Essays on Political Parties, their Organization, and Policy
Choice

By

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Abstract

The primary aim of this thesis is to advance economics’ understanding of the organization of political parties, for the purpose of explaining the policy choices that result from collective decision procedures. Motivating this inquiry is the benign neglect that the political party as an organization has long suffered from in economics, in a manner that mirrors depictions of the firm in early neoclassical analysis.

Accordingly, this thesis first considers the question of the relative influence of different contributors to the political parties’ electoral activities, i.e. special-interest groups contributing money and individual party activists volunteering their time, on their choice of policy platforms. It is found that the presence of activists induces parties to offer differentiated policy platforms, even in the presence of a special-interest group whose contributions are perfectly substitutable with those of activists. Concurrently, the special interest’s influence is to bias the parties’ platforms towards its preferred policy.

Second, the internal dynamics of parties organized into factions sharing common goals are investigated. It is studied how they affect the party leader’s choice of policies while in office and her accountability to voters, through the threat of her removal from the party’s helm. While occasionally acting as a distortion on the election mechanism’s effectiveness for keeping politicians accountable, the presence of the politician’s party is accountability-enhancing especially in the presence of other distortions. This contributes to a second-best theory of politics.

This thesis’ secondary aim is to contribute to restoring the use of moral and ethical concerns in normative analysis and political economy. This is warranted by the fact that moral and ethical motives matter more in such contexts than in most market transactions,
where rational self-interested behaviour largely prevails.

This objective is primarily represented in this thesis' study of normative analysis as conditioned on a societal consensus. This study asks how redistributive policies are to be optimally-chosen when the extent of societal co-operation regarding work participation depends on a social norm. Its main finding is that constraining the social planner’s choices on the extent of societal cohesion restricts the scope of redistribution compared with an unconstrained social planner.
Co-authorship

Chapter 5 of this thesis was co-authored with Professor Robin W. Boadway at Queen’s University.
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Chapter 1

Introduction

_In modern parties this organization assumes great importance: it constitutes the general setting for the activity of members, the form imposed on their solidarity; it determines the machinery for the selection of leaders, and decides their power. It often explains the strength and efficiency of certain parties, the weakness and inefficiency of others._

— Duverger (1963), p. 4

1.1 Political parties and their organization: why look inwards?

What is a political party? This question, while sounding deceptively anodyne, is one that is central to political science, and that has troubled economists studying collective action processes and their impact on economic policies and outcomes. In his seminal work on modern political economy, Anthony Downs (1957) first defines a political party as a “coalition of men seeking to control the governing apparatus by legal means” (p. 24, original emphasis). Such a coalition is initially recognized as having common goals but also as potentially having disagreements over many policy issues. Yet Downs, far from finding this definition satisfactory, immediately restricts it to disallow the possibility of overt disagreement among members of this coalition, on the basis that allowing for such dissensions would require a careful consideration of intra-party dynamics. In effect, Downs largely assumes away the problem: “... we [now] mean a coalition whose members agree on all their goals instead of just part of them. In effect, this definition treats each party as though it were a single
This has been the foundation of the economic analysis of politics (henceforth referred to as “political economy”) and its approach to political parties. It is striking in this respect how economics broadly appears to lack the insight of modern political science. Indeed, considerations of intra-party dynamics and of party organization are central to any understanding of how they shape policy choices and economic outcomes, as evidenced by the pioneering work of Duverger (first French edition, 1951; first English translation, 1954), and the quote of his which opens this introduction.

In fairness, Downs was more nuanced than many of his successors by recognizing the caveat (forgotten or at the very least discounted by many economists since) that wherever evidently necessary, intra-party dynamics be considered. Until the emergence of a more recent literature pioneered in large part by John E. Roemer (cf. Roemer 1999, as well as Caillaud and Tirole 1999, 2002; Persico et al. 2007; Castanheira et al. 2010a,b), the assumed unicity of the party as an electoral player and policy-making agent had been scarcely contested in economics. It had only been nuanced by altering the party’s objectives and assumed behaviours. Thus, while once confined to singular vote-maximizing (or probability of election-maximizing) agents, parties then became mere vehicles for professional politicians in the public choice literature (cf. the seminal works of Black 1958, Buchanan and Tullock 1962), or in more recent work, citizen-candidates (cf. Osborne and Slivinski 1996, Besley and Coate 1997), and other ideologically-motivated agents (cf. Lindbeck and Weibull 1987, Dixit and Londregan 1998).

Parallels can be drawn between this depiction of political parties found in most of modern political-economic theory, and that of the firm as a single optimizing agent in most of neoclassical economics. This firm has a set objective (maximizing profits), subject to a set of known constraints (a certain technological endowment and market constraints). This view of the firm was particularly advanced by Samuelson’s neoclassical synthesis and research programme, based on optimization techniques (Samuelson 1947). Insomuch as the firm actually optimizes, and that its problem broadly agrees with reality, this approach claims not to care how this optimization process actually comes about, and thus brushes aside any need to “inquire within” (cf. Archibald 1987, p. 357). Such an inquiry would only
overburden the theory with detail, and hinder analytical tractability.

Yet this view was never fully accepted. Classical economists, beginning with Adam Smith, had a conception of the firm as a small, independently-owned and operated business. They held the view, best expressed in modern terms by the phrase “divorce of ownership and control” (Berle and Means 1933 quoted in Archibald 1987, p. 358), that other modes of organization such as corporations did not necessarily operate in a way consistent with the self-interested optimizing behaviour purported to be that of a single shopkeeper.

Some of the shortcomings of the neoclassical theory of the firm were subsequently brought to light by the analysis of Penrose (1966), who put forward a growth theory of firms. This theory sought to differentiate itself from neoclassical analyses by including an understanding of how the growth process of firms depends upon an “internal process of development” (p. 1, original emphasis). In contrast, neoclassical methods of analysis chose to tie the growth process of firms with the costs and benefits of being of a particular size. This approach is indeed inferior, for it abstracts from the transition growth path and the experimentation done by firms with different sizes, and instead only considers the initial and final equilibrium sizes. Penrose’s views did not, however, agree with the evolutionary analogy often made in relation to the growth of firms: unlike the evolution of biological organisms, which depends upon processes that are mostly beyond the control of individual members of a species, the growth and survival of firms depends crucially upon the decisions made by the very humans who are part of its organization. In so doing, Penrose therefore sought to not lose sight of the important fact that the firm primarily remains an organization composed of human beings, all concerned with achieving certain objectives.

The disconnect between the interests of owners and managers of the firm, as mentioned earlier, also did require inquiring within. This path was nonetheless pursued largely within the confines of the neoclassical research programme by pioneers of agency theory (e.g., Holmstrom 1979, 1982; Grossman and Hart 1983, etc.). They portrayed the problem of reconciling the potentially-conflicting interests of self-interested optimizing managers – the agents – with those of equally self-interested optimizing owners – the principals – by having the latter offer the former properly-incentivized contracts.

It is therefore plain to see that if political parties are “firms” active in a “political market”
where voters are the “political customers” (to reprise the standard public choice terminology, cf. Tullock, 1987), pushing forward our theoretical understanding of how political parties shape economic behaviour and policy outcomes requires us to “inquire within”, by going into further detail about the internal functioning of these very organizations. A natural starting point for this line of research is agency theory, where for instance, in the case of electoral competition, the agents are the contributors to the party (e.g., its activist members), and the party leader is the principal, attempting to suitably tailor the party’s platform so as to attract contributions (cf. Chapter 3). Or, it could be that the party leader is the agent to the party members at large, acting as principals, with the latter bestowing their confidence in the former’s leadership, conditional on her actions in office (cf. Chapter 4). Agency theory also famously includes a branch, originating from the work of Bernheim and Whinston (1986a,b) and referred to as common agency, which is concerned with the relationship of multiple principals with a single agent. This bears relevance to Chapters 3 and 4 of this thesis.

The present thesis thus contributes to the understanding of how party organization and intra-party dynamics affect policy choices and economic outcomes. Such outcomes are being measured either using the Pareto criterion (i.e., individual utility) or a utilitarian aggregate welfare criterion. Full commitment of politicians to policy platforms is assumed throughout this thesis.

Its first main chapter (Chapter 3) is concerned with the relative influence of different types of contributors to political parties during electoral campaigns. The focus is on electoral competition between two parties who are single agents, albeit ones that face important constraints: they must engage in electioneering activities to target and convince an uninformed portion of the electorate. Such electioneering activities require contributions, both in the form of volunteer labour and money, which involve relying on and courting contributors through the party’s choice of a policy platform. These contributors are modelled as either party insiders or outsiders, respectively: party members who contribute their time

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1Note that while these welfare criteria are standard for such analyses, they are not exempt from severe limitations and criticisms, notably regarding the extent to which they are accepted by the population. Chapter 5 of this thesis is particularly concerned with the foundation of normative analysis based on a societal consensus.
Chapter 3 departs from the standard optimizing, single-agent view of the party and models the trade-offs involved in courting the party’s membership base, by agreeing with its policy preferences relative to those of the (informed) electorate as a whole. Furthermore, the party, rather than having exogenous policy preferences or being purely office-seeking, can now be understood to have its policy position jointly determined by the relationship between its endogenous membership which has heterogeneous policy preferences, and its leadership which is purely office-oriented. This phenomenon, as outlined previously, arises through an agency relationship between the party’s apparatchiks (homogeneous, hence a single principal) and its grassroots (the heterogeneous and thus multiple agents).

The analysis conducted in Chapter 3 goes to show that the presence of activists induces parties to offer differentiated platforms, in order to motivate the former’s participation, provided that their contributions are worth seeking. Meanwhile, the presence of a special-interest group causes parties to bias their policy platforms towards its preferred policy position, provided again that its contributions are worth attracting. In the sole presence of a special-interest group, parties will offer identical platforms. These match exactly the special interest’s policy bliss point if its contributions are well worth seeking, and the median voter’s position otherwise. If both types of contributors are present, the parties offer differentiated platforms, even when contributions are perfectly substitutable. These platforms are also biased towards the special interest’s position. The extent to which they are differentiated and biased will depend on the trade-off between votes gathered directly through platform choices and those garnered indirectly by attracting contributions, and the nature of the electioneering technology at the parties’ disposal. That is, how the combination of contributions, received from both activists and the special-interest group, serves to persuade part of the electorate to cast a ballot for either party. Both the presence of a special-interest group and activists induces a distortion on the electoral outcome, which reduces voter welfare relative to a normative benchmark where no such contributors are present. However, an increase in the influence of the lesser of these distortions on party platforms can, by a second-best argument, be welfare-improving. This finding could inform the design of electoral laws, in the face of declining trends in the participation of activists, which might be leading to a
decrease in their influence on policy.

The second part of this thesis’ contribution to the understanding of party organization and its impact on policy and economic outcomes is contained in Chapter 4. It consists of an examination of the coercive power that a heterogeneous party membership, organized in factions, has on the party leader and politician in office. Various means of coercion and control (both democratic, in the form of leadership reviews, and non-democratic, meaning “bloodless coups” or putsches), and various degrees of informedness on the part of factions are considered in turn, along with the resulting policy choices and their implications for political accountability and voter welfare. The latter is measured by the well-being of a representative voter. The party leader, in contrast with the approach presented in Chapter 3, is in this analysis the agent to the factions’ principals: it is bound to the latter by an incentive contract, and must either comply with the policy terms, or be removed from the party’s helm. Moreover, another relationship of agency, and another imperfect incentive contract exist between the representative voter (principal) and the politician in office (agent).

This chapter therefore again pushes away from the canonical consideration of the party as a single, self-interested agent, by instead considering how policy- and office-oriented motives co-exist both in the party’s base and at its helm. It also contemplates, in turn, how strategic interactions – both among factions and between the leader and the factions – driven by such varied motivations shape the policy choices made by the politician in office.

The findings of Chapter 4 are as follows. It is first determined that non-democratic coercion by the party’s factions on the politician acts as a distortion when the election mechanism is effective in keeping them accountable to the electorate. As for democratic means of coercion, they can either improve accountability or be ineffective, depending on the state of the world. In contrast, in the presence of distortions in the electoral process – such as the electorate having misguided beliefs that politicians exploit for the sake of their own re-election – democratic means of coercion are then fully accountability- (and welfare-) improving. In a stark reversal of circumstances, the influence of certain putschist factions may also then increase the accountability of incumbent politicians to the electorate. This can be viewed as contributing to a second-best theory of politics: in the presence of an existing distortion on the electoral mechanism, the introduction of another distortion in the
form of putschist party factions can mitigate the electoral mechanism’s deficiencies, and keep politicians accountable.

1.2 W(h)ither homo economicus?

Economic analysis relies heavily upon a foremost behavioural assumption, that of self-interested, rational behaviour. (This “rationality” may manifest itself either in the sense of making internally-consistent choices – i.e. coming about from the completeness and transitivity of preferences – or, in a more classical sense, through the “reasoned pursuit of self-interest.” [Sen 1987, p. 69]) The economic man, or homo economicus, is one whose actions reduce to maximizing total felicity through a utilitarian calculus. In its simplest and purest incarnation, this calculus is based upon the consumption of goods and services, voluntary exchange, or even engaging in certain societal activities (e.g., running for office, getting married, etc.). This occurs without any explicit concern for the welfare of others and thus the impact of one’s actions on such welfare (e.g., externalities). This hedonistic human being is furthermore devoid of morals and ethics (i.e., he is amoral, rather than immoral), just like the markets in which he participates. This sole pursuit of happiness and self-interest through markets is moreover deemed to be socially beneficial, leading to the idea of an “invisible hand”, pioneered by Adam Smith and perpetuated thereafter by many economists.

Yet how well-suited is this emphasis on self-interested rational behaviour for the study of political economy, and that of normative public economics? The next few paragraphs go to argue that while immensely powerful as a theory of economic behaviour, an exclusive focus on purely self-interested rational behaviour is reductive when considered in the contexts of political economy and normative public economics, where moral considerations matter more. In light of recent advances in the fields of behavioural and experimental economics, it appears that moral values of co-operation, reciprocity and fairness may matter more than what was previously thought, even as regards human behaviour in markets (cf. Fehr and Schmidt 2006). So while it may still be (somewhat tenuously) argued that the homo economicus provides a basic-but-generally-sound depiction of the motives most prevalent in
market transactions, claiming that this holds for political transactions and normative public economics is now largely untenable.

This line of thinking therefore runs radically counter to most of the public choice research programme, that of the “Virginia School” of political economy. In a striking departure from classical political economy, public choice theorists put the spotlight exclusively on the self-interested motives of politicians, voters, and bureaucrats, at the expense of any concerns of theirs for the public good. The rationale for this departure was the belief that such self-interested concerns formed the bulk of the motivation of political agents, and that while a preoccupation for the public interest on their part might be present, it invariably did not matter in the end. The aim of this departure was, in part, to apply the methods and discoveries of economics to the political domain. Yet proponents of public choice went further, and asserted that such an approach is both suited to positive and normative questions, whenceforth answers to positive questions – in the form of empirically-testable results – can be used to further the design of institutional rules and contribute to the theory of constitutions. This is most evident in the seminal work of Buchanan and Tullock (1962), which divides itself into two parts: the first, concerned with the analysis of politics as it is, which feeds into the second, concerned with constitutional political economy of both the procedural and fiscal kind.

While there is little doubt that classical political economy was flawed, or naïve, in bestowing noble motives upon a select portion of the population assumed to hold public office in a way that suited the general interest, the radical step of completely disregarding moral inclinations in explaining political behaviours should not be taken lightly. Geoffrey Brennan and Alan Hamlin (2000) make a convincing case as for why researchers preoccupied with both positive and – especially – normative analyses of politics should move away from the 2

2 This is meant to comprise, for instance, and as described by Besley (2007), the works of Adam Smith, John Stuart Mill, and John Neville Keynes, to name but a few thinkers. It is also particular in that classical political economy made a distinction between the science of economics and the art of policy-making, the latter not being governed by the same strict rules as the former. The self-interested agents of the economy as a whole were therefore replaced by politicians, public servants, and policy-makers animated by more lofty ideals when the time came to consider the results of political processes.

3 Politics as perceived by public choice theorists is therefore sufficiently plagued with inefficiencies (i.e., the result of self-interested behaviour, and the absence of a political “invisible hand” to channel them in spite of laissez-faire) so as to give rise to evident solutions of institutional design. This runs counter to the views of the political process as an efficient one held by the “Chicago School” of political economy (as described in Coate and Morris, 1995) in relation to the form of transfers to special interests.)
reactionary creature that was *homo economicus* dabbling in politics, and towards a more nuanced *homo politicus*, also motivated by self-interest but not exclusively so. Their argument follows two different strands: first, that the *homo economicus* formulation runs counter to the very notion of normative political theory; and second, that once it is admitted that moral considerations may enter individual decision-making, that they will be of a greater importance in politics than in the marketplace. The first strand of the argument rests on the notion that it is foolish to even discuss normativity in a world populated by agents who do not care for the common good. Why study normative political theory when acting for the public interest is not in anyone’s interest, with the exception of the somehow morally-driven political economist overlooking it all?

The point is that in a world of unrelieved egoism, agents cannot even recognise the category of ‘the normative’. Even the idea of an ‘invisible hand’ is based on an essentially moral idea and could not make much sense to *homo economicus*. [...] In an egoistic universe agents are committed to a language in which ‘good’ can only mean ‘good for me’ or more particularly, ‘in my interests’ [...] Without a distinctive moral sense of justification, there is no work for normative theorizing to do.

(p. 26)

The second strand of such thinking hinges on the fact that, while it may be possible to transpose economic motivations to the study of politics as in the public choice tradition, transposing behaviours is going one step too far. This neglects the impact of context and institutions upon said behaviour. To use an economic analogy, it is akin to supposing that firms behave competitively when the market consists of few such firms; or, equivalently, that self-interested, rationally-driven economic behaviours are left unchanged by different regulatory contexts.

The exposition of the argument, as presented by Brennan and Hamlin, follows the line of expressive voting theory, whereby one casts a ballot for the sake of expressing a desire for certain policies, or a certain political allegiance. This is to be contrasted with instrumental voting, the theory favoured by much of the public choice literature. According to this theory, one chooses how to cast a ballot by weighing the expected benefits of doing so in altering the outcome of the election against the costs of casting the said ballot. This theory fares badly, leading, in the words of Dhillon and Peralta (2002), to a paradox of voting (why vote at all,
since the instrumental costs are much higher than the instrumental benefits?), a paradox of indeterminacy (whom to vote for, since the act of voting does not directly translate into the instrumental benefits?), and a paradox of ignorance (costly information must mean that instrumental benefits are not surely known).

Brennan and Hamlin argue that whatever instrumental costs and benefits exist are consequently irrelevant to the choice of casting a ballot and for whom, that is to say actual voting behaviour. Since it is well-known that one’s vote is generally insignificant for the outcome of the election, what makes it rational is for a voter to cast a ballot on the basis of the subjective moral value of a candidate’s policies over the other’s, referred to as its expressive benefits, and this in spite of the associated instrumental costs (p. 32). And while moral considerations should not be taken to explain all sorts of expressive voting behaviour, it is Brennan and Hamlin’s view that “moral considerations will be more engaged in voting than in market trading where the weight of private interests is likely to be predominant.” (p. 33)

Adding to this argument is the recent call by certain luminaries of the economics profession for a renewal of welfare economics, of which normative public economics is a branch, and a return to the roots of economics as a moral science. For instance, Anthony B. Atkinson, in an article tellingly entitled “The Restoration of Welfare Economics” (2011), advocates further developing the Rawlsian notion of egalitarian justice and Sen’s concept of capabilities, two pathways that have largely only been given cursory treatment so far by economists. Fairness objectives, pursued and developed notably by the work of Marc Fleurbaey, are also singled out by Atkinson as a promising avenue for research. These concepts, along with the use of personal moral principles and ethics in describing individual – and thus, in the aggregate, societal – objectives, would serve to resuscitate economics as a moral science.

Parallely, in their article entitled “Economists as Worldly Philosophers” (2011), Robert J. and Virginia M. Shiller likewise call for a return to the moral imperatives that used to drive seminal economic thinkers. At the heart of their argument is the claim that economics remains fundamentally a moral science, insofar that when a science, any science, goes beyond describing what “is” and delves into the practical ramifications of the discoveries made – on to what “should be”, the realm of the normative – its implicit common acceptance of a
value system must be made limpid. This involves explicitly stating the value judgements upon which an analysis is conditioned, while also ensuring that these value judgements are representative of a broad societal consensus, encompassing more than what is just favoured by economists.

