not abstain in significant numbers from voting in elections;
8. Voters must punish governments that deviate from their electoral manifesto.

Once these assumptions are relaxed, individually or severally, to take account of the realities of political markets, the median solution is much less dominant, especially where the distribution of voter preferences is skewed or multi-modal (Rowley 1984). In some circumstances, the mean dominates the median (Romer and Rosenthal 1979). In others, the political equilibrium cycles in single or in multi-dimensional policy space (Black 1948, Arrow 1951). In yet other circumstances, there is no equilibrium as the political parties become immobilized at separate positions in policy space (Rowley 1984). As a consequence the grip of voter majorities over the election manifestos must be viewed as much looser than either Black or Downs was willing to acknowledge.

Enelow and Hinich (1984) challenged the hypothesis, central to both Black and Downs, that competing political parties (or presidential candidates) are mobile over policy space. Their counter-hypothesis is that political parties are immobilized in the short run by the recent history of their political behavior. In such circumstances, political parties (candidates) must advertise to consolidate the voter preference distribution around their respective positions in policy space. Rationally ignorant voters are vulnerable to such persuasive advertising. To the extent that they are correct, and elections are determined by campaign expenditures, the concept of

revealed voter preferences is rendered suspect and, with it, the underlying connection between political equilibrium and majority-rule politics.

The probability that an individual vote will prove to be decisive in a major election is minute (less than 10^{-6} in U.S. presidential elections (Stigler 1971)). This implies that the differential expected benefit to any voter from voting decisively in an election is also trivial, typically far less than the cost of voting. Only some notion of civil duty or some major miscalculation of probabilities will drive the rational instrumental voter to the polls. Only an active consumption interest will motivate the rational individual to become informed about the political market. Otherwise, he will remain rationally ignorant, whether or not he casts his vote, and will rely on opaque ideology indicators to determine his electoral strategy (Downs 1957). Alternatively, knowing that his vote is indecisive, he will vote expressively, following his heart rather than his interest. This serious consequence of the indivisibility of the vote mechanism opens up tempting avenues for interest groups to invade the political process (for a counter –view, however, see Peltzman 1984).

Elections are discrete events in a continuous political process. The vote motive, at its best, is only as influential as elections are in controlling the post-election behavior of the incumbents (Tullock 1976). Such control is limited by the high rate of voter memory decay that protects deviant governments from adverse electoral consequences. It may be weakened by rational irrationality on the part of voters who choose with deliberation to place their votes irrationally (Caplan 2007). It is surely weakened by the ability of political parties to full-line force into the electoral process policy bundles that intermingle popular with less popular policy proposals.

Once again, all these weaknesses open up opportunities for effective interest groups to divert the supply of policies away from the informed preferences of the median voter.

The Special Interests

A special interest issue is one that generates substantial personal benefits for a small number of constituents while imposing a small individual cost on a large number of other potential voters (Gwartney and Wagner 1988). As James Madison recognized in *The Federalist* (Number 51, 1788), a majority-based system of representative government is biased toward the adoption of special interest (or faction-based) policies, even when such policies are generally harmful to society. The Founding Fathers wrote the separation of powers and the bicameral legislature into the United States Constitution to curtail this perceived political bias. The first ten amendments to the Constitution (The Bill of Rights) were added to the Constitution to protect individuals from the perceived excesses of federal and state governments.

Arguably, these constitutional constraints have failed to hold firm against special interest pressures. Facilitated by a weak Supreme Court, that became increasingly deferential toward the legislative branch of government after 1936, parchment has

ceded victory to the guns of the special interests and has allowed factions to roam freely across constitutional constraints.

Special interests emerge to take advantage of rational ignorance within the legislature, through the mechanism of persuasive campaign contributions, to obtain advantages for their members more than commensurate with their relative voting strength. Their success depends on their relative abilities to offer political gains, in the forms of votes and money, to politicians who broker policies beneficial to concentrated interests and detrimental to diffused interests (Ekelund and Tollison 2001). Legislatures infested with such parasites typically manifest weak party allegiance and relatively high incumbent electoral success rates.