This thesis contributes to moving away from *homo economicus* in political economy and normative public economics by first considering the positive underpinnings of collective action in political parties (Chapter 3), and also by addressing the normative implications of moral behaviour for the choice of redistributive taxation (Chapter 5).

The question of why anyone would participate in a voluntary organization such as a political party, by being an active, dues-paying member is a long-standing debate in economics, tracing itself back to the seminal work of Olson (1965). One way to bypass this paradox of participation – according to which it is not clear why one would incur costs associated with participation since benefits are by-and-large a non-excludable collective good, thus encouraging free-riding – is to assume that rather than just being self-interestedly rational, individuals have other-regarding preferences, beliefs about others’ behaviour or, as modelled in Chapter 3, that ethical motives underpin their behaviour: they are calculating Kantians, which is to say that they behave in the way that they would like others to. As Chapters 2 (Literature Review) and 3 go to show, such an assumption is warranted by previous theoretical work on voluntary contributions to public goods, but also buttressed by empirical work.

The question of how much support there can be for redistributive policies also has been puzzling researchers. A vast heterogeneity between countries (e.g., the welfare state in continental Europe, and more *laissez-faire*–oriented policies in the United States) cannot readily be explained by traditional economic models used to explain societal choices related to redistribution, and which are largely based on the aggregation of purely self-interested preferences through various collective choice procedures. Thus, recent attempts at explaining diverging equilibrium levels of redistribution across countries have relied on non-standard beliefs (Bénabou and Tirole, 2006) and on work norms and *individual* social preferences (Lindbeck et al., 1999; Cervellati et al., 2010), both departures from *homo economicus*.

In this spirit, redistribution and its links to work norms are the chief focus of Chapter
5 of this thesis. This chapter considers particularly how work participation decisions may be affected by social norms. Such norms produce in equilibrium a certain degree of societal co-operation or consensus, as measured by the number of idle productive members of society. The idleness of productive individuals is the result of the interaction of individual preferences for leisure and the social norm. This social norm may be an incitement for the participants to co-operate, or a cost to the non-participants, reflecting social stigma or a diminished sense of self-worth (i.e., producing both shame, which is inflicted by the others’ perceptions of oneself, and guilt, which is self-inflicted). This in turn has an effect on the degree of redistribution that is both socially achievable and desirable, and reciprocally: redistributive taxation will change the incentives for idleness through both self-interested preferences for consumption and the social benefits associated with labour force participation. In effect, individual work participation is shown to foster or harm societal co-operation through this social norm, something which the party in power or the social planner must consider in their determination of redistributive taxation. They may also well view this societal co-operation as a normative goal in itself, which may lead to the adoption of redistributive policies that appear to run counter to a certain ideology or aversion to inequality. To this end, this chapter relies on a model of redistribution where work participation is the only decision made by individuals, one introduced by Diamond (1980) and exploited by Saez (2002).

The analysis conducted in Chapter 5 finds that in the presence of a social norm concerning work participation, and modelled as an inducement to co-operate, the degree of redistribution optimally-chosen by a “naïve” social planner (i.e., one that does not condition its choices on the degree of societal consensus) is less than that which would prevail in the absence of a social norm. This is partly attributable to the emphasis put by the planner on the utility of the participants, which is augmented by the inducement to co-operate. This depends as well on the increased costs of redistribution arising from feedback effects through the social norm. In contrast, if the social norm is modelled as a cost to non-participants, then the social planner may optimally choose to redistribute more than in the absence of a norm, so as to compensate the non-participants for their loss. This holds provided that the social weight put on the non-participants is large relative to the feedback effects of redistribution on participation, and their heightened budgetary costs. All such results hinge
crucially on the assumption that the social weights and the elasticities of participation of each skill class are identical both when a social norm is present or not.

In addition, Chapter 5’s analysis studies a social planner attempting to satisfy a societal consensus objective while also choosing an optimal redistributive income tax schedule. This involves engineering a transition from a low- to a high-participation equilibrium, so that work co-operation values are shared by a large fraction of the population. This happens to limit the degree of redistribution that can be chosen in optimum, compared with the choices of a naïve social planner unconcerned with the societal consensus. The political economy of such a transition poses interesting questions, which are discussed therein.

1.3 Organization of the thesis

This thesis is composed of six chapters, including this first introductory chapter. The second chapter consists in a review of the literature pertinent to the topics breached by subsequent research chapters: Chapter 3, which centers on the question of the relative influence of party activists and special-interest groups on electoral policy choices by parties; Chapter 4, which is concerned with coercive measures imposed on the politician in office (and party leader) by her party, and their effect on accountability and voter welfare; and Chapter 5, which considers the question of how to condition the choice of redistributive policies on a societal consensus (or lack thereof) produced by interaction of the existing tax system and a social norm. Finally, Chapter 6 concludes, and appendices related to certain chapters follow, containing further digressions as well as mathematical proofs and explanations.
Chapter 2

Literature Review

This chapter presents a review of the works predating this thesis, and related to the subject matter contained therein. It therefore complements the preceding Introduction by more narrowly relating the contribution of this thesis to the economic literature centered on many themes.

Its organization follows the main body of this thesis, from Chapter 3 to Chapter 5. Within each section concerning a single chapter, the relevant literature is classified and presented by themes, with precise references made to the use of works cited wherever it is deemed necessary and appropriate.

The politico-economic literature that forms the basis of Chapter 3 is by far the most extensively considered here. This is justified by the breadth of the themes covered by Chapter 3 alone: party activism, with its motivations compromised by the paradox of participation, its declining historical trends, and its importance for parties; electoral campaigns and their effect on persuasion and turnout; electoral competition; special-interest politics; and limits to campaign spending.

The literature review concerning Chapter 4 is, in contrast, much shorter. It solely concerns itself with the themes of political agency, and heterogeneous political parties.

Finally, the breadth of the topics related to Chapter 5 is, as for Chapter 3, also quite wide: the renewal of normative public economics; the question of political constraints in normative analysis; the foundations of social preferences for redistribution; applications of social norms and other forms of social preferences to questions of redistribution; and the
question of the coercion implied by the planner’s choices.

2.1 Chapter 3: The Influence of Special Interests and Party Activists on Electoral Competition

The first core chapter of this thesis draws from a number of strands of literature from economics and political science. It first touches topics related to party activism and the determinants of political participation, along with recent trends in this respect. It then considers how activists matter for political competition, and how models of political competition also account for the presence of special-interest groups. Finally, a brief survey of works related to campaign financing limits and the public financing of parties concludes this section.

2.1.1 Political participation and party activism

The motivations underlying the active participation of individuals in voluntary collective organizations, a foremost example being political parties, have long puzzled economists. By the logic of the rational, self-interested human outlined in the introduction of this thesis, since most or all rewards from participation are seen to be a pure public good (i.e., neither excludable nor rivalrous), then costly participation should not be observed. Instead, free-riding should prevail, leading to the underprovision of the collective enterprise in question, for instance the non-adoption of certain policy choices by a given political party. This view was first and most eloquently articulated by the work of Olson (1965), which emphasized the failure of organizations to provide their members with a collective benefit due to free-riding, whenever participation is purely voluntary. The success of collective enterprises, such as trade unions, is according to Olson’s logic therefore dependent upon some form of coercion or enforcement by the organization’s leadership on its member base – for instance, mandatory trade union dues paid by all shop employees represented by the union, regardless of their membership status and involvement in the collective bargaining process.

In contrast, Albert O. Hirschman’s later treatise Exit, Voice and Loyalty (1970), takes a more nuanced view of the membership of voluntary collective organizations by empha-
sizing how one’s participation matters in shaping its objectives. It investigates individual behaviour in markets and in organizations, deemed as consisting of one of two possible responses (**exit** and **voice**) dependent on customer or brand loyalty. One may become attached and involved in political parties, for instance, for more than just a strict utilitarian calculation concerning the narrowly-defined costs and benefits of joining. Instead, what might matter most for participation is to have a say (by expressing preferences vocally – using **voice** – or by threatening to **exit**) in the determination of policies or, more cynically, in the distribution of pork-barrel. Similarly, one may choose to remain active in a political party through voice in spite of changes in orientation, due to partisan loyalty or the lack of other (palatable) options in the political market: that is, an impossibility to exit and still remain active politically.

The chasm between those who emphasize strictly rational and self-interested behaviour in participatory politics, and those who emphasize other motives as equally important for explaining individual participation in collective enterprises, is therefore evident at the outset of this literature review. This reflects the main themes of this thesis, as outlined in the Introduction. This rift is also apparent in other related bodies of work. In what closely concerns Chapter 3 of this thesis, participation as a party activist can be compared with less involved forms of political participation, such as the decision to go vote or not. At the root of this decision lies a calculus of voting, pioneered by [Riker and Ordeshook, 1968] on the basis of Downs’s [1957] and Tullock’s [1967] characterizations of the rational voter. According to this calculus of voting, what motivates individuals to go to the polls is the following:

\[
P \cdot B + D - C > 0
\]

where \(P \in (0, 1)\) is the probability of casting a pivotal ballot (i.e., making or breaking a tie), \(B > 0\) are the benefits (accessible to all) from the winning party’s policy being implemented, \(D > 0\) are the intrinsic benefits of voting, and \(C > 0\) are the costs of going to the polls; 0 represents a normalization of a person’s outside option, which is to stay at home and not cast a ballot.

Given that \(P\) is usually very small, and thus so are the strictly-defined benefits of casting
a ballot $P \cdot B$, it follows that a theory of voting emphasizing, as Riker and Ordeshook did, instrumental voting (i.e., voting so as to influence the outcome of the election), is bound to predict participation much below what is actually observed in all sorts of elections. This has been termed the paradox of voting: why bother to vote if the instrumental costs far outweigh the instrumental benefits of so doing? The strict answer: vote only if the intrinsic benefits of doing so exceed the costs, or equally put, if you sufficiently like to vote relative to the inconvenience of going to the polls. That is, if $D - C > 0$. Thus, according to early rational choice theorists, the decision to vote cannot be reconciled with any instrumental motives of influencing the election results. As described by Aldrich (1997), in spite of the parallels made by the public choice literature between consumer choice and voter choice, there exists a fundamental difference: consumer choice is a strictly individual decision, in that the outcome is only dependent upon one’s own actions, whereas the act of voting is part of a collective process, leading to a decoupling between casting a ballot and influencing the outcome of the election which undermines any instrumental motivation.

Yet by coming to the conclusion that voting is often not instrumental, it becomes apparent that other motives need to be examined. Those include investigating the exact underpinnings of $D$, the intrinsic benefits of voting, or looking into behavioural theories that shape perceptions of $P$. Such motives, as discussed in depth by Mueller (2003, pp. 303-332), include the existence of an intrinsic taste for voting, civic duty, avoiding regret (Ferejohn and Fiorina 1974), expressing a preference (expressive voting, cf. Fiorina 1976 Brennan and Buchanan 1984), or ethics.

Political participation is similarly plagued by the ineffectualness of individual actions in a collective setting, as far as their instrumentality and the link between means and desired ends are concerned. The decoupling between volunteering one’s time for a political party – and thus influencing the outcome of the election – and the adoption of certain policies is also evident. This, however, did not stop initial attempts to explain political participation of a more active kind by relying upon a “calculus of participation”, fashioned after that of Riker and Ordeshook. The consequences for electoral competition of this calculus of participation, in single and multiple policy dimensions respectively, were outlined in two seminal articles by John Aldrich (1983a, 1983b). The presence of activists, insofar as they are motivated to
participate at least intrinsically, may cause parties to offer differentiated policy platforms so as to motivate them to participate *instrumentally* as well. Other, more recent works related to such an instrumental view of participation include notably Moon (2004) (who uses a reduced form to express activist support) and Mueller (2007), as opposed to the work of Poutvaara (2003) that includes an expressive motive for activism. Yet such instrumental motives for high-intensity forms of participation (e.g., activism) are just as conducive to a “paradox of participation”, due to the still-present disconnect between actions and outcomes, and the even higher costs of active participation which tend to mitigate higher intrinsic benefits.

It is therefore the case that departures from the strict confines of rational, self-interested behaviour are necessary to confront this paradox of participation, a situation that both parallels the paradox of voting and that belongs to a broader class of problems linked with co-operation in collective action. Because such co-operation is both socially desirable (e.g., in Prisoner’s Dilemma games) and empirically observed more widely than rationally self-interested behaviour would imply, it led to the development and application of theories of other-regarding preferences. These theories, described at length in Lichbach (1996), generally offer to depart from the strict methodological individualism that characterizes economics. They center instead on how relations of interdependence between individuals, mediated through formal (e.g., institutions and formal contracts) and informal (e.g., social norms and customs, tacit understandings) arrangements, underpin their behaviour. This is apparent in the seminal work of Elinor Ostrom on this topic (see for instance Ostrom 1990, 2000 and Ostrom and Walker 1997), which outlines the emergence of community-wide rules and norms – allowing the efficient use of common-property resources, for instance – without having to rely on formal institutional arrangements taking the form of the state or markets. Getting around the “co-operator’s dilemma” may also include considerations of altruism, the expression of ethical preferences, the use of Kantian ethics, considerations of fairness and communal consciousness (Lichbach 1996, pp. 112-121). The presence of certain endogenous social norms may also play a role in explaining the extent of co-operation, as elaborated upon later in the context of work participation (cf. Subsection 2.3.3 on page 40).

Other, more provocative theses based on the work of biologists, even argue that there
is an evolutionary basis for co-operation, and that the human species is fundamentally a “co-operative species” (Bowles and Gintis 2006, 2011): co-operation can be beneficial to both parties involved, in which case it is mutualism, whereas if it is costly for at least one party it then becomes altruism. Many behavioural experiments, the conclusions of which are summarized by Bowles and Gintis, show participants to exhibit strong reciprocity. That is, they have a predisposition to co-operate, they respond to signs of co-operation on the part of others by co-operating further, and punish anti-social behaviour.

Chapter 3 retains particularly the use of Kantian ethics by potential activists as a determinant of the extent of their participation. This is methodologically justified by previous theoretical work, such as that of Bordignon (1990) on Kantian ethics applied as a normative principle to the case of voluntary contributions to a public good. It is also supported empirically by studies on political participation in legal and illegal protests by Finkel et al. (1989) and Finkel and Muller (1998). Both of these papers acknowledge reasons other than those included in the rational model of participation as underpinning participation decisions, by putting forward the concept of a “collective rationality”. Finkler et al. (1989) particularly emphasizes the role of such non-standard motives as perceptions of group influence, social norms, and ethics (as in the “calculating Kantian” behaviour put forward by Bordignon 1990, 1993) for explaining the extent of participation by individuals in legal protests in West Germany in the late 1980s. The second article, meanwhile, provides more evidence for the importance of such motives, while also attempting to reconcile them with the (still-prevalent) rational choice approach by broadening its definition (see Section 3.4.2 on page 65).

2.1.2 Party activism: trends and explanations

In framing the question of political activism, it is also crucial to acknowledge the important contributions of certain political scientists. The empirical work of Paul Whiteley and Patrick Seyd (1994, 2002, 2002, 2006) on participation in political parties (Labour, Conservatives, and Liberal Democrats) in the United Kingdom is integral to one’s comprehension of the phenomenon of activism.

Their most essential work is that entitled High-intensity Participation: The Dynamics
of Party Activism in Britain (Whiteley and Seyd, 2002). It outlines, analyzes and provides explanations for historical trends in high-intensity participation, the act of engaging in activities related to a political party that entail a high opportunity cost (e.g., canvassing voters by foot or by telephone, attending policy rallies, etc.). Using data from panel surveys of party members spanning many years from the late 1980s to the late 1990s, they are able to identify declining trends in high-intensity participation among members of the Labour and Conservative parties. Such trends mirror those found for voting across Western countries, and for civic participation generally, a phenomenon studied at length by American political scientist Robert D. Putnam in Bowling Alone: The Collapse and Revival of American Community (2000). Their empirical work also leads them to conclude that the theoretical model best suited to explain high-intensity participation – and its decline – is the general incentives model. This general incentives model is broader in scope than other models (also reviewed in a subsequent survey by Granik, 2005), notably the rational choice approach pioneered by Olson (1965) (cf. supra). It includes variables such as expressive incentives and social norms so as to explain participation, rather than limiting itself to collective benefits or outcome incentives (e.g., personal advancement within the party) (p. 117).

In their review of the theoretical literature on high-intensity participation and its decline, Whiteley and Seyd outline two broad classes of explanations for such downwards trends: those pertaining to the parties’ demand for activists (demand-side factors, particularly apparent in the pioneering work of Panebianco, 1988), and those relating to the activists’ allocation of time and money (supply-side factors). Of these two sides, based in part on their empirical conclusions, Whiteley and Seyd favour particularly the latter, by downplaying the supposed decline in the parties’ needs for activists to wage electoral campaigns. This decline refers to the transformation of the political party from a mass party – relying on large number of activists to perform electioneering tasks – to an electoral-professional party – relying far more on hired professional labour for many of the same tasks.

The work of Whiteley and Seyd therefore buttresses Chapter 3’s approach in three distinct ways. First, it provides further evidence for departing from the strict rational, self-interested approach to activism by highlighting the usefulness of the general incentives model for explaining participation. Second, it also allows one to frame the analysis in light
of historical trends in participation. In the same breath, it allows one to ask what these
trends entail for policy choices made by parties as a result of electoral competition, and for
the design of electoral spending laws (cf. infra). And third, it provides a way to model
theoretically the decline in participation as originating from either demand- or supply-side
factors, or from both at once, and to ask how the model’s results change accordingly.

2.1.3 Electoral campaigns, activism, and persuasion

Chapter 3, in contrast to some recent works in political economy centering on activism
and emphasizing their effects on turnout (e.g., [Mueller, 2007]), focuses on the effects of
electioneering activities on persuasion. This is not a conventional position, rather one that
ought to be justified by considering the political science literature on electoral campaigns
and their effects.

There has been a long-standing debate in political science on the effects of political cam-
paigns and electioneering activities on turnout and persuasion. The conventional wisdom
was that canvassing by activists in local ridings only affected turnout, while having no effect
whatsoever (or even a negative effect) on persuasion. Particularly evocative of this view is
the title of the seminal work on local campaigns by Harold Gosnell, Getting Out the Vote
(1927, cited by Schmitt-Beck and Farrell, 2002, p. 18). It was furthermore thought that
developments in the way that parties waged campaigns, that is to say with more of a central
organization and national focus – changes thought to have been brought upon by the advent
of mass media (Panebianco 1988, Katz and Mair 1995, Kavanagh 1995) – reduced the im-
portance of local campaigns, which were nonetheless puzzingly still being organized. This
Fordist view of campaigns has however recently been challenged by post-Fordist contentions
(or what Norris 2002 calls the “post-modern” view of campaigning) that differentiated lo-
cal campaigns can be used to turn swing or target constituencies (Norris 1997, as cited
by Denver and Hands 2002, p. 108) while still being part of a coherent national strategy
reliant on central control and co-ordination. (Campaigns are indeed nowadays found to be
ever more centralized, hence somewhat contradicting the “post-Fordist” terminology, as re-

1Named after the Fordist view of the industrial process as one of mass production, dependent on economies
of scale to produce a largely undifferentiated product – or at most superficially differentiated and branded,
as Detroit-produced automobiles ended up becoming – targeting a similarly homogeneous market.
marked by Denver and Hands (2002, pp. 124-125.) In such constituencies, both turnout and persuasion matter, and canvassing by volunteer party activists and hired resources can have a positive effect on both through the use of new technologies and campaigning techniques. These include the use of personal computers in the production of professional-looking party leaflets and other literature at the local level, as well as the utilization of more detailed databases of swing voters, built in-between campaigns with the help of direct mail surveys and telephone canvassing. The latter two techniques are then in turn employed during campaigns to persuade these swing voters to cast a ballot for the party in question (Denver and Hands, 2002).

2.1.4 Political competition and special-interest politics

Chapter 3 uses a model of political competition which is derived from some of the most seminal and classic examples of the genre, that of spatial competition between two parties across a single policy dimension. This model dates back to the work of Harold Hotelling (1929) on spatial competition between two firms that choose where to optimally locate along a segment of the real line, while offering two otherwise undifferentiated products that therefore command identical prices. Both firms are assumed to be price-takers, and consequently can only compete over their choice of location. What determines a firm’s location is both the other firm’s (expected or actual) placement and the distribution of customers along the geographical space. These customers matter as they incur transportation costs from buying a product that is removed from their given location. Since products are otherwise equal in quality and priced equally, their choice is to go to the nearest vendor and minimize transportation costs. A Nash equilibrium of this game of spatial competition, whenever customers are uniformly located along the geographical space, and face symmetric and single-peaked transportation cost functions, consists of both firms locating at the midpoint of the space.