The logic of collective action (Olson 1965) demonstrates that interest groups are far from easy to organize. Because many of the benefits to be derived from effective interest group lobbying have public good or public bad characteristics, free riding by members of the group is rational. Such free riding diminishes the pressure that can be exerted on the legislature. The free riding problem is not dispersed equally, however, across potential interest groups. Some groups, notably in the United States, trade unions and professional groups, are able to coerce supply. Other groups, notably producer groups, successfully engage in collective action in the absence of coercion, because they are small and homogeneous. These groups predictably will be differentially successful in the political process.

Large, diffuse groups confront the free riding problem in its most devastating form. In many instances, for example consumers and taxpayers, they simply cannot form an effective coalition. If such interest groups are to be politically effective, they must organize themselves primarily to provide private (or selective) benefits to the membership, bundling their public objectives into the subscription fee as a by-product of their activities. The by-product solution, coupled with the tax privileged status of most such groups, explains the existence and relative success of organizations active on behalf of the elderly, of abortion rights, of the environment etc., each of which is plagued by public good or public bad characteristics.

To the extent that Olson's (1965) theory is correct, and there is a great deal of accumulated evidence in its favor, the implications for the political process are serious. Interest group pressures will divert the political equilibrium away from the median voter even under circumstances outlined by Duncan Black (1948). Moreover, because such diversions are most effectively achieved through redistributions that are opaque and not transparent, interest group politics will impose high excess burdens on society, as regulations and complex in-kind subsidies are favored over lump sum transfers (Olson 1982).

The logic of collective action constitutes a core element of Virginia Political Economy. It has been challenged, inevitably, by the Chicago School, notably in the scholarship of George Stigler (1974), Gary Becker (1983) and more recently of Donald Wittman (1989, 1995). Gary Becker modeled interest groups within a general equilibrium framework, on the assumption that they can be formed and reorganized at a minimal cost, that their policy benefits, for the most part, are private and not public in nature, and that free riding can be limited by low cost

monitoring. It is not surprising that these assumptions result in a much more benign view of such organizations.

Specifically, Becker suggests that interest groups redistribute wealth efficiently, minimizing the deadweight costs to society. Groups that impose high deadweight excess burdens, in this view, are replaced by more efficient alternatives. This *Panglossian* view has its advocates, mostly from the University of Chicago. The public choice evidence almost universally refutes the predictions of the model (Ekelund and Tollison 2001). There are, for example, virtually no instances of lump sum redistribution in any democracy. Sadly, the post-Friedman Chicago is less interested in positive methodology (Friedman 1953, Lakatos 1978) and more interested in the elegance of theory, in this sense, following the standard bias of modern neoclassical economics.

Rent Seeking and Rent Extraction

Rents are here defined as returns in excess of opportunity cost engineered in a market economy through the regulatory intervention of government (Tollison, 1982, 1997, Rowley, Tollison and Tullock, 1988). The availability of such rents gives rise to rent seeking on the part of interest groups, whose members rationally expend resources in a competition to secure the present value of the rents that are potentially available. Whether rent seeking outlays constitute welfare neutral transfers or whether they constitute welfare-reducing wastes of resources depends on the institutional structure, although the general presumption is that some waste occurs even within a well-designed political system. The extent of rent seeking outlays in response to any given aggregate of available rents depends on attitudes towards risk, the nature of returns to scale in rent seeking and the nature of the rent seeking game (Tullock 1980).

As with so many important contributions to public choice, the original insight came from Gordon Tullock, this time in his seminal 1967 paper in *The Western Economic Journal* challenging the then conventional wisdom that the only loss of welfare from monopoly was the deadweight loss characterized as the *Harberger Triangle* (Harberger 1954). Tullock focused attention on the *Tullock Rectangle* of producer's surplus created as a consequence of monopoly and posed the simply but crucially important question: Would not producers when competing for that monopoly rationally expend aggregate resources, in the limit, equal to the present value of that rent? His positive reaction to that question shook the throne of the new welfare economics, and ultimately destroyed the latter's widely endorsed presumption against free markets.