This model was successfully applied to politics primarily by Black (1948) and Downs (1957), and its use later surveyed comprehensively by Enelow and Hinich (1984). Its first applications to the political determination of economic policies were made by Barr and Davis (1966), and Davis and Haines (1966) (cited by Mueller 2003, p. 248), by redefining firms as parties, the geographical space as a policy space, and customers as voters who have (single-
peaked) preferences over policy. They thus cast a ballot for the party which is closest to their bliss point, that is their location on the policy space. In the case of a single policy dimension, this famously led to the median voter theorem. It stated that both parties, provided that the assumptions of the Hotelling model held, would locate at the midpoint of the policy space, offer identical platforms and thus cater to the preferences of the median voter. This voter would in turn be pivotal in determining the outcome of the election. Multidimensional models of spatial competition were later developed, but were shown to lack the existence of a stable equilibrium unless very strong conditions (i.e., unimodality of preferences in all dimensions for there to be a median voter, cf. Davis et al. [1972]) were met. It was also found that such a median voter outcome, for voters with symmetric, single-peaked preferences of equal intensity, coincided with a utilitarian social planner’s choice of policy.

Such initial spatial models of electoral competition were also deemed to be deterministic, wherefore a voter surely (i.e., with probability equal to unity) cast a ballot for the party closest to his preferred policy; or, in the event of both parties being equidistant, with equal probability for both. This held no matter how far-removed that party may be from the voter’s ideal policy, provided that no alienation or indifference were supposed to prevail. There was dissatisfaction with such a stark behavioural assumption, as well with the limitations of the spatial model in both one and multiple dimensions, for such a characterization of voting behaviour leads to discontinuous vote share functions (or probability of winning functions). This in turn complicates the task of finding an equilibrium when parties maximize such objective functions, with the Nash equilibrium generally being a saddle point rather than a true maximum of these functions. The general indeterminacy of the equilibrium for questions pertaining to redistribution when using a deterministic approach also contributed to this discontent.

These limitations led in part to the development of the probabilistic voting model, where voters cast a ballot with a certain probability – comprised between zero and unity – for the party whose platform is closest to their bliss points (Davis et al. [1970], Hinich et al. [1972], 1973, Coughlin and Nitzan [1981a,b]). This avoided certain problems related to the determination of a stable equilibrium, notably with regard to questions of redistribution – a decidedly optimistic outcome especially in light of Arrow’s impossibility theorem (Arrow...
1951), and one which raised no less severe criticisms than the earlier models of deterministic voting. Some of these criticisms were most eloquently voiced by Usher (1994), who cast serious doubt on the resulting stability predicted by the probabilistic voting theorem by showing that some of its assumptions, for instance the concavity of the density functions describing vote share probabilities, are too strong for comfort. Plausible examples concerned with voting on pure redistribution among groups, and that rely upon a simple weakening of such assumptions, suffice to show that vote cycling prevails once again.

As for what concerns us, Chapter 3’s model follows the very simple lines of the unidimensional, deterministic model of voter behaviour. It differs however by the presence of contributors to the parties’ electioneering activities, both activists and a special-interest group. Problems of indeterminacy of the equilibrium are avoided by the presence of an inherent uncertainty as to what the other party’s support will be, notably in terms of activism, one party’s activist support being taken as given by the other. Also contributing to the stability and uniqueness of the political equilibrium are: the sequential nature of the game, with the contributors choosing their contributions after parties have announced their platforms; the parties’ assumed full commitment to their announced platforms; and the parties’ assumed efficient use of campaign contributions.

Much was made earlier of contributions to political parties from activists, and the motives that cause them to participate. However, Chapter 3 is not solely concerned with activists, their motivation, and how parties depend on them for electioneering activities. It is also concerned with how parties may choose to cater to organized, special-interest groups rather than the party’s member base for electioneering support. This phenomenon is presumed to become more marked as campaigns and party organization come to increasingly rely on hired professionals, nation-wide advertising and new information technologies, rather than on local canvassing, so as to persuade (and mobilize, something that Chapter 3 abstracts from, cf. supra) voters.

There exists a large body of economic literature that is concerned with the influence of special interests on politics and policy choice. Surveying this entire literature would be a daunting task, especially since it is not Chapter 3’s foremost concern to peek into the composition of interest groups, as opposed to that of political parties: the former, just like
the latter, are plagued with the same problems as all voluntary collective organizations, as articulated by Olson. Special-interest groups were also initially treated as “black boxes” before the need to inquire within became apparent (cf. Introduction). Such was the approach favoured for instance in the seminal analyses of lobbying by Becker (1983, 1985), which made use of the assumptions of single-agent interest groups endowed with aggregate production functions measuring their influence and their political pressure (Austen-Smith 1997, p. 296).

So how do special interests have an impact on policy choices through their campaign contributions to political parties? Much of the literature investigating this question was pioneered by international trade theorists, once it became apparent that the choice of tariffs and quotas, due to the relative consensus among economists on the desirability of free-trade and the consequent coherence of their policy advice, could not be explained by anything but the influence of certain political processes. As such, the articles of Gene Grossman and Elhanan Helpman, along with the work of Avinash Dixit (alone or in collaboration with Grossman and Helpman; see for instance Dixit et al. 1997), are some of the most important contributions to this topic. This strand of the literature adopts either a principal-agent formulation where the principal is the special-interest group, and the agents are the political parties, or a common agency structure, where there are multiple principals competing against each other for the attentions of (at least) one agent (cf. infra and Bernheim and Whinston 1986a,b).

Of all the relevant works of Grossman and Helpman (e.g., Grossman and Helpman 1994, 1995, 1996, 2001), Chapter 3 draws particularly from Grossman and Helpman (1996). That article considers a model of electoral competition over policies, with both pliable and non-pliable policy dimensions, where parties vie for contributions from one or more special-interest lobbies in order to convince uninformed voters. Two motives are considered for explaining why special interests contribute to parties: either their motivation is electoral, in that they seek to bring to power the party whose platform is closest to their interests, or they primarily seek to influence parties, and their contributions cause parties to move their platforms towards the special interests’ ideal positions. The authors show that the parties’ decision-making amounts to maximizing a weighted sum of the welfare of informed voters.
and of the members of special-interest groups. In addition, the party that caters more to special interests wins a majority of seats in the election.

Another distinct strand of the literature on special-interest groups also examines how their contributions depend on the policy platforms put forward by parties during electoral campaigns. This strand is characterized by the contributions of David Austen-Smith and David Baron and is also of particular importance to Chapter 3’s model. In Austen-Smith’s (1987; 1997) characterization, interest groups that choose campaign contributions are profit-maximizing firms taking party platforms as given, and seeking to favour the election of the party whose policy platform is closest to their interests. Rather than attempting to influence directly the parties’ choice of policy, as in the common agency literature, they do so in an indirect manner by having an electoral motive. They therefore each contribute at most to a single party, a finding consistent with the empirical work of Poole and Romer (1985). As long as the parties have a need for the special interests’ contributions, they will cater to them by appropriately choosing their policy platforms in a unidimensional policy space. In the work of Austen-Smith, due to an uncertainty in the voters’ perception of party platforms, campaign contributions serve to narrow the variance of this perception through informative advertising. The roles are thus inverted, compared with Grossman and Helpman: the parties are principals, and the interest groups (and voters) are agents. Furthermore, in such a framework the two parties behave as Nash competitors against each other, and as Stackelberg leaders in relation with the interest groups and voters. Whenever parties cater to their contributors, the resulting electoral equilibrium is characterized by parties offering differentiated platforms. Similarly to the effects of the presence of activists in models of electoral competition, special-interest groups drive a wedge between the parties’ policy positions.

Baron’s 1994 article adopts a framework reminiscent of both Grossman and Helpman and Austen-Smith’s contributions, while also predating the former’s: the electorate consists of both informed and uninformed voters, the latter of which being the target of advertising funded by campaign contributions by special-interest groups, yet with a timing that has the parties behaving as Stackelberg leaders. It differs from both other papers in its characterization of the benefits accruing to special-interest groups as a result of policy platforms being
implemented. Rather than focusing exclusively on policies that benefit all interest groups with compatible policy goals (non-excludable policies or, in Baron’s terminology, collective policies), and that impose large costs on those opposed to them, Baron’s framework also considers the effects on electoral competition of particularistic policies. Such policies can benefit certain groups but not others, and at little cost to those who do not benefit, so that they do not feel compelled to contribute in an attempt to oppose them.

The electoral equilibrium with particularistic policies is one where party platforms may diverge, once the proportion of uninformed voters exceeds a certain threshold. This is due to the political parties’ need to cater to special-interest groups, whose contributions serve to convince uninformed voters. In contrast, when only collectivist policies are chosen by parties, the symmetry of special-interest group clout and policy preferences for each party implies that both parties locate themselves at the midpoint of the policy space, and equilibrium campaign contributions to both parties are therefore zero. This lack of equilibrium contributions stems from the absence of differentiation between parties, making the very point of contributing moot. Parties then accordingly only compete for informed voters.

Chapter 3’s model heavily draws from Baron in its characterization of the timing of the game, and the relationship between parties, special-interest groups, and voters. The focus of Chapter 3 is also on the effects of campaign expenditures on uninformed voters. However, contrary to Baron, no consideration is given to particularistic policies, to focus exclusively on collective policies: in the sole presence of a single special-interest group, a similar result to Baron’s is found, namely that party platforms converge and that equilibrium contributions are zero. Otherwise, the special-interest group generally biases the outcome of the election towards its desired policy choice, and away from the midpoint of the policy space.

The last theme broached by Chapter 3, limits to campaign spending and public subsidies, is surveyed next.

2.1.5 Limits to campaign spending and public subsidies

The works of Coate (2004a,b) on electoral financing laws and their effects on political competition and welfare are particularly relevant to some of the conclusions of Chapter 3. These papers investigate under what conditions laws limiting monetary contributions have welfare-
improving effects. The first paper, “Pareto-Improving Campaign Finance Policy”, uses a model where citizen-candidates vie for contributions from special interests for advertising purposes. It shows that contribution limits can be Pareto-improving even under very optimistic assumptions, such as that all advertising is truthful and informative about the candidates’ abilities in office, and voters are fully rational. The second paper, “Political Competition with Campaign Contributions and Informative Advertising”, also presents a model where parties choose citizen-candidates, who in turn attract contributions from special interests. This paper nonetheless shows that contrarily to the conventional wisdom, limits on contributions cause welfare to be redistributed _from_ the general voting public _to_wards special interests. Chapter 3’s conclusions contradict this view, albeit under different hypotheses and a fundamentally different model.

The topic of campaign spending by parties, and particularly public subsidies to political parties, is also addressed by Baron’s [1994 article](#). There, it is found that in the case of particularistic policies, public financing of elections moderates the policy platforms of parties by making them less reliant on the contributions of special-interest groups, and less likely to cater to the latter’s interests by differentiating their platforms to the end of pursuing uninformed voters. It thus also weakly narrows the result of the election, that is to say that it brings together the election probabilities of either party. In contrast, public subsidies in Chapter 3’s model would not reduce the policy cleavage between party platforms, since they would only fuel the arms race that leads parties to cater to their contributors’ policy preferences. Of course, this result depends upon the assumption of a constant returns electioneering technology: if there were instead diminishing returns to contributions, then public subsidies would presumably displace some of the contributions from activists and the special-interest group. While this would cause policy platforms to converge and presumably also induce a narrowing of the election result, the bias in platforms induced by the presence of the special-interest group, away from the median voter’s position, would still remain.
2.2 Chapter 4: The Effect of Party Discipline on the Electoral Accountability of Politicians

Chapter 4 draws from two main areas of the economic literature: agency and precisely political agency, as well as the studies concerning heterogeneous political parties. They are considered in turn next.

2.2.1 Agency and political agency

The basis of the political agency problem, described by Besley (2006) and a centrepiece of Chapter 4 of this thesis, is the following: the principals (the voters) delegate authority to the agent (the politician) to act on their behalf while in office. The nature of this class of problem is widely referred to as “common agency”. In its most simple incarnation, however, voters are homogeneous and therefore can be aggregated as if there were one “representative voter” or “representative citizen”, thus making the problem more akin to the original model of agency.

Barro (1973) and Ferejohn (1986) are among the early seminal works on this topic. They deal with cases of pure moral hazard caused by a hidden action, similar in that respect to the founding principal-agent models of Holmstrom (1979, 1982) and Grossman and Hart (1983). In these models, an homogeneous class of politicians seeks to hold political office as a means of pursuing an agenda of their own, irrespective of the voters’ wishes. The hypothesis of retrospective voting, by which voters are deemed to hold incumbents seeking re-election accountable for the policies implemented during their time in office, is also characteristic of these models. This central hypothesis is used for the purpose of evaluating the effectiveness of elections as a means of disciplining politicians, and preventing them from “shirking” – following an agenda other than that entrusted to them by voters.

Other models combine both problems of moral hazard (attributable to a hidden action, to which the outcome is not directly correlated; e.g., a choice of effort with a reward that is partly stochastic) and adverse selection (stemming from different types of politicians). This allows for the inclusion of the politicians’ competence in the analysis, and the further refinement of conclusions regarding the efficacy of elections as a mechanism to achieve political
accountability. Seminal works related to this thread of the literature include for instance those of Austen-Smith and Banks (1989), Besley and Case (1995), and Coate and Morris (1995). While it is impossible to do justice here to Austen-Smith and Banks’s full treatise on the topic of agency, the latter two articles are worth dwelling on.

Besley and Case, in their article entitled “Incumbent Behavior: Vote Seeking, Tax Setting and Yardstick Competition”, are concerned with the application of a political agency model to the problem of tax setting. Their particular focus is on the impact of inter-jurisdictional comparisons, or “yardstick” comparisons, on the re-election chances of the incumbent politician. Such comparisons rely on the assumption of correlated costs for public services between jurisdictions. They then serve to alleviate the information asymmetry present between the incumbent and the voters on the topic of the cost of public services, and corresponding tax burdens. Since only the latter are clearly observable, it is therefore the case that an incumbent’s re-election probability depends upon both his own jurisdiction’s tax policy, and the neighbouring region’s. A relatively high tax burden is thus viewed by voters as the sign of a “bad” politician, one that seeks to maximize the rents from holding office at the taxpayers’ expense. This form of political accountability therefore drives down taxation rates across jurisdictions, and can be viewed as being part of the motives behind tax competition. The model yields testable predictions that are successfully verified empirically using U.S. data.

The article by Coate and Morris, meanwhile, examines the form taken by transfers by politicians to special-interest groups. One view, associated with the Chicago school of political economy, argues that political competition should cause politicians to choose the most efficient means possible of making transfers to special interests, in this case direct cash transfers. Another view, associated with the Virginia school of public choice, emphasizes the importance of imperfect information for explaining the form of transfers, with intensely-scrutinized politicians preferring more covert means of transfer, such as pork barrel public projects. This latter view is given a proper analytical setting by Coate and Morris’s use of a political agency framework where there exists an information asymmetry between the incumbent politician in office and voters on whether public projects serve as covert means of transfer, or benefit the public good. They come to the conclusion that if politicians are all alike, then efficient cash transfers are used, a practice which gathers the support of voters
so as for it to be in the incumbent politician’s interest. However, if politicians differ in their type unknown to voters, some being honest and others dishonest (i.e., prone to accept bribes), then inefficient means of transfer are favoured as a result of public scrutiny. This is because of the voters’ desire to weed out dishonest politicians, which leads to adverse selection: all politicians use the public project but for different ends, either to further the public interest, or to make inefficient transfers to special-interest groups.

More recently, Besley and Smart (2007) examine the effect of limits on the fiscal instruments that can be used by incumbent politicians, when bad politicians have an incentive to overstate the cost of public goods so as to underprovide them and extract rents instead. The trade-off available to voters is between keeping bad politicians accountable, or using the electoral mechanism to oust them from office. The authors’ main finding, which states that restricting the tax instruments at the incumbent’s disposal can be advisable for the purpose of improving the selection of good and bad politicians, provides in their view the basis of a theory of the political second-best. Through its consideration of the political party as a distortion on the electoral mechanism, Chapter 4 of this thesis mirrors such a view.

It is perhaps best to summarize the findings of the above papers by paraphrasing Besley, who noted that policy choices by incumbent politicians act as a signalling device in an attempt to convince the electorate of the politician’s type (true or not), so as to maximize one’s chances of re-election. The resulting classes of equilibria – separating and pooling – may or may not prove to be sub-optimal from a social welfare perspective (Besley, 2006, p. 107). The present chapter presents a case where the choice of policy (i.e., the action) may or may not be known. However, what truly matters are the payoffs stemming from it, and the type of politician at its source: adverse selection is therefore the more prevalent problem here.

Another significant branch of the political agency literature, albeit one whose influence on this chapter’s analysis is more limited than that of the previous works, is characterized by the work of Grossman and Helpman (notably Grossman and Helpman (1994, 1996) and Dixit, Grossman, and Helpman (1997), the latter written with Avinash Dixit), presented in greater detail earlier. These articles are based on the seminal contributions of Bernheim and Whinston (1986a, b), which respectively formalized the multilateral relationship between
many principals and one agent known as common agency, and found an efficient solution to the problem in a non-cooperative menu auction. While pertaining originally to the field of industrial organization, these results have then been adapted and applied to problems of political agency similar to those outlined before: contributions to special interests, lobbying, etc. Chapter 4 also features a certain form of common agency as the incumbent politician (the agent) has two principals: its party, and the representative voter. Due to the timing of the game however, the actions of each are made sequentially, and the problem differs from the examples above.

Finally, models of political agency have also been put to use for explaining the political dynamics of debt accumulation. The seminal paper in this branch of the literature is by Alesina and Tabellini (1990). They examine the strategic use of debt accumulation by politicians with different preferences for public goods as a tool to influence the policy choices of their successors in office. Precisely, efficient debt financing (i.e., smoothing public spending over time) is used when the politician in office has a good chance of being re-elected. In contrast, when his chances of re-election are slim, he will over-accumulate debt so as to prevent spending on public projects by his successor of a different political stripe, which he does not value.

2.2.2 Heterogeneous political parties

The existence of factions within political parties is a well-documented topic in political science, one that dates back to the seminal work of Duverger (1963) discussed in the Introduction to this thesis. Examples of factions for European parties can for instance be found in the analyses collected and edited by Belloni and Beller (1978).

In contrast, the politico-economic literature on heterogeneous parties is fairly recent, and among its seminal contributions is an article by John Roemer entitled “The Democratic Political Economy of Progressive Income Taxation” (1999). In this article, Roemer defined political parties as consisting of three factions: the militants, the opportunists, and the reformists. The first faction is the most ideologically rigid. It wishes to propose a policy closest to the party’s ideal ideological point, and is uninterested in what its impact might be on the electoral outcome. The opportunists are the most self-interested politicians since
they care solely about the benefits of holding office, whereas the reformists lie somewhere in-between the other two factions, for they seek to maximize the expected utility of an average party member, given its preference ordering over policies. Roemer’s model originally served to resolve the issue of the existence of a political equilibrium in Wittman’s (1973) multi-dimensional model of electoral competition under uncertainty, introducing the concept of Party-Unanimity Nash Equilibrium (PUNE, generally multiple equilibria). By this concept, the factions have complete preference orderings over the policy space, yet can only agree on a partial ordering. This establishes the existence in such a setting of a stable political equilibrium.

Roemer further uses these concepts in a 2011 article on the origins of redistributive taxation where politicians may target core supporters and swing voters through taxes and transfers. Other contributions have also been made to this strand of the literature, for instance through the working papers of Persico et al. (2007) and Panova (2008). The former is particularly interesting in its consideration of a theoretical model of party factions. In this model, the career opportunities of politicians are linked to the success of their local branch, or faction: a team or network of party officials whose fate is determined by the success or failure of their leader, the politician seeking election or re-election. Members of a faction help the politician secure local public spending, which helps his election or re-election chances against a challenger. They do so instrumentally and out of self-interest: if the politician at the faction’s helm gets promoted within the party, so do they. As the politician advances up the party’s hierarchy, the size of his faction increases, as does its clout. It therefore makes it better able to deliver pork barrel in the form of local public spending in the politician’s constituency. The authors thereafter apply their model empirically to the Mexican situation, where the dominant party, the Partido Revolucionario Institucional or PRI, was continuously in power for over 70 years at the federal level. It follows that the party’s structure must have been vastly heterogeneous for it to be so persistent in power, and hugely dependent upon the use of local public spending to win votes. Persico et al. thus go on find evidence of a political budget cycle with regard to the allocation of local water services, and that several of the testable predictions of the model are verified: the persistence of local public good or pork barrel spending, the existence of a stronghold
premium for incumbents, and the link between public spending and political careers.