In 1971, Tullock returned to the theme of his 1967 paper, which as yet had made little headway in mainstream economics, shifting attention to the cost of transfers (Tullock 1971). Drawing from his experience in post-Second World War China, where beggars regularly mutilated themselves as a means of making themselves pitiful to potential donors, Tullock argued that many would be recipients of

government transfers in the Western democracies engaged in similar forms of activity. Rejecting the notion that all political redistribution of wealth is voluntary, Tullock focused attention on the resource cost of competitive lobbying of politicians and bureaucrats, both by those who sought transfers and by those who sought to prevent them. He noted that the resources invested in such activities were socially wasteful, irrespective as to whether the transfers were made or not.

By recognizing that government regulatory activities are endogenous, the self-seeking response to resource outlays by influential pressure groups, Tullock explicitly challenged the public interest theory of government. In 1974, Anne Krueger coined the term rent seeking to characterize these activities, a term that would take a central place in the public choice litany. The rent seeking insight plays a central role in Virginia Political Economy, suggesting as it does that there are significant welfare costs to government activity. By the same coin, the concept presents a fundamental challenge to Chicago School notions that democracies are efficient and that the cost of redistribution does not exceed the normal cost of government.

Indeed, in recognizing that successful rent seeking results in a transitional gains trap that obstructs efficient economic reforms (Tullock 1975), the research program explains why clearly inefficient regulations remain on the statute books and offers a clear warning to those who are rationally well-informed to work hard to obstruct the passing of new regulations, however attractive the latter may appear to be.

A recent empirical study by Laband and McClintock (2001) suggests that, for the United States, supposedly a relatively efficient constitutional republic, the annual cost of rent seeking and rent protection amounts at least to $400 billion. Evidently, this is not the normal cost of government, even if rent seeking continues to be downplayed or ignored entirely by Chicago economists (Laband and Sophocleus 1988).

The mainstream rent-seeking literature assumes that politicians are passive brokers of policies that create rents, responding to rent-seeking bids essentially as auctioneers bent on maximizing the size of their brokerage fees. A more recent literature (McChesney 1987, 1997, 2001) presents a yet more dismal picture, by recognizing that politicians may abandon or modify brokerage roles in order to obtain yet more lucrative returns by threatening adverse legislation unless they are paid off in terms of protection money. Rent extraction, as this Mafia-like protection racket is labeled, is very costly in terms of resource misallocation. Yet, like ‘the dog that did not bark’ in the Sherlock Holmes novel *Silver Glaze*, it does not manifest itself at all in the public accounting system. Even should it be revealed, the politicians who benefit from it, unlike members of *La Cosa Nostra*, are largely immune from investigation and punishment through the criminal law.

The Legislature

Under conditions of democracy, elected politicians serve in legislatures for specified or flexible terms as representatives of the electorate. Legislatures typically are either unicameral or bicameral in nature. They may or may not be constrained by written or conventional constitutional rules.

Organized on the basis of political parties, or coalitions of parties, or committees and sub-committees, politicians essentially are political brokers, pairing demanders and suppliers of legislation, i.e., those willing to pay most for a particular law or transfer with those who are willing to pay the least to prevent such a law or transfer. Typically, such politician-brokers concentrate on legal arrangements that benefit well-organized and concentrated groups at the expense of diffuse interests, each of which latter is taxed a little to fund the transfer or legislation (Tollison 1988).

Although politicians have ideologies of their own, competition among them, together with the contestability of their positions, constrains their ability to pursue such ideologies unless they conform to those of the constituents who secured their election. Of course, that does not imply that some politicians will not risk an election loss by pursuing a goal to which they are especially attracted. Nor does it imply that politicians will misjudge the will of the electorate on ideologically charged issues. Fundamentally, however, in the public choice perspective, politicians are brokers and not purveyors of policy (Rowley 1992).

Politicians expend resources in specific wealth transfer markets in return for brokerage fees that typically take the form of some mixture of campaign contributions, post-political career remuneration and promised votes. The size and continuity of such brokerage fees depend significantly upon the perceived durability of the wealth transfers. Durability, in a political system characterized by cycles, depends upon institutional constraints designed to protect the status quo. Such constraints vary significantly across the world's democratic legislatures. However, both politicians and interest groups share a common interest in promoting institutional arrangements that enhance the durability of laws (Tollison 1988).

In Westminster models of parliamentary democracy, where parliament is supreme and there is no effective separation of powers, durability of laws in a polity characterized by cycles is not easy to achieve. In such systems, the executive branch of the government, the prime minister and the cabinet, are drawn from the elected legislature and are dependent for their continuation in office on the majority support of the legislature. The cabinet possesses the agenda power in preparing legislation, but this is modified by the ongoing threat that alienated members of the majority party may withdraw parliamentary support and force the government to resign. Coalition governments, typical in many democracies in Continental Europe, are yet more vulnerable to cycles. Predictably, campaign contributions will be relatively low and interest group activity relatively less forceful, ceteris paribus, under all such systems of government than under more severely constrained models.

The United States legislature is just such a constrained model, both by constitutional design and by evolved institutional structure. Its bicameral format increases the difficulty both of passing and of repealing laws. The separation of powers allows for bills passed by both chambers to be vetoed by the President, forcing it back onto two-third supra-majority votes to override the veto. The independent federal judiciary patrols the borders of its legislation, in principle at least, to ensure that the Constitution has not been infringed. These constitutional constraints arguably enhance the durability of its determinations (Landes and Posner 1975, Anderson, Shughart and Tollison 1988, Tollison 1988, Mueller 1996).

In an alternative explanation as to why legislative equilibrium tends to be stable and durable, Shepsle (1978) and others focus attention on the role of committees and the nature of committee assignments in both chambers of the United States Congress, but more especially in the House, as coalition-builders. In this analysis, committees substitute for more vulnerable logrolling (Tullock 1959) in overcoming the high transaction costs of contracting in political markets. They do so by providing a division of labor within the legislature, in which representatives specialize in the political issues relevant to their own districts.

The committee structure of Congress is grounded in 'property rights' granted to each committee of jurisdiction, allowing it almost exclusive rights in 'gate keeping' (i.e., in deciding whether or not to allow potential bills onto the floor of the chamber). It is also grounded in the 'deference' accorded to each committee by non-committee members, grounded both in reciprocity, in threat, and in the power of 'ex post settling up' accorded to committees with jurisdiction by the convention that conference committees between the two chambers are manned primarily by members of those original committees (Shepsle and Weingast 1981). In such circumstances, committees can protect the status quo, or their own bills from non-empty win-sets thereby providing protection against cycling in an environment of instability.

Despite the growing literature based on the new institutional economics that focuses attention on the gains-from-trade aspect of 'politics-as-it-is', there is another, darker side of the legislative process that must not be ignored. Politics is not primarily concerned with gains-from-trade, but with obtaining power over the public authority (Moe 1987, 1990). When two poor voters and one rich voter comprise the electorate, the rich voter is in trouble. He is not in trouble because of political cycles and the instability of the political process. He is in trouble because the poor majority may decide to steal his wealth, using the political process as a less costly mechanism than simple theft. To the extent that the legislative process is concerned more with redistribution than with wealth creation, the fear of the rich voter must be increased.

Because there are no long-term property rights in public authority, the governing political party must exercise caution when creating institutions. Political opponents, should they access the power of those institutions, may deploy that power to reward their own constituents. For this reason, the agencies of government are often tightly constrained by legislation, or even designed to fail in their expressed purposes (Moe 1990).