Finally, other approaches to the question of the internal dynamics of political parties and their choice of policy platforms that are indirectly relevant to Chapter 4, include the works of Bernard Caillaud and Jean Tirole (Caillaud and Tirole, 1999, 2002). These articles generally consider how a party’s internal organization impacts its electoral fortunes, through internal debate (or lack thereof) over policy and how it affects the party’s credibility as perceived by the electorate. The foremost example considered in Caillaud and Tirole (1999) is that of centrist parties. In them, the high degree of congruence between the leadership and the rank-and-file over policy choices leads voters to perceive that the policy is chosen on the grounds of its partisan- and office-seeking appeal, which coincide for centrist policies, rather than its quality. A greater degree of party heterogeneity and debate, characterized by an ideological dissonance between the office-seeking leadership and the partisan base, therefore improves the electoral fortunes of the party in question by signalling disagreement over the merits of populist yet mediocre policies.

Meanwhile, Caillaud and Tirole (2002) ask the question of whether intra-party competition in the form of primaries is beneficial for the party’s fortunes in a general election, by affecting its probability of election. The main trade-offs are here that a primary provides an incentive for politicians to formulate quality platforms, but can hurt the party’s image through too many disagreements between candidates. Intra-party competition can therefore serve as another means of disciplining politicians by making them exert effort in their choice of platform and campaign, thereby complementing the similar effects of inter-party competition, especially when the information available to voters is scarce.

Two recent works by Castanheira et al. (2010a, 2010b) also broach the same themes as that last article by Caillaud and Tirole and build upon it. In particular, the first of their articles, entitled “Party Organization and Electoral Competition”, adds considerations of the challenger party’s organization to electoral competition between the two, modelled after Caillaud and Tirole (2002). Party organization, rather than being exogenous, can therefore here be strategically chosen so as to maximize a party’s probability of election. In the event of weak inter-party competition and imperfect voter information, parties may then choose to favour debate over the choice of a platform by allowing primaries, so as to maximize
exposure. On the other hand, a firm grip on internal processes leading to the appointment of a candidate may be preferable if inter-party competition is more fierce.

2.3 Chapter 5: Normative Analysis with Political Constraints

Chapter 5 both draws from and contributes to the literature on normative public economics and optimal choices of redistributive taxation. It does so by examining how choices of optimal redistributive income tax schedules depend on social norms that determine the extent of societal co-operation concerning work participation. It then asks how such a normative analysis can be conditioned upon a societal consensus concerning work participation. The following paragraphs hence survey the literature on the renewed importance of normative public economics, the formation of social preferences through social norms and customs, the applications of social norms in public economics, and the conditioning of normative analysis on a societal consensus.

2.3.1 The renewed importance of normative public economics

The question of the pertinence of welfare economics, and particularly of normative analysis in public economics, has recently surfaced in the American Economic Review’s 2011 Papers and Proceedings (Atkinson, 2011; Bhagwati, 2011; Friedman, 2011; Shiller and Shiller, 2011) (cf. Introduction). The advocacy of such prominent economists for a renewal of welfare economics reverses previous trends that viewed rather critically normative public economics, one of its branches, especially with respect to its lack of justification for the origins of the social welfare function being used and the basis for interpersonal comparisons of utility, and its lack of regard for political constraints. The falling out of grace of normative public economics had led researchers to favour approaches that accounted for the political feasibility of policy prescriptions (i.e., political economy and other social choice approaches), instead of those focusing chiefly on the strict desirability of such policies.

This renewed relevance of normative public economics, free of rigid political constraints and centered on unearthing the individualistic roots of social objectives, is in line with the fundamental arguments presciently made by Boadway (2002) as to why it should have
remained relevant and free of such shackles. The primary argument made by Boadway for normative public economics’ lack of consideration of political feasibility constraints is that its fundamental purpose is to help choosing between policy options, and even to prescribe options by persuading decision-makers of the merits of certain choices over others. The inclusion of strict political feasibility constraints would therefore do away with discretion in policy-making, and would make much of the policy advice of economists redundant.

Another important point made by Boadway is that restricting policy advocacy is a form of status quo bias, whereby existing stakeholders are favoured: current owners of property rights, for instance. Viewed from an ethical perspective, Boadway argues that this is an unduly politically-conservative form of constraint. With it also comes the realization that political feasibility constraints are different from exogenous technology or information constraints, since they are rather procedural in nature: they are “the consequences of the choice process itself” (p. 56). Finally, on the topic of the relevance of normative analysis and the challenges it faces, Boadway notably mentions the difficulty of achieving societal consensus in making value judgements, and the importance of considering non-welfaristic objectives (e.g., equality of opportunities, capabilities, measures of fairness).

Normative public economics being recently dusted off notably entails that more consideration is being given to the origin, formation and transformation of social preferences at an individual level, thanks to the work of economists drawing from contributions from the fields of morals and ethics, sociology (i.e., social norms and behaviours), evolutionary biology (e.g., the idea of a “co-operative species”), and psychology. The next paragraphs therefore serve to outline the contributions of such recent studies, both in a general sense and in relation to Chapter 5’s analysis. Consideration is also newly being given, as part of this return of normative public economics in the spotlight, to the inclusion of political and societal constraints, with the exception that they are not taken as being immutably binding and constricting policy advice. This literature review hence also presents, last, a survey of the brief literature concerned with societal consensus and the acceptability of social policy.
2.3.2 The formation of social preferences concerning redistribution

In an attempt to find a basis for social welfare objectives, researchers have lately been concerned with their individualistic roots: where from and how do individual preferences for societal outcomes originate. Alberto Alesina (with various co-authors) has written surveys and models concerned with this subject matter (cf. Alesina and Giuliano 2009; Alesina et al. 2009) that trace social preferences for redistribution back to the following individualistic roots: expected future income and social mobility (e.g., prospects for upwards mobility, POUM), an indirect concern for inequality entering the utility function of individuals (i.e., higher inequality affecting the future consumption flow of individuals by lowering potential economic growth, for instance through negative externalities in education, the costs of crime, and lower incentives to work), a direct concern for inequality measured against one’s aversion to it (for instance through a loss function measuring the distance between the actual distribution of income and the desired distribution), an individual concern for fairness (i.e., whether everyone gets their “just deserts” or whether outcomes are mostly attributable to luck), and individual beliefs in the incentive effects of inequalities or lack thereof (e.g., beliefs in the perceived prospects for reward from hard work). Alesina and Giuliano’s empirical analysis of survey responses (from the General Social Survey and the World Value Survey) to questions pertaining to attitudes towards redistribution show that of all the potential underpinnings listed above, the following appear to matter most: POUM; a direct concern for inequality related to religion, race, and culture (cf. infra); and perceptions of fairness.

A direct individual concern for inequality leading to marked social preferences in favour of redistribution was discussed by Alesina and Giuliano as being related to individuals’ religion, race, and culture. Other studies go into more detail with regard to these topics. As to the effect of culture on preferences for redistribution, Luttmer and Singhal (2008) find that more matters than just context: immigrants are found to take with them their own culture’s preferences for redistribution when moving to a different country, without regard for that country’s current context. It is therefore the case that the preferences for redistribution of individual immigrants depend largely and in a statistically significant way upon the average preferences in their country of birth, and differ – again in a statistically
significant manner – from those of native-born individuals in their country of residence.

Meanwhile, with regard to the effects of religion, a recent paper by Ilja Neustadt entitled “Do Religious Beliefs Explain Preferences for Income Redistribution? Experimental Evidence” (2011) shows that the preferences of those more closely identified with religious denominations tend to favour less redistribution. All these findings have important implications for how societal preferences for redistribution may be shaped by immigration waves and degrees of religious fervour, and for the political determination of immigration policies, or policies concerning state secularism and the role of religion in public education.

The empirical work of Corneo and Grüner (2002) is another touchstone in understanding the bases of social preferences towards redistribution. The authors categorize and identify from survey data three effects that explain individual preferences towards redistribution: what they call the “homo œconomicus effect”, that is one’s degree of self-interest, the usual explanation given for preferences for redistribution; the “public values effect”, by which one conforms to what is considered acceptable socially, by way of norms or morals; and the “social rivalry effect”, or how one foresees redistribution as harming one’s relative position in the social ladder (i.e., redistribution as a positional good or bad). All three effects are found to be statistically and economically significant for the determination of an individual’s preferences towards redistribution, which of course runs counter to the strict homo economicus characterization.

In other approaches related to Chapter 5’s concerns, a handbook chapter by Lévy-Garboua, Meidinger, and Rapoport (2006) considers at length the psychological and biological evidence relating to the importance of social norms and other-regarding preferences for redistribution. They identify two different processes that lead to social cognition and the formation of norms of justice and fairness: the identification of the Self with others, by mentally reincarnating in the Other; and the projection of the Self onto others, a weaker process which involves merely imagining how one might behave were she in the Other’s position. It is therefore the case that identification requires better knowledge of the Other, while self-projection merely requires better knowledge of the Self. Such ideas about self-projection date in fact as far back as Adam Smith’s The Theory of Moral Sentiments (1759 (1971)), where it was characterized as deriving “sympathy” for the situation of others.
By way of an example, in a pie-sharing problem where an individual behaves as a benevolent social planner, identification leads to the individual in question taking the perspective of an impartial judge à la Harsanyi, incorporating and respecting the preferences of all others within the limits imposed by informational constraints. In contrast, an individual relying solely on self-projection would, for lack of knowledge about others, universalize her own preferences and other characteristics (e.g., pre-existing wealth), leading to a bias in seeing one’s self-position as normative. These processes have been shown to take place in experimental settings (e.g., Alicke and Largo 1995, Jetten et al. 1996, Frankenberger 2000; all cited by Lévy-Garboua et al. 2006, pp. 575-577), with self-projection alongside some sort of categorization of others with respect to their similarity to oneself (as a way of avoiding mistakes in a redistribution problem such as the aforementioned pie-sharing example) being a frequent result (e.g., Dunning and Hayes 1996, Cadinu and Rothbart 1996, Gramzow et al. 2001; all cited by Lévy-Garboua et al. 2006, p. 577).

Finally, this time with regard to the biological and evolutionary origins of individual preferences for redistribution, the work of Bowles and Gintis (2006, 2011) mentioned in the context of the co-operator’s dilemma and the paradox of participation is also relevant for Chapter 5’s investigations, in the sense that perpetuating co-operative behaviour and punishing defectors who fail to co-operate forms the basis of social preferences. These social preferences are what defines “a concern, positive or negative, for the well being of others, as well as a desire to uphold ethical norms” (Bowles and Gintis 2011 p. 3), ultimately determining redistributive policies.

The next section expands on the literature related to such co-operative behaviour and its relation to social norms by considering specific examples that are relevant to Chapter 5’s inquiries. They include seminal considerations of social norms in economics, as regards problems of involuntary unemployment and tax evasion, as well as more recent applications to both positive and normative questions of redistribution where a work participation decision is involved.
2.3.3 Social norms and their applications

One of the seminal articles on social norms in economics is by George A. Akerlof (1980). The object of his contribution was to explain the prevalence and extent of involuntary unemployment, of which there was no satisfactory theory at the time, on the basis of engrained wage-setting behaviours by firms. As an outcome of his model, a social custom dictating that a “fair” wage be set will result in involuntary unemployment. This state of affairs would not have prevailed if the market-clearing wage could have freely been chosen by employers without leading to the ostracization of workers hired at the market-clearing wage, a result of the already-present employees’ refusal to train them. The costs thus incurred would negate any wage savings by the firms, provided that the prohibition to co-operate in the training of below-fair wage hires be sufficiently obeyed within the worker population.

Among other early applications of social norms in economics was their use to explain the gap between predicted and actual levels of tax evasion, and how social customs matter for explaining the difference. The typical approach supposes that the combination of monetary penalties if caught evading and the probability of being caught, should lead a self-interested and rational individual to choose whether or not to evade taxes, and how much to evade. But this approach – in a manner that parallels the self-interested, median voter-based approaches of Romer (1975) and Meltzer and Richard (1981) to political choices of redistribution, and which underestimate its true extent – fares badly empirically, often leading to an over-prediction of the amount of evasion actually taking place. Alternative approaches were pioneered by Gordon (1989) and Myles and Naylor (1996), and Bordignon (1993). The latter article is based on perceptions of fair treatment by taxpayers, while the former two incorporate social norms in such a way that the others’ tax evasion behaviour affects an individual’s costs of evading, in terms of conformity with accepted social behaviour and reputational damage in the event of getting caught. As a result, the theoretical frameworks of Gordon and Myles and Naylor can explain how it is that some people never evade even though it is a better-than-fair gamble, why it is observed that honest and dishonest groups of taxpayers emerge, and why the realization that others are evading causes one to evade taxes more. In contrast, Bordignon’s article shows that the amount of evasion taking place can
be attributed to the difference between the taxpayer’s current tax burden, and that which is perceived by him to be fair. This fair tax burden is deemed a “Kantian tax” by Bordignon, after his 1990 article on the topic of Kantian behaviour. Whether one then chooses to pay their Kantian tax depends upon reciprocity criteria: how other taxpayers are behaving and expected levels of evasion. The results from Bordignon’s analysis also serve to reconcile the theory with empirical results concerning tax evasion.

Social norms were also applied by economists to work participation decisions, in an attempt to examine how they impact political choices of redistribution. The idea that work disincentives and other forms of moral hazard associated with the redistributive programs of the welfare state could be compounded by changes in social norms, leading to virtuous or vicious cycles of behaviour changes and multiple equilibria, first appeared in the academic literature in Lindbeck (1995). It was later formalized by Lindbeck et al. (1999), Dufwenberg and Lundholm (2001), and Lindbeck et al. (2003), and corroborated empirically by Ljunge (2011). Of these articles, the contribution of Lindbeck et al. (1999) is more closely related to the analysis conducted in Chapter 5. They investigate how a social norm related to participation, expressed as a moral cost of non-participation that increases in the number of participants in the work force, affects the economic incentives prevailing in the welfare state and determines the possible extent of redistributive taxation. Redistributive taxation in this case takes the form of a transfer to the non-workers and a proportional income tax levied on all working individuals. It is found is that the inclusion of the social norm may be conducive to two possible outcomes: which of the two prevails depends not on the form of the social norm, which in theory allows for multiple equilibria, but rather on the exogenous income distribution of society and individual preferences (i.e., either self-interested or exhibiting altruism). It can therefore be that a low-tax, hard-working (i.e., high participation) society prevails for income distributions where the mean income is below the median, while a high-tax, low-participation equilibrium determined by the transfer recipients (a majority) prevails when the mean income is above the median. The analysis conducted in Chapter 5 follows in part Lindbeck et al.’s modelling of the moral costs of being idle, and

Note however that this possibility largely withers away due to the authors’ use of a constraining fiscal instrument coupled with typical budget balance requirements, leaving only an indeterminacy for every possible tax rate as to the size of the transfer and the number of its recipients.
how they affect the extensive margin of labour participation. However, it differentiates itself by its more extensive consideration of the possibility for multiple equilibria in participation, which is achieved by allowing the fiscal instrument to be more flexible. Lindbeck et al. also concern themselves with the political choices of a proportional tax rate and a transfer to the unemployed in a median-voter model, whereas such political economy considerations are not present in Chapter 5’s analysis.

Chapter 5 also draws upon a recent article by Cervellati et al. (2010), likewise concerned with work norms as determinants of redistributive taxation. It considers a median-voter framework where individuals vote on a progressive linear income tax scheme. There are two types of individuals, differing in their productivity only: high- and low-skilled workers, all assumed to be identical within type with regard to preferences for leisure. The work participation decision of each type takes the form a continuous labour supply variable, thereby capturing potentially both intensive and extensive margins of participation. The work norm manifests itself through a parameter representing individual self-esteem. A low self-esteem, brought upon by below-average labour supply, drives an individual to work more by increasing the marginal rate of substitution between consumption and leisure. Furthermore, while self-interest alone (along with self-esteem, and thus the social norm) determines an individual’s labour supply, it is social preferences that underpin the voters’ choice. These take the form of a utilitarian social welfare function embodied by each and everyone, with the welfare weights on each type being a function of their population size and conformism with the work norm.

Two sorts of politico-economic equilibria are deemed to exist: a cohesive equilibrium, characterized by both types fully complying with the work norm, high levels of redistribution, and low inequality, due to the low-skilled (i.e., the poor) not being blamed for their lesser fortunes; and a clustered equilibrium, where the low-skilled fall short of the work norm, redistribution is low, and inequality is high, for the low-skilled are deemed responsible of their fate. In contrast to the work of Lindbeck et al., both equilibria are possible for some non-extreme income distributions, since it is the interaction between the relative productivity of both types (i.e., the income distribution) and the tax rate that determines which equilibrium prevails.
In contrast to the studies previously described, the work of Bénabou and Tirole (2006) does not rely upon the use of a work norm in order to explain the variety of outcomes in political redistribution. Instead, the authors’ desire to explain different attitudes towards redistribution held on the one hand in the United States (i.e., relative laissez-faire), and on the other in most countries of Western continental Europe (i.e., where the welfare state is more developed), leads them to attribute different levels of politically-determined redistribution to various equilibrium beliefs of the returns to work effort. They characterize the equilibrium beliefs consistent with low- and high-redistribution outcomes respectively as “belief in a just world” (BJW) and “realist pessimism” (RP). The former is produced by cognitive dissonance, a subconscious phenomenon first documented by psychologists by which facts and signals that do not fit a certain prior world view are suppressed. This means here those facts that contradict the prior belief that there are high returns to effort. BJW is therefore characterized by a low level of recall of bad signals, an equilibrium belief in a high return to effort, a high level of effort, and low redistribution since economic outcomes are chiefly attributed to effort rather than luck. In contrast, a higher recall of the signals pointing in the direction of a low return to effort leads to RP, where beliefs are consistent with this low return to effort, effort is in turn low, and redistribution is high since outcomes are deemed to depend more on luck than effort.

Finally, Chapter 5 is concerned with the characterization of optimal taxation in the presence of a social norm affecting the extensive margin of participation. It is therefore related to a recent article by Aronsson and Sjögren (2010) that considers a similar problem, although with different work norms, and a set-up that allows for intensive margin responses. The novel aspect of their work primarily lies in the implications for redistributive taxation of the interaction between a participation norm (dependent on whether one is active or not) and an average hours of work norm. In contrast, Chapter 5 centers on the effects of a participation norm for the potential scope for redistribution and corresponding societal co-operation. This clearly differentiates their main contribution from ours.
2.3.4 Societal consensus and the acceptability of policies

One of Chapter 5’s overarching goals is to find ways of making a social planner’s objective function reflect the social preferences of the individuals composing society, or at the very least finding a way of eliciting a greater degree of co-operation within the population with the planner’s objectives. Very little work exists that is concerned with finding a way to reconcile political economy approaches with the tools and objectives of normative public economics, by fostering societal consensus and broadening the scope of policies being considered – including some that would be otherwise be ruled out by simple, overly deterministic political choice rules.

One exception is the work of Winer et al. (2010), who define a measure of social coercion that results from the choice of collective goals (in their case, a pure public good) financed through an income tax scheme. This coercion corresponds to “the difference between [a] person’s utility under what he or she regards as appropriate treatment by the public sector, and the utility that he or she actually enjoys as a result of its operation” (p. 4). What serves as a counter-factual hypothesis for the appropriateness of treatment is the so-called “individual-in-society” treatment. This specifies by how much, given taxation rates and the corresponding implicit price of the public good, the individual would like to adjust the quantity of the public good being provided and thus select a level of provision that maximizes individual utility. The difference in utility between the planner’s solution and the individual-in-society treatment is deemed to be a measure of coercion, which can be in turn used as a constraint on the planner’s problem in choosing the optimal provision level of the public good. Accounting for the aggregate level of coercion in the social planning problem is therefore somewhat akin to evaluating the extent to which normative policy suggestions are consensual or not.
Chapter 3

The Influence of Special Interests and Party Activists on Electoral Competition

3.1 Introduction

This chapter examines the implications of parties relying on both volunteer labour and monetary contributions to engage in electioneering activities, which serve to persuade voters. It also investigates the consequences of a documented decline in high-intensity participation, or party activism, on the influence of special interests in the determination of electoral policy platforms. It asks whether such influence increases, and what are its consequences for voter welfare. It then considers normative prescriptions for electoral financing laws.