The Presidency

In countries exemplified by the United States, where the separation of powers is enshrined in the Constitution, the president is elected by an independent vote and holds his position for a fixed term quite independently from the wishes of the majority of the legislature. The United States Constitution arms the president with a

veto power over bills emanating from the legislature. To override the presidential veto, each chamber of the Congress must re-pass the vetoed bill with at least a two-third supra-majority vote. The veto threat effectively allows the president to serve as a third chamber of the legislature, logrolling with the other chambers in the shaping of legislation (Carter and Schap 1987). The president also enjoys significant regulatory powers delegated to him by Congress. These powers can be utilized to reward or punish legislators who choose to pursue goals contrary to the preferences of his key constituents in the Electoral College (Moe 1987).

Potential differences in the interest group constituencies of the Congress and the president emanate in part from their different bases of representation. Special interests are much more effective when targeting their rent seeking on the specialized districts of the House than they are state-wide in the Senate. They are least effective in targeting the nation-wide constituency of the president. The special interests are most effective when working in opaque environments (Crew and Rowley 1988). Presidential politics are much more transparent than congressional politics.

One view that has some currency in the public choice literature (Crain and Tollison 1979a, b) is that the President and Congress override the separation of powers and the intent of the Founding Fathers and impose a collusion of powers designed to enhance the durability of legislation and thus to raise the brokerage fees provided by the special interests. While this perspective has some credibility when the presidency and the Congress are both controlled by a single political party, it is difficult to justify when the party of the president does not control the Congress.

When the Congress and the president are at odds with each other, it is by no means clear which branch will dominate. Madison (1788) (*The Federalist*, No. 53) envisaged the legislature as the dominant branch and worried about the power that this would accord to factions. Powerful presidents, (most notably Ronald Reagan) however, have influenced policy even when their parties have been in a legislative minority. Certainly, presidents are able to destabilize a political equilibrium when the policies at issue are of high priority to them and transparent to the voting public (Rowley 1992).

The Judiciary

The United States federal judiciary was established by the Founding Fathers as a co-equal independent branch of government designed to function as an effective counter-weight to the legislative and the executive branches. To limits its powers, the federal judiciary is dependent on the president and the Congress for its appointments, dependent on the executive branch for enforcing its judgments, and on the Congress for appropriating its budget. Within these constraints, however, the judiciary patrols the behavior of the executive and the legislative branches to ensure that the Constitution is not violated.

To secure independence, federal judges are granted lifetime tenure, albeit subject to the sanction of impeachment. Their salaries cannot be reduced in nominal

terms during their tenure. Their judgments, especially those of the Supreme Court, are accorded enormous respect even when they run counter to majority popular opinion. Even so, the federal judiciary has not escaped public choice scrutiny.

Because judges and justices are appointed through a political process, it is extremely unlikely that the 'best and the brightest' will be successful in securing appointment. Typically, such individuals will have delivered judgments deemed too controversial for the politically sensitive ears of the politicians. Potential appointees are scrutinized closely in terms of ideological bias, past political service and campaign contributions.

Where the president's party controls the Senate, and thus the Judiciary Committee, candidates of the alternative political persuasion will not be nominated. Only stealth candidates who provide a false image of their views (notably in recent years, Justice Souter) will wriggle through the selection process. Where the party of the president does not control the Senate, serious candidates will have to display mediocre intellects and enhanced deference to the legislature (in recent years, Justice Kennedy is a good example) or to be willing to play the race card (Justice Thomas).

The interest-group theory of politics (McCormick and Tollison 1981) models legislatures as firms supplying wealth transfers to competing interest groups by means of contracts termed 'laws'. In one interpretation (Anderson 2001), the judiciary confirms such contracts by adjudicating in favor of the short-term interests of pressure groups who successfully bid for political influence. As the balance of pressure groups changes, the courts will shift their judgments, irrespective of the original intent of the legislation.