This analysis serves to highlight the role of party activists in enticing parties to offer differentiated platforms. The existence of “policy cleavages” (that is, parties offering differentiated policy platforms in equilibrium) attributable to activists, while previously documented, is newly shown to resist a decline in party activism stemming from demand-side factors, this in the presence of a special interest with a converging influence. The novelty of this chapter’s approach is also to jointly consider monetary and non-monetary contributions to the electioneering activities of parties, respectively provided by a special-interest
group and party activists, and how they differently affect policy platform choices in a model of electoral competition. This happens through the trade-offs associated with catering to voters at large, and to the contributors specifically. Finally, this chapter also emphasizes the role of both special interests and activists in distorting the choice of electoral policy platforms, and how normative policy responses (e.g., electoral financing laws) must strike a balance between both influences.

This enquiry is generally motivated by the role of parties in efficiently aggregating the preferences of voters, in part through collective action, and thus being instrumental to the efficacy of the electoral system (cf. Riker, 1953) in circumventing problems of social choice (cf. Arrow, 1951). Other vehicles used for aggregating preferences, such as interest groups, are to this end not nearly as efficient as parties, and may therefore lead to strong imbalances in the way that policy choices are made. Specifically, the power of certain special interests in shaping the political agenda to suit their objectives might be heightened as a result of a decline in party activism, to the detriment of parties seeking broad mandates from the electorate. That is, parties choosing electoral policy platforms that cater to the median voter’s tastes rather than to the fringes.

High-intensity participation is precisely defined as the volunteering of labour for participation in a political party’s policy-determination and electioneering activities. These respectively include (but are not limited to) spending time attending party policy meetings and conventions, and canvassing voters. (In contrast, low-intensity participation includes activities such as displaying party posters or signing a petition supported by the party.)

In a comparison of panel surveys of party participation for the British Labour Party between the years 1990 and 1999, Whiteley and Seyd (2002, p. 99) find a large reduction in the time volunteered for the party by the average member. This is compounded by the fact that the proportion of inactive party members increased from 51% to 65% over a ten-year period, a trend mirrored by a decrease in the proportion of members volunteering up to 5 monthly hours from 30% to 22%, as well as for those volunteering 5 to 10 hours (10% to 7%), and 10 to 20 hours (6% to 3%).

1 The only exception being those members volunteering more than 20 hours per month, which was stable at 4%. However, as this includes many elected representatives Whiteley and Seyd conjecture that “for them activism could only be reduced by stepping down from elected office altogether.” (2002, p. 99)
1990 to 1992 for the British Labour Party, and from 1992 to 1994 for the British Conservative Party) leads the authors to more specifically pinpoint areas where the disaffection of party members was the greatest: while participation in low-intensity activities was increasing, the proportion of party members who attended a party meeting or canvassed voters on behalf of the party was declining. These trends, while present in both parties, were also more acutely noticeable in what was arguably the more “popular” (in the grassroots sense of the term) of the parties, Labour.

Both empirical evidence, exemplified by the stylized facts above, and theoretical research have led many political scientists (e.g., Panebianco, 1988; Kavanagh, 1995, 1998; Weir and Beetham, 1999) to claim that the days of mass parties, relying on large numbers of members to perform electioneering work, are over: in sum, that demand-side factors primarily explain the decline in activism. Suggestions of new types of parties, such as the “electoral-professional” party, have since been put forward. This particular view, pioneered principally by Panebianco (cited by Whiteley and Seyd, 2002, p. 31), emphasizes that the modern party relies increasingly on professional staff (e.g., pollsters, fundraisers, advertisers, etc.) to wage election campaigns, thus largely dispensing itself from a previous dependence on large numbers of highly active volunteers.

Others, such as Whiteley and Seyd, argue on the contrary that activist labour is now just as crucially needed for parties to win elections, as it still cannot be (perfectly) substituted for remunerated labour.

Further surveys of party members have attempted to determine why high-intensity participation has fallen so. The results are such that while both demand- and supply-side factors (i.e., a decline in the activists’ motivation and the incentives that they face) play a certain role in explaining the decline, it is not possible to split the difference. Or, as summarized by Norris (2007, p. 635):

The British studies have concluded that the pressure on people’s time has made

---

2"It is certainly the case that electioneering in constituencies now involves a wide range of labor-saving devices, including opinion polling, telephone canvassing, direct mail shots, and electronic mail communications. [...] Nevertheless, the role of local activists remains important, even in the case of the nationally targeted marginal constituency campaigns, because their skills cannot be entirely purchased.” (Whiteley and Seyd, 2002, p. 32, emphasis added)

3Many notable examples concerning the United Kingdom can be found at: [http://www.esds.ac.uk/](http://www.esds.ac.uk/)
party activism less desirable while, on the demand side, the major parties have less need for volunteers as fund-raisers and campaigners, reducing the incentives they offer to join.

The present chapter’s detailed methodology and results are as follows. The analysis focuses exclusively on the electioneering use of party activists, and considers how parties relying on both activist labour and monetary contributions from a special interest choose equilibrium electoral policies. Electoral competition follows the lines of the spatial, unidimensional Downsian model (cf. Downs, 1957; Enelow and Hinich, 1984; Mueller, 2003), with two parties seeking to maximize votes. As in Baron (1994) and Grossman and Helpman (1996), voters are in part informed and in part uninformed, and electioneering resources are used to convince the latter portion of voters. Parties are therefore constrained in their vote-maximizing behaviour by the resources amassed. Finally, activists are themselves endogenously recruited from the population of informed voters by the parties’ policy choices.

In the most general version of the model with both a special interest and activists, the game is played in such a way that the parties simultaneously move first by making their choice of policy, anticipating the special interest’s contributions and the activist support which are conditioned upon that choice. The special interest and activists simultaneously move second, having observed the policy platforms of both parties. The special interest decides how much to contribute to parties; activists individually decide whether to participate or not, and to what extent. Finally, the election is held, and the game ends.

The first political equilibrium derived is a normative benchmark, with which others are then compared: the case of unbiased political competition where there are no activists, and no special interest. Three other cases are then considered: first, the basic case where only one special interest is present; second, where only activists are present; and third, where both the special interest and activists are present. An analysis involving comparative statics and voter welfare comparisons finally drives the chapter’s conclusions.

The chapter’s normative benchmark, unbiased political competition, yields the expected result: a convergence of policy platforms to the median voter’s ideal policy, which maximizes voter welfare for it coincides – by design – with the optimal policy choice of a utilitarian
social planner.

With the introduction of a special interest, parties vie for electioneering resources. Their equilibrium policy platforms converge to the special interest’s ideal policy point so as to maximize these resources, provided that their effectiveness and the proportion of uninformed voters are sufficiently high. This imposes a distortion on the electoral process, with a consequent decline in voter welfare relative to the benchmark (i.e., the utilitarian social planner’s choice of policy), unless the special interest’s preferences over policy coincide with the median voter’s.

When only activists are considered, a similar conclusion is reached: their presence distorts the electoral process, generally leading to differentiated equilibrium platforms as parties seek their volunteer labour contributions. These policy cleavages impose a cost in terms of ex-ante expected voter welfare. This is so unless the efficacy of electioneering resources is sufficiently low, in which case party platforms converge to the median voter’s ideal point, and voter welfare matches the utilitarian social planner’s optimum.

In the case where both activists and the special interest can provide parties with electioneering resources, then parties offer differentiated platforms in equilibrium. These policy cleavages generally persist as high-intensity participation declines due to demand-side factors. Furthermore, equilibrium policy platforms are more susceptible to be influenced by the special interest as electioneering inputs become more substitutable. Supply-side factors also add to the picture, such that a decline in participation due to both demand- and supply-side factors undoubtedly increases special-interest influence on policy.

While this chapter finds that declining party activism can increase special-interest influence on policy, its effect on voter welfare is however ambiguous. This is because two distortions, activists and the special interest, simultaneously affect the process of electoral competition. It is found that whenever the special interest has an ideal policy that is more (resp. less) extreme than either of the equilibrium platforms offered by parties when relying only on activists, its influence decreases (resp. increases) welfare.

Hence, when both demand- and supply-side factors are at work together, then special-interest influence on policy increases with the decline in participation. The normative question posed can also be answered: starting from the premise that special-interest influence
diminishes voter welfare, for instance, a decline in high-intensity participation then increases
the incentive to limit large monetary contributions to campaigns through the use of electoral
financing laws.

In its consideration of party activism, the present chapter draws particularly from the
brief economic literature on the matter. With regard to the motivations underlying the
activists decisions, two articles by John Aldrich (Aldrich, 1983a, b) are particularly seminal as
they seek to establish a “calculus of participation”, made to resemble Riker and Ordeshook’s
1968 “calculus of voting”. Those articles, as well as those of Poutvaara (2003) and Mueller
(2007), find that activists cause policy cleavages between parties, whenever parties care
about their motivation. The present chapter’s findings both mirror and strengthen these
results, by showing that it holds even in the presence of a special interest lobby, and as the
participation of activists declines.

The chapter’s focus on activism also relates it to seminal works on the topics of individual
behaviour within organizations, and collective action. The former topic is best epitomized by
the work of Hirschman (1970). Due to the lack of co-ordination between individual activists,
they have limited means of pressuring a party in yielding to their demands: their only paths
of action are thus “voice” (i.e., expressing one’s discontent while still remaining loyal to the
organization) and “exit” (i.e., withholding the supply of one’s labour to the party, or leaving
the party altogether). Exit is, in “true” economist fashion, the only option formally modelled
in this chapter, as voice would require considering the policy-making activities of activists.

With regard to the latter topic of collective action, the current chapter is indebted to
the work of Olson (1965). In it, he first described the failure to provide members of an
organization with a collective benefit due to free-riding, when participation is voluntary. In
the most general sense, this collective benefit would be “the furtherance of the interests of
their members” (Olson, 1965, p. 5); in the case of activism it consists of a set of commonly-
held policy objectives, the benefits of which cannot be limited to those party members who
are involved in high-intensity participation. Later works, particularly in political science
(cf. Granik, 2005 for a survey of this literature), set about attempting to reconcile Olson’s

\footnote{Note that these are not limited to monetary gains: the sheer fact that a policy is implemented yields utility to those who approve of this choice.}
rational approach to voluntary participation in collective organizations with the high levels of participation observed in practice, which clashed with the predicted extent of free-riding in such organizations. These build on the rational model of participation à la Olson, but also other traditions that introduce useful sociological and psychological aspects that the rational choice model lacks, culminating in the all-encompassing general incentives model of participation (Whiteley and Seyd, 2002, pp. 51-57), which is elaborated upon in due time (cf. Subsection 3.4.1 on page 61). This chapter also makes use of the behavioural political and economic literature on collective enterprises, and the view that agents exhibit “calculating Kantian” behaviour (cf. Finkel et al., 1989; Finkel and Muller, 1998; Bordignon, 1990, 1993).

Finally, the present chapter is related and contributes to the literature on campaign financing and its regulation, which notably includes two works on party financing laws by Stephen Coate (Coate, 2004a,b).

The chapter has seven sections (plus appendices), including the introduction. Section 3.2 considers the benchmark model, Section 3.3 considers what happens when the benchmark model is augmented with special interest only, while Section 3.4 does the same with activists only. Both are then jointly considered in Section 3.5. Implications of the decline in high-intensity participation for special-interest influence and welfare, as well as for the design of electoral laws, are then discussed in Section 3.6. Finally, a detailed summary of the chapter’s results, and possible extensions form its conclusion in Section 3.7.

### 3.2 Political competition: benchmark

#### 3.2.1 The voters

Voters are denoted by subscript $i$, and are of mass $V$, which is normalized to $V = 1$. They have unimodal (i.e., single-peaked) preferences over policy, with their individually-preferred policy (i.e., their “bliss point”) denoted by $v_i$. Policy is constrained over the policy space $X = [0, 1]$, and so is $v_i, \forall i$. The voters’ bliss points are uniformly distributed over the policy space. The voters’ heterogeneity in preferences can be interpreted broadly to represent
different ideologies\textsuperscript{5} or more narrowly to mean preferences over a single policy variable. Their utility functions are thus given by:

\[ U_i(x_P) = 1 - (x_P - v_i)^2 \]  

where \( x_P \in X \), \( P \in \{L, R\} \) is the policy chosen (and eventually implemented should the election be won, assuming full commitment) by each of the Left and Right parties. Everyone votes by assumption, so as to simplify further the analysis\textsuperscript{6}.

Voters differ in their access to information. Let \( \iota \in (0, 1) \) denote the proportion of voters that are informed: they can fully observe the policies chosen by each party, and thus make an informed choice as to whom to vote for. Informed voters cast a ballot thus, where \( \pi_{iL} \) denotes the probability for voter \( i \) of voting for party \( L \) (i.e., \( \pi_{iR} = 1 - \pi_{iL} \)):

\[
\begin{align*}
U_i(x_L) > U_i(x_R) \implies \pi_{iL} &= 1 \\
U_i(x_L) = U_i(x_R) \implies \pi_{iL} &= 1/2 \\
U_i(x_L) < U_i(x_R) \implies \pi_{iL} &= 0
\end{align*}
\]

The pivotal voter, among those who are informed, has bliss point \( \hat{v} \), and is indifferent between both parties (i.e., votes for either with probability 1/2):

\[
\hat{U}(x_L) = \hat{U}(x_R)
\]

\[
1 - (x_L - \hat{v})^2 = 1 - (x_R - \hat{v})^2
\]

\[
\hat{v} = \frac{x_L + x_R}{2}
\]  

This corresponds to the midpoint between both parties’ positions. Since voters are uniformly distributed (and both informed and uninformed voters are assumed to retain the distributional properties of voters as a whole), the proportion of informed votes received by party \( L \) is \( \hat{v} \) when \( x_L \neq x_R \), since everyone with ideal point \( v_i < \hat{v} \) is closer to the Left party’s position. When party platforms converge, all informed voters have the same probability of

\textsuperscript{5}Characterized over some bundle of policies, under very strong aggregation assumptions.

\textsuperscript{6}This could also be thought to represent exogenously the voters who actually turn up at the polling booth, without any concern for what motivates them to do so.
voting for either party.

Proportion $1 - \iota$ of voters, on the other hand, cannot appreciate where the parties are located on the policy space, but can nonetheless observe party labels. In the absence of persuasive influences in the form of electioneering activities, and on the basis of their underlying distribution, their votes thus split equally between parties along the midpoint of the policy space. In a manner similar to Baron (1994) and Grossman and Helpman (1996), some proportion of uninformed voters is ultimately swayed to vote for one party over the other by virtue of the electioneering activities of both. The proportion of uninformed votes received by party $L$ can consequently be represented by the following reduced-form equation:

$$\frac{1}{2} + h \cdot (S_L - S_R) \in [0, 1]$$

(3.3)

where $S_L$ and $S_R$ denote the resources deployed by each party to convince voters, and $h > 0$ is an efficacy parameter.

3.2.2 The parties

There are two parties, labelled by $L$ to denote the Left party, and $R$ to denote the Right party. Both parties are (constrained) vote maximizers, in accordance with what the literature on electoral competition usually assumes. That is, they freely choose their platforms given the distribution of the electorate’s preferences (known to both parties) so as to gather the most support. This serves the purpose of guaranteeing that a certain ideological agenda is implemented, or because of the link between plurality of votes and patronage appointments, as outlined in Grossman and Helpman, 1996, p. 269.

No other constraints apply to the parties’ choice for the time being; there is here no possibility for electioneering activities since the resources required are non-existent. The proportion of votes received by party $L$ is generally given by:

$$\Pi_L = \iota \left( \frac{x_L + x_R}{2} \right) + (1 - \iota) \left( \frac{1}{2} + h \cdot (S_L - S_R) \right)$$

(3.4)

For a discussion of other objectives that might be motivating parties, as well as how strategies optimally chosen by parties may not generally coincide when they maximize expected vote share and the probability of victory, refer to Aranson, Hinich, and Ordeshook (1974) or more recently to Patty (2007). Conversely, the Right party receives proportion $\Pi_R = 1 - \Pi_L$. 

53
which here reduces to:

\[ \Pi_L = \varpi \left( \frac{x_L + x_R}{2} \right) + (1 - \varpi) \left( \frac{1}{2} \right) \]

Given the above assumptions, this is a classic Downsian political competition situation, with both parties offering identical platforms that correspond to the median voter’s preferred level of provision, and having in turn an equal chance of being elected. This is formally shown in the subsections that follow.

### 3.2.3 Timing of the game

In this most simple case, the timing is as follows:

1. The political parties simultaneously choose and announce policy platforms to the electorate.

2. The election is held and voters cast a ballot for their preferred party, with informed voters basing their choice on the policy platforms announced, and uninformed voters splitting equally between parties.

The game is solved by backward induction.

### 3.2.4 Subgame-perfect Nash equilibrium

**Definition 3.1.** A subgame-perfect Nash equilibrium in this game is a set of policy platforms for both parties, \( \{ x_L^*, x_R^* \} \), such that:

- each party’s chosen platform maximizes votes given the other party’s chosen platform;

- informed voters cast a ballot for the party whose policy platform maximizes their utility, and uninformed voters split equally between parties.

Here, uninformed voters cannot be swayed towards one party over the other by means of electioneering resources, their vote splitting equally between both parties. Among informed voters, the median voter is here pivotal, which was demonstrated as early as Black (1948), and most compellingly discussed by Downs (1957). In this form of Hotelling (1929) competition, the constrained vote-maximizing platforms are for both parties to adopt the principle
of minimum differentiation: both converge towards the middle of the political spectrum, and offer identical platforms so as to split the vote equally. This leads to the proposition below.

**Lemma 3.2.** In equilibrium, the policy platforms chosen by both parties are:

\[ x^*_L = x^*_R = \frac{1}{2} \]

By the standard Hotelling argument, there is no profitable deviation from the above platforms, since any deviation causes the pivotal voter to shift to the midpoint between the two parties, and thus results in a loss in support for the deviating party.

**Proof.** See Appendix A.2.1 on page 235 or [Hotelling (1929)].

### 3.2.5 The utilitarian planner’s optimum: the efficiency of electoral competition

This result also happens to show (by construction) the optimality of unbiased electoral competition: the equilibrium platforms coincide with the optimal choice of a utilitarian social planner. To see this, consider the following utilitarian social welfare function:

\[ W(x) = V \cdot \int_0^1 U_i dv_i \quad (3.5) \]

The planner’s problem is to maximize this function with respect to \( x \). This yields, with \( V = 1 \):

\[ \max_x W(x) = \int_0^1 \left( 1 - (x - v_i)^2 \right) dv_i \]

The solution to the problem’s first-order condition (henceforth referred to as FOC) is \( x^{SO} = 1/2 \), the median voter’s preferred platform. Total welfare at the optimum is:

\[ W(x^{SO}) = \frac{11}{12} \quad (3.6) \]

This constitutes the chapter’s normative benchmark, with which the equilibria that follow are compared.
3.3 Political competition with a special interest

3.3.1 The special interest

The portrayal of political competition using the Downsian model above is highly stylized and idealized. This is justifiable because it serves as a normative benchmark. In reality, various organized groups try to sway political parties towards their desired position by contributing to their campaigns. Political parties in turn rely on such contributions to wage their campaigns: electioneering activities are funded by these contributions. To analyze such considerations, one must start by specifying the special interest’s objective function.

The special interest’s utility is unimodal in \( s \). Both parties are assumed to be aware of the special interest’s bliss point, and thus are deemed to be able to anticipate how its contributions to the other party also depend on their own party platform in relation to \( s \).

The special interest has here primarily an electoral motive: it seeks to bring to power the party whose platform is closest to its bliss point. Its objective function is to maximize expected utility from the chosen policy platforms relative to \( s \), net of the costs of contributions. These are assumed to have strictly convex (quadratic) utility costs. The special interest’s objective function is given by:

\[
\max_{C_L,C_R \geq 0} E(U_s(x)) = \Pr(L)U_s(x_L) + \Pr(R)U_s(x_R) - \frac{1}{2}(C_L^2 + C_R^2)
\]

where

\[
\Pr(L) = \Pi_L, \Pr(R) = \Pi_R, U_s(x_P) = 1 - (x_P - s)^2
\]

A specific function, which corresponds to the proportion of votes received by each party, is chosen to represent the special interest’s subjective probability of each party winning the election and implementing its policy platform. Ceteris paribus, it is continuous and monotonically increasing in the contributions promised by the special interest to one given party. This functional form is chosen because it reflects the rational expectations of the special interest in the presence of full information, as well as for its tractable nature. That the function is smoothly increasing in the proportion of votes received, rather than sharply so after one party obtains proportion 50% +1, could denote the special interest’s perception...
of the legislative hurdles to implementing certain policies.

### 3.3.2 Timing of the game

The following timeline illustrates how the game is played out:

| 1: Parties | 2: Special interest | 3: Election |

1. The political parties simultaneously choose and announce policy platforms to the electorate and the special interest, based on the latter’s anticipated contributions to both parties.

2. The special interest chooses which party to give to, and the level of its contribution.

3. The election is held and voters cast a ballot for their preferred party, with informed voters basing their choice on policy platforms, and uninformed voters on the electioneering resources deployed by both parties.

### 3.3.3 Subgame-perfect Nash equilibrium with a special interest

**Definition 3.3.** A subgame-perfect Nash equilibrium in this game is now a set of policy platforms for both parties, \( \{x^*_L, x^*_R\} \), and a set of contributions for the special interest, \( \{C^*_L, C^*_R\} \), such that:

- each party’s chosen platform maximizes votes given the other party’s chosen platform, and subject to the optimal contributions made by the special interest;

- similarly, the special interest’s contributions maximize its net expected utility, given the parties’ optimal choice of policies;

- informed voters cast a ballot for the party whose policy platform maximizes their utility, with uninformed voters splitting according to the electioneering resources deployed by both parties.

In order to find the subgame-perfect Nash equilibrium, let us proceed by backward induction.

The special interest’s choice of contributions are determined by the following problem, taking as given the platforms previously chosen by parties:
\[
\max_{C_L, C_R} E(U_s) = \Pi_L \cdot (1 - (s - x_L)^2) + \Pi_R \cdot (1 - (s - x_R)^2) - \frac{1}{2}(C_L^2 + C_R^2)
\]

s.t.
\[
\begin{align*}
\Pi_L &= \iota \left( \frac{x_L + x_R}{2} \right) + (1 - \iota) \left( \frac{1}{2} + h \cdot (C_L - C_R) \right) \\
\Pi_L &= 1 - \Pi_R \\
C_L &\geq 0 \\
C_R &\geq 0
\end{align*}
\]

with and \( \theta_L, \theta_R \) being the Lagrangian multipliers on the positivity constraints.

The special interest’s problem has the following FOCs with respect to both variables of interest, \( C_L, C_R \):
\[
\begin{align*}
\frac{\partial L_s}{\partial C_L} &= (1 - \iota) h \left( (x_R - s)^2 - (x_L - s)^2 \right) - C_L^* + \theta_L^* = 0 \quad (3.7) \\
\frac{\partial L_s}{\partial C_R} &= (1 - \iota) h \left( (x_L - s)^2 - (x_R - s)^2 \right) - C_R^* + \theta_R^* = 0 \quad (3.8)
\end{align*}
\]

Solving this system of equations yields the following optimal policy-contingent contributions:
\[
\begin{align*}
C_L^*(x_L, x_R) &= 2h (1 - \iota) (x_R - x_L) \left( \frac{x_R + x_L}{2} - s \right) + \theta_L^* \geq 0 \quad (3.9) \\
C_R^*(x_L, x_R) &= 2h (1 - \iota) (x_R - x_L) \left( s - \frac{x_R + x_L}{2} \right) + \theta_R^* \geq 0 \quad (3.10)
\end{align*}
\]

with \( \theta_L^* \geq 0, \theta_R^* \geq 0 \).

The parties’ choice of platforms, subject to resource constraints and correctly anticipating the special interest’s contributions, are this subsection’s next preoccupation. It is assumed throughout, for simplicity, that there are no diminishing returns to electioneering resources. First, Party \( L \) faces the following optimization problem:
\[
\max_{x_L} \Pi_L = \iota \left( \frac{x_L + x_R}{2} \right) + (1 - \iota) \left( \frac{1}{2} + h \cdot (S_L - S_R) \right)
\]
s.t.

\[ S_L = C_L^*(x_L, x_R) \]
\[ S_R = C_R^*(x_L, x_R) \]

while party \( R \) has the following problem:

\[ \max_{x_L} \Pi_R = 1 - \Pi_L \]

s.t.

\[ S_R = C_R^*(x_L, x_R) \]
\[ S_L = C_L^*(x_L, x_R) \]

This leads to the following proposition.

**Proposition 3.4.** The subgame-perfect Nash equilibrium of the game with a special interest is such that both parties’ policy platforms converge to the special interest’s favoured point, \( s \), provided that the efficacy of electioneering resources exceeds a certain threshold, \( h \geq \tilde{h} \). Otherwise, the median voter outcome prevails. The special interest offers both parties contributions of zero in equilibrium, since their platforms converge. Both parties invariably get share \( 1/2 \) of the vote.

**Proof.** First consider \( x_L^* = x_R^* = s \) as an equilibrium. For it to be a subgame-perfect Nash equilibrium, it must be that no profitable deviations exist, that is: \( \Pi_L(x_L, x_R^*) \leq \Pi_L(x_L^*, x_R^*) \forall x_L \), and similarly for \( \Pi_R = 1 - \Pi_L \forall x_R \).

Now suppose not, that is suppose that there exists \( x'_L \) such that \( \Pi_L(x'_L, s) > \Pi_L(s, s) \). Precisely, assume that \( s > 1/2 \) such that \( x'_L = s - \epsilon, \epsilon > 0 \). (The proof is symmetric for \( s < 1/2 \) and \( \epsilon < 0 \).) It must then be that:

\[ \Pi_L(s - \epsilon, s) = \iota \left( s - \frac{\epsilon}{2} \right) + (1 - \iota) \left( \frac{1}{2} - h^2 (1 - \iota) \epsilon^2 \right) > \frac{1}{2} = \Pi_L(s, s) \]
This reduces to:

\[ h^2 < \frac{\ell (s - \frac{1}{2} - \frac{\epsilon}{2})}{(1 - \iota)^2 \epsilon^2}, \forall \epsilon \in (0, 2s - 1] \]

\[ \iff h < \tilde{h} = \sqrt{\frac{\ell (s - \frac{1}{2} - \frac{\epsilon}{2})}{(1 - \iota)^2 \epsilon^2}}, \forall \epsilon \in (0, 2s - 1] \]

It follows that whenever \( h \geq \tilde{h} \), a contradiction results such that there does not exist a profitable deviation. Conversely, whenever \( h < \tilde{h} \), the only stable equilibrium is the median voter’s outcome.

Proposition 3.4 emphasizes the special interest’s influence motive and, moreover, its effectiveness in peddling influence whenever the efficacy of electioneering resources exceeds a certain threshold. It is a stark result: parties both choose to adopt the special interest’s ideal policy in equilibrium, without any monetary compensation. This is so for deviating triggers a loss in uninformed votes which cannot be outweighed by the gain in informed votes.

Conversely, whenever the efficacy of electioneering resources is low enough, a deviation from the median voter’s position causes a greater loss in informed votes than the resulting gain in uninformed votes, thus ensuring the stability of the median voter equilibrium.

### 3.3.4 Welfare implications

The implications of Proposition 3.4 for voter welfare obviously depend on the location of the special interest. As for the combined welfare of the voters and of the special interest, it should not particularly be relevant to a social planner: the special interest weighs very little relative to the mass of voters, as it only represents a duplicate of a single voter’s bliss point, of which there are a multitude. (The explicit weighting of the special interest relative to voters is considered in Appendix A.1.1 on page 233) Let us thus solely focus on voter welfare, which is again:

\[ W(x) = \int_0^1 \left(1 - (x - v_i)^2\right) dv_i \]
Replacing $x = s$, and integrating yields:

$$W(s) = \left(\frac{2}{3} + s - s^2\right)$$

(3.11)

The special interest’s presence cannot increase voter welfare: it can at most match what a benevolent social planner would achieve, provided that $s = 1/2$, or that the efficacy of electioneering resources is sufficiently low.

In effect, the electoral equilibrium with a single special interest is characterized by a welfare transfer from voters to the special interest, whenever $s \neq 1/2$. These findings are summarized in Proposition 3.5.

**Proposition 3.5.** For all $s \neq 1/2$ and $h \geq \tilde{h}$, voter welfare is reduced compared with the utilitarian social planner’s choice of policy. Owing to the distortion imposed by the introduction of a special interest, the efficiency of electoral competition is thus compromised, leading to a second-best equilibrium which only coincides with the first best when $s = 1/2$.

### 3.4 Political competition with activists

Let us now turn to activists, their effect on the parties’ pursuit of electioneering resources, and ultimately on policy. This section first presents the general incentives model used by political scientists to explain trends in activism: its relevance to this chapter’s analysis is also highlighted. It then formalizes the participation and intensity-of-participation decisions of potential activists (respectively, the extensive and the intensive margin of participation), here limited to the subset of informed voters. Finally, an electoral equilibrium with only activists is found, and both comparative statics and a welfare analysis are performed.

#### 3.4.1 Trends in activism, and the general incentives model

Whiteley and Seyd (2002) make use of the general incentives model of high-intensity participation, a synthesis of the rational choice and the social-psychological approaches for explaining participation in collective organizations. This model includes policy goals as an incentive to participate. These are classified as “collective goods” due to the propensity
of inactive members and party supporters at large to benefit from the monetary and psychic gains that result from the adoption of the desired policies. This non-excludability of collective benefits from policy underlies the interest of individuals in free-riding on the contributions of highly active members. And for the latter class, perceptions of political efficacy thus matter insofar as high-intensity participation motivated by policy goals is concerned.

Due to the free-riding problem and the weak link between effort and benefits that typically characterizes policy goals in the rational model (Olson, 1965), selective incentives are included in the general incentives model to motivate individual activist participation. They fall into three categories: 1) process incentives, which are derived from the process of participation itself, either a) through the enjoyment of politics for its own sake or b) through meeting similar people; 2) ideological incentives: it can generally be claimed that ideological radicalism increases active political involvement; and finally, 3) outcome incentives: whereby one achieves some personal and professional advancement, for instance by becoming a member of parliament or a high-ranking party official. Also included are perceptions of costs, especially the opportunity cost of the time spent volunteering.

Whiteley and Seyd note that survey data over time point that nearly all of the types of incentives included in the general incentives model have evolved in a way that would imply a decrease in participation. This is most notable with respect to selective incentives, and with the perception of political efficacy. Seyd and Whiteley (2002, p. 109, emphasis added) conclude that declining incentives to participate are responsible for the decline in party activism, and state starkly:

Compared with 1990 members are currently less likely to feel that they influence politics, less likely to enjoy politics for its own sake, less likely to be politically ambitious, less likely to think of themselves as participants in a great social movement, and, above all, less likely to be strongly attached to the party. [...] It is apparent that a decline has taken place in the incentives for activism among long-standing party members as well as the relative newcomers. This evidence suggests that the activist base of Labour party politics, and possibly British party politics as a whole, are in decay, and in the long run this does not augur well for democracy.

---

9 Due to the model’s static character, thereby restricting the very possibility of outcome incentives to rationally motivate participation, the focus will be on the former two.

10 Group incentives, expressive incentives, and social norms (Seyd and Whiteley, 2002, p. 106) are other considerations included in the general incentives model, but that do not enter this chapter’s analysis.
These conclusions can be generalized to the British Conservative Party, as shown by the findings contained in Whiteley and Seyd (2002), thus dispelling any of the ambiguities that the last part of the quote above may contain.

The subsections that follow model activism in a way that goes beyond the rational approach, by making use of general incentives model and notions of collective rationality. This is specifically done by including process incentives and a different notion of political efficacy based on calculating Kantian behaviour, and particularly considering the latter’s effect on participation.

3.4.2 The decision to become an activist: extensive and intensive margin considerations

Extensive margin considerations

The extensive margin decision on the part of potential activists can be thought of consisting of two stages: the first stage, the entry decision (where a cost of entry, $c$, is incurred); and the second stage, the decision for which party to volunteer one’s time (Figure 3.1 on page 63). Benefits at each node correspond to the net expected utility from being active in either party (denoted by $A_L$ or $A_R$), or staying put (denoted by $I$, for inactive). Only informed voters may become activists: each informed voter either becomes an activist for a single party, or stays put.

**Figure 3.1: The entry decision, followed by which party to be active in**

In consequence, someone who does not have marked preferences for one party over the other is unlikely to become active in either party. One should therefore expect to find three
well-defined intervals of the policy space over which the informed voters are (going from left to right) either active for party \( L \), inactive, or active for party \( R \). As in the population, party activism would be the preserve of the more intensely-motivated informed voters: those who are more radical with respect to certain policy goals, and who also have more to gain in terms of social interaction benefits, conditionally on the party members not being too diverse in their opinions and other characteristics. This is illustrated in the figure below (Figure 3.2 on page 64).

![Figure 3.2: Ranges of activists for both parties, drawn from the informed voters’ ideal points over the policy space \( X = [0, 1] \).](image)

**Intensive margin considerations**

If one adds considerations of the intensive margin to the above discussion, that is the extent of the activist’s involvement in the party of his choice, then one can set about finding aggregate activist volunteer labour supplies for both parties. This can be obtained by determining the activists’ individual choice of labour supply (or effort), and summing them up over the range of activists for each party. The effort exerted by an individual activist for party \( L \), for instance, can be modelled as the solution of the following (globally concave) optimization problem:

\[
\max_{e_{jL}} EU_j(e_{jL}) = p(e_{jL})U_j(x_L) + (1 - p(e_{jL}))U_j(x_R) + \nu(e_{jL}) - c(e_{jL})
\]  

\[\text{(3.12)}\]

where \( p(e_{jL}) \) (\( p' > 0, p'' \leq 0; \forall e_{jL} \geq 0 \)) is a measure of effectiveness in influencing the outcome of the election — a measure of political efficacy; \( \nu(e_{jL}) \) (\( \nu' > 0, \nu'' \leq 0; \forall e_{jL} \geq 0 \)) are the intrinsic benefits from participation — the process incentives — which do not depend
on policy; and $c(e_j) (c' > 0, c'' > 0; \text{strictly convex in effort})$ are the opportunity costs of time spent volunteering for the party. Utility $U_j$ is still single-peaked as it corresponds to the preferences over policy of an informed voter. This serves to include policy goals as an incentive for participation.

**Political efficacy and policy goals: Calculating Kantian behaviour on the part of individual activists**

Some important explanations regarding the behavioural assumptions underlying $p(e_j)$ are warranted. From a strictly rational point of view, it is not clear why an activist’s probability measure of his party’s chance of being elected should depend exclusively (if even at all) on his efforts. In fact, it is the group’s collective effort (i.e., all the activists’ collaborative effort) that influences the election’s outcome. This raises the fundamental question of why someone should expect to have any greater impact on the policy outcome by devoting, say, an hour more to campaign activities. Furthermore, this neglects free-riding on the part of activists, as they do not contemplate how total party effort matters in influencing the electoral outcome.

The answer to the first question lies in the fact that active party members tend to take collective achievements in stride, and are motivated by a belief that they can influence politics. They tend to conflate their actions and influence with the group’s, a phenomenon that has been deemed as corresponding to some “collective rationality” or “calculating Kantian” behaviour: “Belief in either a strategic unity principle or in a moral duty to participate may lead individuals to calculate their expected benefits based on the likelihood of group success.” ([Finkel et al.](1989), p. 886)

This calculating Kantian behaviour implies that activists behave in the way which they would like — and believe — others to behave in. This behavioural assumption, while strong, is also made in other contexts where observed behaviour is not well explained by selfishly rational individuals, such as voluntary contributions to public goods ([Bordignon, 1990](1990)) asks if Kantian behaviour might lead to optimal levels of voluntary provision) or income tax evasion ([Bordignon, 1993](1993)). When such Kantian behaviour is posited, free-riding reduces to a secondary concern. The assumption made here is that activists exhibit such calculating
Kantian behaviour. Precisely, their behaviour follows Bordignon’s (1990) first Kantian rule:

... “provide the absolute amount of contribution that you would like everyone else to provide” [which] is equivalent to the statement “select an amount of contribution on the basis of the hypothesis that everybody else will provide what you decide to provide”.

(p. 346)

Furthermore, as stated by Finkel and Muller (1998), these perceptions of influence are even consistent with subjective expected utility. This goes towards rehabilitating the rational choice approach, albeit in a broader sense, by refuting any criticism that a “rational choice approach must necessarily exclude (mis)perceptions of personal influence, and by extension individual preferences for public goods and perceptions of the likelihood of group success.”

(p. 46)

Finally, it is worth noting that the model’s calculating Kantian character is at odds with the most recent literature on Kantian motives, characterized for instance by the work of Roemer (2010). A Kantian equilibrium is there defined as an allocation of “contributions” such that no player would like all players to modify their contributions by some identical multiplicative factor. Note however that the Kantian equilibrium concept put forward by Roemer is meant as a normative criterion, not a behavioural criterion, which limits its applicability in this context.

Resuming the analysis, since expected utility is a globally concave function of $e_{jL}$, it means that the FOC for a maximum is the following:

$$p'(e^*_{jL})(U_j(x_L) - U_j(x_R)) + \nu'(e^*_{jL}) = c'(e^*_{jL})$$

(3.13)

Expressed verbally, this expression means that an activist increases his effort contribution to the party until the marginal benefit of contributing more (the left-hand side of equation [3.13], the sum of the marginal net expected benefits from policy goals and process incentives), equals the marginal cost of doing so (the right-hand side of the same equation).
Reconciling the extensive and intensive margins of participation

By setting $\dot{e}_{jL} = 0$, the pivotal activist for party $L$ (with preferences over policy denoted by $\hat{a}_L$) can be determined from the above equation. This bridges the gap between the extensive and intensive margins of participation: It is equivalent to determining a participation condition, where $c(0)$ is the cost of entry incurred by a potential activist. One finds:

$$\hat{a}_L = \frac{1}{2}(x_L + x_R) + \frac{1}{2}\left(\frac{c'(0) - \nu'(0)}{p'(0) \cdot (x_L - x_R)}\right), \forall x_L \neq x_R$$

Notice that as long as the marginal cost of effort at zero exceeds the marginal intrinsic benefit at zero (and for all $x_L < x_R$), the cut-off activist for party $L$ is to the left of the pivotal (informed) voter $\hat{v}$, as the second term of equation (3.14) is then negative.

For simplicity, assume that $p'(e_{jL}) = p\nu e_{jL} \geq 0$ (i.e., the perception of political efficacy involves a constant marginal product of effort), and the following functional forms for intrinsic benefits and costs of effort: $\nu(e_{jL}) = \nu \cdot e_{jL}, \nu > 0$ (i.e., similarly for the process incentives exhibiting constant marginal benefits), and $c(e_{jL}) = c \cdot (1 + e_{jL} + e_{jL}^2/2), c > 0$ (i.e., costs being convex in effort). Then, $e_{jL}^*$ can be expressed explicitly as:

$$e_{jL}^* = \frac{p(U_j(x_L) - U_j(x_R)) + \nu - c}{c}$$

Furthermore, assume (again for tractability) that $c = \nu$: the cost of entry just equals the marginal intrinsic benefit of participation. Hence, the optimal choice of effort on the part of party $L$ activists reduces to:

$$e_{jL}^* = \kappa(U_j(x_L) - U_j(x_R))$$

where $\kappa \equiv p/c$, the ratio of the marginal measure of effectiveness to the costs of entry;

\footnote{Formally speaking, the FOC for a maximum when $e_{jL}^* = 0$ is: $p'(e_{jL}^*) (U_j(x_L) - U_j(x_R)) + \nu'(e_{jL}^*) \leq c'(e_{jL}^*)$. Hence, the solution is: $\hat{a}_L \geq (1/2)(x_L + x_R) + (1/2)((c'(0) - \nu'(0))/p'(0) \cdot (x_L - x_R)) \forall x_L \neq x_R$, since $x_L - x_R < 0$. Without loss of generality, the focus is on the lower bound of the inequality.}

\footnote{Complications in solving for a closed-form equilibrium emerge whenever $(x_L - x_R)$ appears in the denominator of $\dot{a}_L$, thus justifying this simplification.}
the term between parentheses is the difference in utility between the parties’ platforms. Meanwhile, due to the assumption that the cost of entry, \( c(0) = c > 0 \), is equal to the marginal intrinsic benefit from participation, \( \nu \), the cut-off activist reduces to the pivotal (informed) voter:

\[
\hat{a}_L = \frac{x_L + x_R}{2}
\]  

(3.17)

This is indubitably too strong a participation criterion to be plausible in strict empirical terms, a result driven by the simplifying assumption \( c = \nu \): it overstates the level of activist involvement among the population of informed voters, and includes more policy moderates (i.e., voters whose bliss points are closer to the midpoint of policy space \( X \)) than would be the case if \( c > \nu \). A caveat of this simple form is therefore that it lessens the distortion caused by activists on equilibrium party platforms.