An alternative interpretation (Landes and Posner 1975) focuses on the long-run effects of judicial independence, arguing indeed that such independence may be an integral component of the interest-group theory of government. They argue that the function of judges is to provide stability to the bargains agreed between the legislature and organized pressure groups, thus increasing the value of the rents that are dispersed. Precisely because the judiciary is independent from the current legislature, the judiciary is able to resolve disputes concerning the interpretation or constitutionality of a law by reference to the intentions of the originally enacting legislative body. Landes and Posner (1975) provide weak empirical support for this proposition. The proposition remains suspect, however, because such long-run stabilization of contracts inevitably reduces the prospects for the forging of new contracts (Benson 2001). Legislators who control the budget appropriations to the judiciary are unlikely to allow strong judicial independence where it threatens their current brokerage fees in the rent-seeking market.

Bureaucracy

The bureaucracy of government, responsible for the implementation of policies that are legislated and signed by the president into law, is located in the executive branch of the government. However, bureaus are dependent on the legislature for

budget appropriations, are subject to its oversight authority, and are vulnerable to new legislation where their activities place them at odds with the current legislative majority.

The traditional political science perspective envisages senior bureaucrats as being impartial and public-spirited in the sense of pursuing either the original intent of the legislation that created their bureaus or the current wishes of their legislative overseers. This perspective has been closely scrutinized by public choice scholars who have focused on the rational choice approach in which senior bureaucrats are viewed as maximizing their personal utilities subject to relevant institutional constraints.

Within the public choice perspective, the senior bureaucrats who exercise authority over the budget are viewed as self-seekers whose goals are defined as some balance between expected wealth, ideology, patronage, discretionary power and ease of management (Tullock 1965, Downs 1967, Niskanen 1971). Budget maximization (Niskanen 1971), or alternatively discretionary budget maximization (Niskanen 1975, 2001) is deployed as a plausible proxy for these various objectives. Senior bureaucrats commit a total output in return for a total budget appropriation.

In negotiating budgets with legislative committees, senior bureaucrats are viewed as possessing information advantages because of the monopoly of their provisions. Their legislative overseers have little access to independent information regarding the bureau's production function. Because of the indivisible nature of the budgetary negotiations, senior bureaucrats are able to operate as discriminating monopolists, extracting the total surplus from the legislature (Niskanen 1971).

The nature of the budgetary outcome under these bargaining conditions depends on a number of factors. First is the nature of the budgetary environment, specifically, whether the bureau is demand-constrained or budget constrained (Niskanen 1971). In circumstances of relaxed oversight, or demand constraint, the budget-maximizing bureau simply maximizes the size of its bureau, unconstrained by output constraints. In circumstances of tightened oversight, or budget constraint, bureaucrats maximize the size of their budget at a lower level than would be possible under conditions of demand constraint.

In both circumstances, the output of the bureau is significantly higher than what the median voter would prescribe. In the former case, the bureau is additionally technically inefficient, supplying its output at costs significantly higher than those minimally available to it. In the latter case, the bureau is technically efficient according to this model (Niskanen 1971).

Second, if discretionary budget maximization replaces maximization of budget size in the utility functions of senior bureaucrats, the outcome of budget negotiations changes. Senior bureaucrats no longer negotiate deals that extend output beyond that optimally demanded by the legislature. Instead they focus their attention on maximizing the budget surplus that can be deployed in pursuit of other goals (Niskanen 1975). A key implication of this outcome is that bureaus are always technically inefficient, securing budgets significantly in excess of the minimal cost of providing output even if the level of their output is not in excess of the optimal requirements of the oversight committee.

Members of the bureaucracy predictably enter the political market place on the demand as well as on the supply side as special interests that are unconstrained by free-rider considerations (Rowley, Shughart and Tollison 1987). They tend to be differentially well-informed concerning the predictable response of legislators to specific initiatives. They are rationally well informed concerning the policies that their bureaus will administer. Predictably, senior bureaucrats favor non-transparent policy initiatives, not only to conceal special interest allocations from electoral scrutiny, but also to maximize their own discretionary power in the provision of commodities subject to their control (Crew and Rowley 1988).

In critical response to Niskanen's seminal works (1971, 1975), the public choice analysis of bureaus has reverted somewhat from his theory of bureau dominance to a view that oversight and appropriation committees exercise significant control and that bureaus respond to a significant degree to the dictates of their political masters (Weingast and Moran 1983). The congressional dominance theory assumes that congressmen on relevant committees possess sufficient incentives and sufficient sanctions to establish effective governance over the agencies that they monitor.