The marginal activist for party \( L \) is not exerting any effort (i.e., \( \hat{e}_L^* = 0 \), yet everyone else but him is. Graphically, this can be seen in Figure 3.2 on page 64, where the range of inactive informed voters would now have disappeared save for the pivotal informed voter.

Now, repeating the steps above for party \( R \) in an analogous manner, one finds:

\[
\hat{a}_R = \frac{x_L + x_R}{2}
\]  

(3.18)

Let us now turn to aggregate activist labour supply for both parties. These are given by the following equations:

\[
A_L = \iota \cdot \int_0^{\hat{a}_L} e_L^*(a_j) \, da_j
\]

(3.19)

\[
A_R = \iota \cdot \int_{\hat{a}_R}^{1} e_R^*(a_j) \, da_j
\]

(3.20)

It must be remembered that only informed voters may become activists, which is why the total effort exerted by activists for either party (the sum of individual activists’ effort over the full distribution of policy preferences, represented here by an integral) is preceded by \( \iota \), the proportion (and number, given that \( V = 1 \)) of informed voters. As to the bounds of the integrals, they represent the bounds of the distribution of informed voters and the cut-off.
activist. Solving equations (3.19) and (3.20) yields:

\[ A_L = \kappa \left( \frac{1}{2} (x_L + x_R) \right)^2 (x_R - x_L) \] \hfill (3.21)

\[ A_R = \kappa \left( 1 - \frac{1}{2} (x_L + x_R) \right)^2 (x_R - x_L) \] \hfill (3.22)

Based on the above results, equilibrium policies chosen by parties are found, subject
to the constraint of having to recruit only activists for their electioneering needs. For this
purpose, the formal timing of this game and the definition of its equilibrium are presented
next.

3.4.3 Timing of the game

The timing of the game is here:

1. The political parties simultaneously choose and announce policy platforms to the elec-
torate, anticipating the effect on their own activist support.
2. Informed voters choose either become activists for one of the parties, determining in
the process the extent of their engagement, or remain inactive.
3. The election is held and voters cast a ballot for their preferred party, with informed
voters basing their choice on policy platforms, and uninformed voters on the election-
eering resources deployed by both parties.

3.4.4 Subgame-perfect Nash equilibrium with activists

Definition 3.6. The subgame-perfect Nash equilibrium is defined as a set of policy plat-
forms, \( \{ x_L^*, x_R^* \mid x_L^* \leq x_R^* \} \) and individual choices of effort for activists of both parties,
\( \{ e_{jL}^*, e_{jR}^* \} \forall j \) such that:

- each party’s chosen platform maximizes votes given the other party’s chosen platform
  and electioneering resources, subject to the resources provided by the party’s own
  activists;
• the activists’ choice of effort maximizes their expected utility, given the parties’ choice of policies;

• informed voters cast a ballot for the party whose policy platform maximizes their utility, with uninformed voters splitting according to the electioneering resources deployed by both parties.

The general problem for party $L$ is as follows:

$$\max_{x_L, S_L} \Pi_L = \iota \left( \frac{x_L + x_R}{2} \right) + (1 - \iota) \cdot \left( \frac{1}{2} + h \cdot (S_L - S_R) \right)$$

subject to

$$S_L = A_L$$

The nature of the resource constraint above illustrates the assumption that there are no diminishing returns to activist labour. The problem for party $R$ is analogous.

Since both parties move simultaneously, the first order conditions to each party’s problem act as reaction functions, and the solution to the system of two equations in two unknowns is the set of equilibrium policies.

Furthermore, the parties’ reliance on activists, and the nature of their contributions, justifies focusing exclusively on equilibria where $x^*_L \leq x^*_R$.

This provides the basis for the following proposition and corollaries.

**Proposition 3.7.** In the case where parties must solely rely on activists for electioneering activities, the unique Nash equilibrium policy platforms are given by:

\[
\begin{align*}
x^*_L &= \frac{1}{4} \left( 1 + \frac{2}{\kappa h (1 - \iota)} \right) \\
x^*_R &= \frac{1}{4} \left( 3 - \frac{2}{\kappa h (1 - \iota)} \right)
\end{align*}
\]  

such that $x^*_L \leq x^*_R$. 

70
Proof. This is so as party $L$’s objective function is now given by:

$$\Pi_L = \eta \left( x_L + x_R \right) + (1 - \eta) \cdot \left( \frac{1}{2} + h \cdot \left( \frac{1}{2} (x_L + x_R) \right)^2 (x_R - x_L) - A_R \right)$$

Its first derivative with respect to $x_L$ is given by:

$$\frac{\partial \Pi_L}{\partial x_L} = \frac{3}{4} \eta \left( \frac{2}{3} - h\kappa (1 - \eta) (x_L + x_R) \left( x_L - \frac{1}{3} x_R \right) \right)$$

while its second derivative is:

$$\frac{\partial^2 \Pi_L}{\partial x_L^2} = -\frac{1}{2} h\kappa (1 - \eta) (3x_L + x_R) < 0$$

It is therefore globally concave, which means that the Nash equilibrium given above is unique.

**Corollary 3.8.** Whenever the efficacy of electioneering resources, $h$, exceeds a certain threshold, equilibrium policy platforms diverge (i.e., $x_L^* < x_R^*$). This threshold is given by:

$$h > \hat{h} = \frac{2}{\kappa (1 - \eta)} \quad (3.25)$$

Platforms are then given by:

$$x_L^* = \frac{1}{4} \left( 1 + \frac{2}{\kappa h (1 - \eta)} \right) \quad (3.26)$$

$$x_R^* = \frac{1}{4} \left( 3 - \frac{2}{\kappa h (1 - \eta)} \right) \quad (3.27)$$

Yet whenever $0 < h \leq \hat{h}$, party platforms converge in equilibrium to $x_L^* = x_R^* = 1/2$.

Meanwhile, the symmetry of equilibrium platforms (i.e., $x_L^* = 1 - x_R^*$) means that neither party can exceed 50% of the vote: the outcome of the election is determined by tossing a balanced coin.

In terms of comparative statics, it is obvious from the equations above that $\partial x_L^*/\partial h < 0$ and $\partial x_R^*/\partial h > 0$: a higher efficacy of electioneering resources implies a higher reliance upon them, and a greater differentiation of equilibrium platforms in order to attract them.
Meanwhile, the figure below illustrates how platforms diverge for all $h > \hat{h}$.

![Graph of parties' equilibrium platforms](image)

Figure 3.3: Parties’ equilibrium platforms, with a varying efficacy of electioneering resources, $h = \hat{h}..10\hat{h}$

3.4.5 Comparative statics and welfare

What are the effects of $\kappa$, the relative motivation parameter for activists, and $\iota$, the proportion of potential activists (and informed voters), on the policy platforms chosen by parties? These findings are summarized by the following proposition:

**Proposition 3.9.** As the activists’ marginal perception of their influence, $p$, increases relative to the costs of entry, $c$ (that is, as $\kappa$ increases), it becomes more worthwhile for both parties to seek their labour. Party $L$ moves to the left of the policy space, and party $R$ moves to the right of the policy space, causing platforms to diverge, ceteris paribus:

$$\frac{\partial x^*_L}{\partial \kappa} = -\frac{1}{2\kappa^2h(1-\iota)} < 0$$
$$\frac{\partial x^*_R}{\partial \kappa} = \frac{1}{2\kappa^2h(1-\iota)} > 0$$

In contrast, as the proportion of informed voters, $\iota$, increases, it becomes more worthwhile for parties to court informed rather than uninformed voters, trading-off activist support for
informed votes: both parties move towards the median voter, causing platforms to converge, ceteris paribus:

\[
\frac{\partial x^*_L}{\partial \iota} = \frac{1}{2\kappa h (1 - \iota)^2} > 0 \\
\frac{\partial x^*_R}{\partial \iota} = -\frac{1}{2\kappa h (1 - \iota)^2} < 0
\]

With regard to welfare considerations, recall that the equilibrium with activists satisfies the following conditions:

\[
x^*_L = 1 - x^*_R \\
\Pi^*_L = \Pi^*_R = \frac{1}{2}
\]

As regards ex-ante expected voter welfare, and with \(x^*_L\) and \(x^*_R\) being given by equations (3.26) and (3.27), this yields:

\[
E [W (x)] = \frac{1}{2} \left( \int_0^1 \left( 1 - (x^*_L - v_i)^2 \right) dv_i + \int_0^1 \left( 1 - (x^*_R - v_i)^2 \right) dv_i \right) \\
= \frac{2}{3} + x^*_L x^*_R 
\]

(3.28)

This must be compared with the social optimum chosen by a utilitarian social planner:

\[
W(x^{SO}) = \frac{11}{12}
\]

This coincides with the outcome preferred by the median voter under perfect (i.e., unbiased) electoral competition. Replacing \(x^*_R = 1 - x^*_L\) in equation (3.28) yields:

\[
E [W (x)] = \left( \frac{2}{3} + x^*_L (1 - x^*_L) \right) 
\]

(3.29)

One finds that:

\[
E [W (x)] = W(x^{SO}) \iff x^*_L = x^*_R = \frac{1}{2} 
\]

(3.30)

This is so as activists impose a distortion on electoral competition, drawing parties’ platforms
apart and away from the median voter’s position, whenever they are effective at convincing uninformed voters. This result is summarized by proposition 3.10.

**Proposition 3.10.** *Ex-ante expected voter welfare under the electoral equilibrium with activists coincides with the first-best in voter welfare if and only if platforms converge towards the median voter’s preferred policy. This only occurs when activists are fairly ineffective at convincing uninformed voters, i.e. \( h \leq \hat{h} \). Otherwise, the distortion imposed by activists is welfare-decreasing.*

3.5 Political competition both with a special interest and activists

Let us now turn to the most interesting case, where both activist labour and the special interest compete for the parties’ attentions.

The analysis will focus on two technological extremes that relate to the production function: first, where monetary and volunteer labour contributions are perfect substitutes; second, where they are perfect complements. A comparative equilibrium analysis between the two cases is performed, for the transition from perfect complements to perfect substitutes is deemed to broadly correspond to the transformation from mass parties to electoral-professional parties. It is therefore thought to be the main factor affecting the relative demands for activist labour and monetary contributions.

3.5.1 The degree of substitutability between inputs and changes in electioneering technology

The purpose of using an extremely stylized comparison between equilibria where inputs are *perfect* complements and *perfect* substitutes is to obtain clear results: while it is much too strong a characterization to be realistically plausible, it is justified on analytical grounds. There are also solid theoretical and empirical grounds for supposing that an increase in the substitutability of electioneering inputs (i.e., a technological shift) would underlie changes

---

13 The intermediate case, which can be approximated by a constant elasticity of substitution – CES – production function where parameters are chosen appropriately, is not considered here due to how it unnecessarily complicates the analysis and the task of solving for an equilibrium.
in their relative demands. While this has been alluded to earlier (cf. Section 3.1 on page 45) with the help of examples taken from the political science literature, this idea must be further justified so as to convince the reader of the upcoming analysis’ pertinence. As the next paragraphs will attempt to demonstrate, this increase in substitutability is largely attributable to technological breakthroughs such as the use of television and mass advertising as campaign tools, and the simultaneous appearance of professional electioneering (market) resources.

At the basis of the mass membership party organization is the historical extension of the voting franchise, in the late-nineteenth and early-twentieth century. As discussed by Ware (1987, pp. 124-132), this extension of voting rights brought many parties, especially in the United Kingdom, to embrace a mode of organization borrowed from socialist parties: they started to engage in the mass recruitment and mobilization of members so as to convince voters, and also ensure themselves a popular legitimacy. In doing so, these parties ceased to be purely elite-based, as the increased membership required some devolution of power to the member base. This perspective dates back to the seminal analysis of Duverger (1963), which distinguished between “cadre” and “mass” parties (the former being elite-based: “... the grouping of notabilities for the preparation of elections, conducting campaigns and maintaining contact with the candidates”, p. 64), and how the very concept of party membership dates back to the extension of the voting franchise.

Technological breakthroughs in the mid-twentieth century, notably the advent of television campaigning and other forms of mass advertising, triggered organizational changes within parties and in the way that their electioneering activities were conducted. This has been particularly emphasized by Ware and Panebianco (1988) (quoted below), as well as corroborated by later works in political science (see for instance: Hughes and Wintour 1990, p. 52 – cited by Whiteley and Seyd 2002 p. 122; Butler and Ranney 1992; Norris 2002):

As television became central in political competition, it began to affect party competition. [...] Television and interest groups became far more important links (though precarious by definition) between parties and electorates than the traditional collateral organizations, the bureaucracy and party members. Bureaucrats and activists are still necessary, but their roles are now less important. (Panebianco 1988 p. 266, emphasis added)
These technological changes did not so much reduce the amount of labour needed as it reduced the portion of which that came from volunteers. It is consequently as if parties could still rely on vast amounts of volunteers, but as they were no longer as technologically constrained in doing so as before (i.e., the degree of substitutability between volunteer labour and other, market-bought electioneering inputs having increased), and opted not to: they changed the optimal mix of inputs, given the environment’s constraints, including budgetary constraints.

There is however no reason to infer that this diminished reliance is due to activist labour having lost its efficacy for convincing voters. For instance, Ware notes that:

... television may be no match for communities and small groups in forming and moulding opinions – the absence of active party supporters in a community may mean that its case is never heard in discussions or conversations.

(p. 135)

The best example of the continued importance and efficacy of volunteer labour concerns telephone canvassing, which is systematically used by parties (Butler and Ranney (1992, p. 282)). Finally, the following quote from Ware illustrates the continued labour-intensiveness of election campaigns, and how the purchasing of professional inputs does not imply that volunteers are no longer needed or ineffective for certain tasks, as budgetary constraints do apply:

Election campaigns are relatively labour-intensive activities. Many of the means used by parties to induce their potential voters actually to vote for them involves a workforce for which there can be no direct substitute. This is most apparent with door-to-door canvassing during elections and with pre-election efforts to create a climate of opinion within communities favourable to a party. [...T]here are many tasks [...] that require people as well as capital equipment or technological skills. [...T]he amount of labour required has meant that parties have had to rely far more on volunteers of various kinds than on the direct purchasing of labour.

(pp. 146-147, emphasis added)

A “hybrid” type of party organization, relying both on volunteer members and market-bought resources to conduct their campaigns, is deemed to now prevail. The “hybrid” type of party that emerged through such technological changes was characterized by Panebianco.
as the “electoral-professional” party, due to its reliance on hired professionals. Panebianco highlights mass parties’ “stress on ideology, [and the] central role of the believers within the organization”, and contrasts it with electoral-professional parties’ “stress on issues and leadership, [and the] central role of careerists and representatives of interest groups within the organization” (p. 264). Also of particular relevance to this chapter is the contrast between the means of financing the party’s activities, with mass parties being financed “...through membership and collateral activities (party cooperatives, trade unions etc.)”, and electoral-professional parties instead relying on “financing through interest groups and public funds” (p. 264).

Having summarized the case underlying the comparative equilibrium analysis on the demand side, let us now consider how the timing of the game now plays out.

### 3.5.2 Timing of the game

```
1: Parties          2: Special interest and activists         3: Election
```

1. The political parties simultaneously choose and announce platforms to the electorate, based on their own anticipated activist labour supply and anticipated contributions from the special interest to both parties.

2. Informed voters choose either become activists for one of the parties, determining in the process the extent of their engagement, or remain inactive. The special interest makes an optimal contribution to at most one of the parties.

3. The election is held and voters cast a ballot for their preferred party, with informed voters basing their choice on policy platforms, and uninformed voters on the electioneering resources deployed by both parties.

### 3.5.3 Subgame-perfect Nash equilibrium with a special-interest and activists

**Definition 3.11.** The subgame-perfect Nash equilibrium is defined as a set of policy platforms, \( \{x^*_L, x^*_R \mid x^*_L \leq x^*_R\} \); individual choices of effort for activists of both parties, \( \{e^*_jL, e^*_jR\} \forall j \); and a set of policy-contingent contributions by the special interest to each party, \( \{C^*_L, C^*_R\} \), such that:
each party’s chosen platform maximizes votes given the other party’s chosen platform, subject to the optimal contribution made by the special interest to that party and the resources optimally provided by the party’s own activists;

- similarly, the special interest’s contributions maximize net expected utility, given the parties’ optimal choice of policies;

- the activists’ choice of effort maximizes their expected utility, given the parties’ optimal choice of policies;

- informed voters cast a ballot for the party whose policy platform maximizes their utility, with uninformed voters splitting according to the electioneering resources deployed by both parties.

### 3.5.4 Perfect substitutes

The parties’ problems are solved by backward induction, as it was done in previous sections. The fact that parties rely on activists, and the symmetry of the parties’ optimization problems, justifies the focus without loss of generality on equilibria satisfying $x_L^* \leq x_R^*$.

Due to the assumption of perfect substitutability between inputs, the optimal contributions offered by the special interest are here left unchanged, compared with the previous case in Section 3.3, and are still given by equations (3.9) and (3.10). This is because while the special interest recognizes how its contributions influence the parties’ vote share, and how they are put to use with activist labour, it moves simultaneously with activists which prevents it from anticipating the effect of their contributions.

Party $L$’s problem is now given by:

$$\max_{x_L, x_R, A_L, A_R} \Pi_L = \iota \left( \frac{x_L + x_R}{2} \right) + (1 - \iota) \cdot \left( \frac{1}{2} + h \cdot (S_L - S_R) \right)$$

subject to

$$S_L = A_L + C_L$$
$$S_R = A_R + C_R$$
Notice the form of party L’s resource constraint, which exhibits perfect substitutability between factors, and still no diminishing returns to either input.

One obtains the following reaction functions. Party L’s reaction function is:

\[ 4h^2 (1 - \iota)^2 (s - x^*_L) - \frac{1}{4} h \kappa (1 - \iota) (3x^*_L - x^*_R) (x^*_L + x^*_R) + \frac{1}{2} \iota = 0 \] (3.31)

whereas the reaction function for the Right party is given by:

\[ 4h^2 (1 - \iota)^2 (s - x^*_R) + \frac{1}{4} h \kappa (1 - \iota) ((3x^*_L - x^*_R) (x^*_L + x^*_R) - 4 (2x^*_R - 1)) - \frac{1}{2} \iota = 0 \] (3.32)

It follows that there are no explicit, unique solutions to this system of equations, for \( x^*_L \) and \( x^*_R \). Nevertheless, it can be shown that party platforms do not generally converge in equilibrium, and it is still possible to perform comparative statics on each party’s reaction function. It is possible as well as to characterize some solutions explicitly by imposing a symmetric equilibrium candidate. Let us first turn to the latter.

**Parties offer symmetric platforms, \( x^*_L = 1 - x^*_R \): a special case**

The following proposition establishes the existence of a symmetric equilibrium where \( s = 1/2 \), and provides a proof that it cannot be so for \( s \neq 1/2 \), which can be found in the Appendix.

**Proposition 3.12.** For a symmetric equilibrium to exist, the special interest’s position needs to (unrealistically) coincide with the median voter’s, that is \( s = 1/2 \). There cannot be a symmetric equilibrium whenever \( s \neq 1/2 \), which then implies an asymmetry in equilibrium platforms.

Being equidistant from the special interest’s position, both parties receive zero contribu-

\[ \frac{\partial^2 \Pi_L}{\partial x_L^2} = -4h (1 - \iota) \left( \frac{1}{8} \kappa \iota (3x_L + x_R) + h (1 - \iota) \right) < 0 \]

which means that the strictly concave function nonetheless reaches a global maximum, and similarly for party R’s objective function. The nature of the subgame-perfect Nash equilibrium thus depends on \( s \), the special interest’s position, as well as other parameters \( h, \kappa, \) and \( \iota \).
tions. This yields the following equilibrium platforms:

\[ x_L^* = \frac{1}{2} - \frac{h \kappa (1 - \iota) - 2 \iota}{4h (1 - \iota) (4h (1 - \iota) + \iota \kappa)} \]  
(3.33)

\[ x_R^* = \frac{1}{2} + \frac{h \kappa (1 - \iota) - 2 \iota}{4h (1 - \iota) (4h (1 - \iota) + \iota \kappa)} \]  
(3.34)

This equilibrium is also fully characterized by:

\[ C_L^* = C_R^* = 0 \]
\[ A_L^* = A_R^* = \kappa \left( \frac{1}{2} \right)^2 \left( \frac{h \kappa (1 - \iota) - 2 \iota}{2h (1 - \iota) (4h (1 - \iota) + \iota \kappa)} \right) \geq 0 \]
\[ \Pi_L^* = \Pi_R^* = \frac{1}{2} \]

Proof. See Appendix A.2.2 on page 236

Corollary 3.13. In the presence of both a special interest and activists whose contributions are perfect substitutes, and whenever \( s = 1/2 \) and \( h > \hat{h} = 2/(\kappa (1 - \iota)) \), party platforms diverge (i.e., \( x_L^* < x_R^* \)) in the symmetric equilibrium.