The federal bureaus and agencies established by statute usually, though not universally, are subject to oversight both by the Congress and by the president. Their budgets are appropriated by both chambers of the Congress but are subject to review and potential veto by the president. In such circumstances, it is relevant to analyze bureaucratic behavior from the perspective of a multiple principal–agent relationship (Rowley and Vachris 1993).

The congressional dominance theory (Weingast and Moran 1983) assumes that congressmen on the relevant oversight and appropriations committees possess sufficient incentives and sufficient sanctions to establish governance over the agencies that they monitor. Although the committees are not endowed with sufficient resources to engage in continuous monitoring, special interests keep them well informed about agency performance. By choking off appropriations to recalcitrant agents, by harassing them through the oversight process, and by threatening interventionist legislation, congressional committees are viewed as influential monitors. The threat of ex post sanctions and the promise of ex post settling up create ex ante incentives for agents to reflect the preferences of the majority vote on the relevant congressional committees.

The hub of the efficient governance hypothesis is the assumption that congressional committees exercise a near monopoly jurisdiction over their respective agents, thus benefiting from clearly defined property rights that encourage circumspect monitoring. To the extent that congressmen self-select the committees on which they serve, the near monopoly power that they access provides leverage over precisely those issues relevant to their individual political support and, hence, to their expectations of re-election.

If this hypothesis is correct, there are two testable predictions that should survive empirical testing, namely (1) that specific oversight/appropriations committees should exercise more influence than Congress as a whole over the behavior of particular agents and (2) that if the political complexion of a particular committee should shift, then so should the politically relevant behavior of the associated agent.

Early tests have not refuted either of these hypotheses (Weingast and Moran 1983, Weingast 1984, Grier 1991).

Nevertheless, because of the competition among multiple principals for agency control, agents will not be efficiently monitored. Considerable agency discretion will survive (Rowley and Vachris 1993). The multiplicity of principals arises from at least four sources, namely (1) jurisdictional overlaps among oversight committees in each chamber of Congress, (2) duality of oversight responsibilities in a bicameral legislature, (3) jurisdictional conflicts between oversight and appropriations committees composed of different members and (4) the competing jurisdictions of the Congress and the President, especially when the Congress and the presidency are controlled by different political parties (Rowley and Vachris 1993).

Constitutional Political Economy

According to Buchanan (1990) there is a 'categorical distinction' to be made between constitutional economics and ordinary economics, a distinction in the ultimate behavioral object of analytical attention (*ibid.*, p. 2). In ordinary economics, analysis is concentrated on choices made *within* constraints that are imposed exogenously on the person or persons making that choice. Constitutional economics, in contrast, directs analytical attention to the choice *among* constraints, choices that are made ex ante by individuals in seeking to restrict their own and others' subsequent choice sets in the ordinary political sphere.

The seminal contribution to constitutional political economy is *The Calculus of Consent*, co-authored by Buchanan and Tullock (1962). This book outlined for the first time an individualistic theory of the constitution, assigning a central role to a single decision-making rule – that of general consensus or unanimity.

By focusing attention on the nature of expected external costs and expected decision-making costs under decision-rules short of unanimity, and by recognizing that constitutional rules are derived under conditions of generalized uncertainty, Buchanan and Tullock explained why rules of less than unanimity (not necessarily a simple majority rule) would be chosen unanimously by rational individuals at the constitutional stage: 'At best, majority rule should be viewed as one among many practical expedients made necessary by the costs of securing widespread agreement on political issues when individual and group interests diverge' (Buchanan and Tullock 1962).

The hard core of the constitutional political economy research program combines the assumptions of rational choice, methodological individualism and *homo economicus* in a manner that distinguishes it sharply from all mainstream economic research programs designed to evaluate the nature and the role of the state (Brennan and Hamlin 2001). Over the following forty years, the auxiliary assumptions of the model have adjusted to reflect changing circumstances. Those working within the field, however, have not found it necessary to adjust the hard-core assumptions.

As the political environment in the United States deteriorated from the rosy scenario of the second Eisenhower administration through the civil rights crisis, and

the Vietnam fiasco of the Kennedy and Johnson administrations, culminating in the Watergate crisis of the Nixon administration, Buchanan in particular became less enamored of the positive gains-from-trade approach of *The Calculus of Consent*. In *The Limits of Liberty* (1975), he effectively deployed the philosophy of Thomas Hobbes – the threat of beckoning anarchy – to protect the hard core of his research program in a much less favorable external environment. From this insight came some of the best scholarship of the program, most notably *Democracy in Deficit* (Buchanan and Wagner 1977).

There then occurred through the decade of the 1980s a shift of direction from science to moral philosophy as Brennan and Buchanan (1980, 1985) injected propositions from John Rawls (1971) into the protective belt of their theory. With the breakdown of the Soviet Empire in the early 1990s, scholars recognized that Rawls's 'veil of ignorance' played no role in the process of constitution-making that followed in the wasteland left behind by socialism. In 1990, Buchanan returned to science in an important paper introducing his new journal, *Constitutional Political Economy*. Since then the constitutional political economy research program has proceeded successfully along the rational choice lines from whence it originated (Mueller 1996; Brennan and Hamlin 2001), albeit with a shift in the direction of formal modeling and empirical testing (Persson and Tabellini 2003).

Bioeconomics of Non-Human Societies

Innovative public choice scholarship is extending the frontiers of the discipline well beyond the domain of rational economic man to encompass the behavior of other species, notably bees and fishes. Janet Landa, a law-and-economics scholar and a prominent bio-economist, has written two important papers (1986) dealing with these species.

Her paper on the political economy of swarming in honeybees offers a fascinating study of collective action in biological systems. Landa explains the organization of bee swarming as a means whereby honeybees economize on information and decision-making costs when establishing a new nest site. She uses the Buchanan and Tullock (1962) theory of the choice of Pareto-optimal voting rules to explain why scout bees use the unanimity rule when deciding where to establish a new nest.

On one hand, the external costs of using the 'any bee' rule would be very high for the whole bee swarm should the one bee find an unsuitable home. On the other hand, the decision-making costs of using the unanimity rule are low both because scout bees constitute only about 5 per cent of the whole swarm and because they are a homogeneous group, being experienced former foragers. Because of the high external costs relative to decision- making costs, the use of the rule of unanimity by scout bees is efficient.

Just as honeybees 'vote with their wings' (Landa 1986), when swarming out of their nest in search of a new home, so also many species of fish 'vote with their fins'

(Landa 1998), when forming schools in order to migrate to spawn, to search for new foraging areas, to hunt for prey and to organize for defense. In her 1998 paper, Landa applies public choice analysis to the biological literature on schooling fish, using a selfish fish, club-theoretical paradigm.

On this basis she hypothesizes that a selfish fish (a) joins the fish school because it derives hydrodynamic benefits (a club good), (b) has no incentive to completely free-ride because it will be left behind by the school if it attempts to do so, (c) has no incentive to shirk a leadership role because of role reversibility between leaders and followers, (d) derives defense benefits against predators from its membership of the school, and (e) has no incentive to discriminate against odd-looking outsiders since odd-looking fish in a school are attacked more frequently by predators than are look-alikes. On the other hand, outsiders display xenophobia towards insiders because outsiders do not wish to become prime targets for predators. As a consequence, fish schools tend to be homogeneous.

Finally, Landa applies the Buchanan and Tullock (1962) theory of choice of optimal voting rules to explain why the 'any leader' rule for making the collective choice to escape, the main anti-predator defense strategy, is optimal for members of a fish school. In so doing, Landa explains the leaderless, completely decentralized form of organization of fish schools, in contrast to bee swarms. Evidently, the reach of *The Calculus of Consent* extends well beyond Homo sapiens into the bio-economics of non-human societies.

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