Meanwhile, whenever \( s = 1/2 \) and \( h \leq \hat{h} \), party platforms converge in the symmetric equilibrium to \( x_L^* = x_R^* = 1/2 \).

Proof. Refer to the proof for the above proposition.

The condition that \( h > \hat{h} \) for platforms to diverge in equilibrium was found earlier, when only activists were the source of electioneering inputs (see Corollary 3.8 on page 71). The above corollary shows that the special case of an equilibrium with only activists is nested within the general model with perfectly substitutable electioneering inputs. This happens whenever the special interest is equidistant to both parties, and party platforms are symmetrically located on the policy space \( X \), its influence in terms of contributions thus mattering little.

Corollary 3.14. In the presence of perfectly substitutable electioneering inputs, whenever \( s \neq 1/2 \) and \( h > \hat{h} \), equilibrium party platforms are asymmetric in equilibrium.
Evidence of the above corollary, though not a mathematical proof is given by numerical approximations in the table below.

<table>
<thead>
<tr>
<th>s</th>
<th>$x_L^*$</th>
<th>$x_R^*$</th>
<th>$\Delta x^*$</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1</td>
<td>0.1141</td>
<td>0.1703</td>
<td>0.05623</td>
</tr>
<tr>
<td>0.2</td>
<td>0.2102</td>
<td>0.2539</td>
<td>0.04373</td>
</tr>
<tr>
<td>0.3</td>
<td>0.3041</td>
<td>0.3390</td>
<td>0.03486</td>
</tr>
<tr>
<td>0.4</td>
<td>0.3960</td>
<td>0.4256</td>
<td>0.02955</td>
</tr>
<tr>
<td>0.5</td>
<td>0.4861</td>
<td>0.5139</td>
<td>0.02778</td>
</tr>
<tr>
<td>0.6</td>
<td>0.5744</td>
<td>0.6040</td>
<td>0.02955</td>
</tr>
<tr>
<td>0.7</td>
<td>0.6610</td>
<td>0.6959</td>
<td>0.03486</td>
</tr>
<tr>
<td>0.8</td>
<td>0.7461</td>
<td>0.7898</td>
<td>0.04373</td>
</tr>
<tr>
<td>0.9</td>
<td>0.8297</td>
<td>0.8859</td>
<td>0.05623</td>
</tr>
</tbody>
</table>

Table 3.1: Fixed-point approximations for equilibrium platforms and their differential, $s = 0.1...0.9$, $h = 2\bar{h}, \kappa = 2$, $\iota = 1/2$

**Parties offer identical platforms, $x_L^* = x_R^*$:**

If parties offer identical platforms, one can use the above system of equations (i.e., equations 3.31 and 3.32, along with $x_L^* = x_R^*$) to find optimal equilibrium platforms. This leads to the following proposition.

**Proposition 3.15.** Where both party activists and a special interest are perfectly substitutable, party platforms converge if and only if:

$$h \leq \bar{h} = \frac{2}{\kappa (1 - \iota)}$$

and $s = 1/2$.

**Proof.** Suppose not, i.e., suppose that there exists generally such an equilibrium, where $x_L^* = x_R^* = x^*$. Then, its location is given by the solutions to the following system of equations:

$$4h^2 (1 - \iota)^2 (s - x^*) - h\kappa (1 - \iota) (x^*)^2 + \frac{1}{2} t = 0$$

$$4h^2 (1 - \iota)^2 (s - x^*) + h\kappa (1 - \iota) (x^* - 1)^2 - \frac{1}{2} t = 0$$

This system cannot be solved for closed-form solutions of $x^*$ that simultaneously satisfy
both equations. Nevertheless, notice that if parties converge to the same point, then by
Downsian logic and based on earlier results it must either be the special interest’s position,
or the median voter’s position, or both at once. Without loss of generality, let therefore
\(x^* = s\). This yields:
\[
-h\kappa (1 - \iota) (x^*)^2 + \frac{1}{2} \iota = 0
\]
\[
-h\kappa (1 - \iota) (x^* - 1)^2 - \frac{1}{2} \iota = 0
\]
Adding the first equation to the second, and retaining the first, yields:
\[
-h\kappa (1 - \iota) (x^*)^2 + \frac{1}{2} \iota = 0
\]
\[
h\kappa (1 - \iota) (-2x^* + 1) = 0
\]
The second equation implies that \(x^* = 1/2\), without having previously restricted \(s\). Yet
since \(x^* = s\), it must be that \(s = 1/2\) is the only possible solution. Furthermore, the first
equation yields that either:
\[
i \iota = 0
\]
or
\[
h = \frac{2}{\kappa (1 - \iota)}
\]
which is to say \(h = \hat{h}\).

**General comparative statics**

Having established that when electioneering resources are perfect substitutes, party plat-
forms generally diverge in equilibrium, let us now turn to comparative statics on both
parties’ reaction functions. Of particular interest is knowing how the platforms of both
denies react, in optimum, to out-of-equilibrium changes in the other party’s platform. This
informs the analysis of how changes in the special interest’s position, \(s\), affect the parties’
platforms in equilibrium. In turn, it illustrates the special interest’s influence on the choice
of equilibrium policy platforms by parties. This forms the basis of the propositions that
follow.

**Proposition 3.16.** An out-of-equilibrium move by one party brings the other party to move its optimal choice of platform in the same direction, when inputs are perfectly substitutable. That is,

\[
\frac{\partial x^*_L}{\partial x_R} > 0, \frac{\partial x^*_R}{\partial x_L} > 0
\]

*Proof.* Formally, this is so as for party $L$:

\[
\frac{\partial x^*_L}{\partial x_R} = \frac{\kappa \ell (x_R - x^*_L)}{i \kappa (3x^*_L + x_R) + 8h (1 - i)} > 0, \forall x_R > x^*_L
\]

Similarly, for party $R$:

\[
\frac{\partial x^*_R}{\partial x_L} = \frac{\kappa \ell (x^*_R - x_L)}{i \kappa (4 - (3x^*_R + x_L)) + 8h (1 - i)} > 0, \forall x^*_R > x_L
\]

The intuition underlying the above proposition can be summarized thus. Consider for instance party $R$ moving out of equilibrium to the right of the policy space. For party $L$ to respond by moving to the right, it must be that the gain in informed votes at least outweighs any loss in electioneering resources, stemming either from a relative decrease in party platform differentiation (activists), or from a change in the relative distance between the special interest’s position, party $R$’s platform, and party $L$’s platform. In the contrary case, where party $R$ moves out of equilibrium to the left of the policy space, then the reverse must be true: the gain in electioneering resources and thus uninformed votes must at least outweigh the loss in informed votes. The same logic holds for out-of-equilibrium moves by party $L$ in either direction. This is so because the marginal benefits and costs of informed and uninformed votes are equalized in optimum for any given platform choice of the opposing party.

Let us now consider the effect of a change in the special interest’s position on the parties’ equilibrium policy platforms.

**Proposition 3.17.** A change in the special interest’s position causes both parties’ platforms
to move in the same direction, when inputs are perfectly substitutable. That is,

\[ \frac{\partial x^*_P}{\partial s} > 0 \forall P \in \{L, R\} \]

**Proof.** The partial derivative of party L’s equilibrium platform with respect to \( s \) is:

\[ \frac{\partial x^*_L}{\partial s} = \frac{8h(1-\iota)}{\kappa (3x^*_L + x^*_R) + 8h(1-\iota)} > 0 \]

And similarly for party R:

\[ \frac{\partial x^*_R}{\partial s} = \frac{8h(1-\iota)}{\kappa (4 - (3x^*_R + x^*_L)) + 8h(1-\iota)} > 0 \]

The above proposition allows one to contemplate just how influential the special interest is in shaping equilibrium policy choices by parties. If its position were to shift, then both parties’ platforms in equilibrium would follow suit, regardless of the efficacy of electioneering inputs \( h \), meaning intuitively that any gain (or loss) in uninformed votes must then outweigh any loss (or gain) in informed votes.

This completes the examination of the case where electioneering resources are perfect substitutes. Let us proceed by deriving analogous results for the case where electioneering inputs are perfect complements.

### 3.5.5 Perfect complements

While the activists’ problem does not change in the presence of perfect complements (and hence neither do their aggregate labour supplies, still characterized by equations 3.21 and 3.22 on page 69), the special interest’s and the parties’ optimization problems do, since the production function is altered. This means that party L’s optimization problem now becomes:

\[
\max_{x_L} \left| x_R, A_R \right| \Pi_L = \iota \left( \frac{x_L + x_R}{2} \right) + (1 - \iota) \cdot \left( \frac{1}{2} + h \cdot (S_L - S_R) \right)
\]
subject to

\[ S_L = \min\{C_L + \beta_L, A_L\}, \beta_L > 0 \]
\[ S_R = \min\{C_R + \beta_R, A_R\}, \beta_R > 0 \]

The resource constraint takes the form of a Leontieff production function: graphically-speaking, productive efficiency is reached at the “kink” in the isoquant curves. Note that this kink does \textit{not} lie on the 45 degree line, but rather on a vertex that cuts through it in the \( C_P - A_P \) space, as demonstrated in the figure below.

Figure 3.4: Productive efficiency in the presence of perfect complements and \( \beta_P > 0 \)

This parameter \( \beta_P \) represents a party’s dependency on activist labour: the higher it is, the more activist labour matters for electioneering resources. This can be thought to capture asymmetries between Labour/Social-democratic parties and Conservative parties in their relationship with activist labour.

Algebraically, this means that party \( L \) will want to set \( C_L + \beta_L = A_L \) in order to achieve productive efficiency. Assuming without loss of generality that productive efficiency is a
concern for both parties, the problem can be rewritten thus:

$$\max_{x_L, A_R} \Pi_L = \nu \left( \frac{x_L + x_R}{2} \right) + (1 - \nu) \cdot \left( \frac{1}{2} + h \cdot (C_L - C_R) \right)$$

subject to

$$C_L = A_L - \beta_L$$

$$C_R = A_R - \beta_R$$

Here, the constraints $C_L = A_L - \beta_L$ and $C_R = A_R - \beta_R$ are quite essential, for they give an idea of how well factors are matched. Let $\phi_L$ be the multiplier on the former constraint (with $\phi_R$ the multiplier on the latter), such that the more binding is this constraint (i.e., the greater the marginal benefit in terms of vote share of lowering a party’s dependence on activists, by lowering $\beta_P$), the more positive is $\phi_L$.

The special interest’s problem is altered, due to the lack of informational asymmetries other than in relation with the contributions of activists, which are still taken as given. This means that the change in electioneering technology otherwise matters for its optimization problem, which is now given by:

$$\max_{C_L, C_R} E(U_s) = \Pi_L \cdot (1 - (s - x_L)^2) + \Pi_R \cdot (1 - (s - x_R)^2) - \frac{1}{2}(C_L^2 + C_R^2)$$

s.t.

$$C_L \geq 0$$

$$C_R \geq 0$$

$$C_L = A_L - \beta_L$$

$$C_R = A_R - \beta_R$$
This means that the optimal contributions are now characterized by:

\[
C^*_L(x_L, x_R) = 2h(1 - \nu) (x_R - x_L) \left( \frac{x_R + x_L}{2} - s \right) + \theta^*_L - \phi^*_L \geq 0
\]  
(3.35)

\[
\theta^*_L, \phi^*_L \geq 0
\]

\[
C^*_R(x_L, x_R) = 2h(1 - \nu) (x_R - x_L) \left( s - \frac{x_R + x_L}{2} \right) + \theta^*_R - \phi^*_R \geq 0
\]  
(3.36)

\[
\theta^*_R, \phi^*_R \geq 0
\]

Solving both parties’ optimization problems yields the following reaction functions. The reaction function for party \(L\) is:

\[
4h^2 (1 - \nu)^2 (s - x^*_L) - 2h (\phi^*_L - \phi^*_R) (1 - \nu) (s - x^*_L) \\
+ \frac{1}{4} \nu (2 - \kappa \phi^*_L ((3x^*_L - x^*_R)(x^*_L + x^*_R)) = 0
\]  
(3.37)

while the reaction function for party \(R\) can be expressed as:

\[
4h^2 (1 - \nu)^2 (s - x^*_R) + 2h (\phi^*_L - \phi^*_R) (1 - \nu) (s - x^*_R) \\
- \frac{1}{4} \nu (2 - \kappa \phi^*_R ((3x^*_R - x^*_L)(x^*_R + x^*_L) - 4(2x^*_R - 1))) = 0
\]  
(3.38)

**Parties offer symmetric platforms, \(x^*_L = 1 - x^*_R\): a special case**

The lack of closed-form, general solutions to the above system of equations still does not preclude one from imposing a candidate for equilibrium, namely that party platforms be symmetric to one another. As this process mirrors that where perfectly substitutable electioneering inputs were considered, let us proceed directly to the proposition below, the proof of which can be found in the Appendix.

**Proposition 3.18.** When electioneering inputs are perfectly complementary with regard to each other, there exists a symmetric equilibrium where party policy platforms are character-
ized by $x_L^* = 1 - x_R^*$. For different values of $s$, it gives:

$$
\begin{align*}
\begin{cases}
    x_L^* = 1 - s, \ x_R^* = s & \forall s \in \left(\frac{1}{2}, \frac{3}{4}\right) \\
    x_L^* = s, \ x_R^* = 1 - s & \forall s \in \left(\frac{1}{4}, \frac{1}{2}\right)
\end{cases}
\end{align*}
$$

(3.39)

while the case where $s = 1/2$ is characterized by:

$$
\begin{align*}
\begin{cases}
    x_L^* = \frac{1}{2} - \frac{\kappa \phi^* - 2\lambda}{16h^2 (1 - \iota)^2 + 4\kappa \phi^*}, \ x_R^* = \frac{1}{2} + \frac{\kappa \phi^* - 2\lambda}{16h^2 (1 - \iota)^2 + 4\kappa \phi^*}
\end{cases}
\end{align*}
$$

(3.40)

with $\phi^* \geq 2 / \kappa$.

**Proof.** See Appendix A.2.3 on page 236.

**Corollary 3.19.** In the presence of perfectly complementary inputs, and for $s \in [0, 1/4] \cup [3/4, 1]$, party platforms are asymmetric about each other and the policy space in equilibrium.

Parties offer identical platforms, $x_L^* = x_R^*$:

**Corollary 3.20.** Whenever electioneering inputs are perfectly complementary and used efficiently, the parties’ policy platforms do not converge (i.e., $x_L^* < x_R^*$) in a symmetric equilibrium.

**Proof.** Convergent platforms can only occur in a symmetric equilibrium when $s = 1/2$ (see the proof to Proposition 3.18 on the previous page).

In the case where platforms diverge (i.e., $x_L^* < x_R^*$), then it must be that $\kappa \phi^* > 2$, which
yields the following equilibrium, characterized in full:

\[
x^*_L = \frac{1}{2} - \frac{\kappa \phi^* - 2 \ell}{16h^2 (1 - \ell)^2 + 4 \kappa \phi^*}
\]

\[
x^*_R = \frac{1}{2} + \frac{\kappa \phi^* - 2 \ell}{16h^2 (1 - \ell)^2 + 4 \kappa \phi^*}
\]

\[
C^*_L = C^*_R = 0 \iff \phi^* = h(1 - \ell) \theta^* 
\]

\[
A^*_L = A^*_R = \kappa \left( \frac{1}{2} \right)^2 \left( \frac{\kappa \phi^* - 2 \ell}{8h(1 - \ell)^2 + 4\kappa \phi^*} \right) 
\]

\[
\beta_L = \beta_R = \kappa \left( \frac{1}{2} \right)^2 \left( \frac{\kappa \phi^* - 2 \ell}{8h(1 - \ell)^2 + 4\kappa \phi^*} \right) 
\]

\[
\Pi^*_L = \Pi^*_R = \frac{1}{2} 
\]

\[
\phi^* \geq 0 
\]

For \( x^*_L = x^*_R \), it then must be \( \kappa \phi^* \leq 2 \) holds, which is admissible. Yet it also means that, in equilibrium,

\[
A^*_L = A^*_R = 0 \neq \beta_L = \beta_R > 0 
\]

which contradicts the assumptions of the model. Such a converging, symmetric equilibrium when \( s = 1/2 \) could exist if only if \( \beta_L = \beta_R = 0 \), such that matching zero contributions from the special interest would have required zero activist labour for efficiency. As this trivializes the very purpose of the model – that is, to examine the effect of relying on different electioneering resources for policy and special interest influence – it is ruled out by assumption.

The next proposition generalizes the result established by the above corollary to encompass all possible converging equilibria.

**Proposition 3.21.** There does not exist any equilibrium where party platforms converge (i.e. \( x^*_L = x^*_R \)), and which is characterized by efficient use of electioneering resources by both parties, whenever electioneering inputs are perfect complements and \( \beta_L, \beta_R > 0 \).

**Proof.** Suppose not. That is, consider any candidate for a converging equilibrium of the form \( x^*_L = x^*_R, \forall s \), and assume at the outset that it is efficient. Since parties are equidistant to the special interest’s position, they both receive zero contributions from it. Since their
platforms are undifferentiated, they also fail to garner any support from activists. Together, these results imply that any such candidate fails to satisfy the conditions for the efficient use of electioneering resources for all $\beta_L, \beta_R > 0$, namely:

\begin{align*}
C^*_L + \beta_L & \neq A^*_L \\
C^*_R + \beta_R & \neq A^*_R
\end{align*}

whenever $C^*_L = C^*_R = A^*_L = A^*_R = 0$. This yields a contradiction with the initial assumption of efficiency, which proves the above proposition.

**General comparative statics**

Having established the existence of symmetric equilibria with perfectly complementary electioneering inputs, and that efficient use of resources requires policy platforms to diverge in equilibrium, let us turn to comparative statics in the case of perfectly complementary factors. These results may encompass cases characterized by an inefficient use of resources by either or both parties. To lighten the task of the reader, technical discussions have again largely been relegated to the Appendix.

**Proposition 3.22.** An out-of-equilibrium move by one party causes the other party to move in the same direction, i.e.,

\begin{align*}
\frac{\partial x^*_L}{\partial x_R} > 0, \quad \frac{\partial x^*_R}{\partial x_L} > 0
\end{align*}

*Proof.* See Appendix A.2.4 on page 240

It is now the case that both parties optimally react similarly to an out-of-equilibrium move by the other party’s platform for intermediate values of $(\phi^*_L - \phi^*_R)$. These are of particular interest since they imply that both parties’ resource constraints are similarly binding, implying that they have similar levels of dependence on activist support, and similar marginal benefits from a reduction in this dependence. Negative values of $(\phi^*_L - \phi^*_R)$ imply that party $R$’s resource constraint is more binding than party $L$’s, and reciprocally for positive values of $(\phi^*_L - \phi^*_R)$.
Proposition 3.23. A change in the special interest’s position will have the following effects on parties equilibrium platforms when electioneering inputs are perfect complements, conditional on parameters:

\[
\begin{cases}
\frac{\partial x^*_L}{\partial s} > 0, \frac{\partial x^*_R}{\partial s} < 0 & \forall \ (\phi^*_L - \phi^*_R) \in \left( - \left( 2h (1 - \iota) + \frac{\phi^*_R}{h (1 - \iota)} \iota \kappa \left( 1 - \frac{1}{4} (3x^*_R + x^*_L) \right) \right) , -2h (1 - \iota) \right), \\
\frac{\partial x^*_L}{\partial s} > 0, \frac{\partial x^*_R}{\partial s} = 0 & \Leftrightarrow (\phi^*_L - \phi^*_R) = -2h (1 - \iota) \\
\frac{\partial x^*_L}{\partial s} < 0, \frac{\partial x^*_R}{\partial s} > 0 & \forall \ (\phi^*_L - \phi^*_R) \in \left( -2h (1 - \iota) , 2h (1 - \iota) \right) \\
\frac{\partial x^*_L}{\partial s} = 0, \frac{\partial x^*_R}{\partial s} > 0 & \Leftrightarrow (\phi^*_L - \phi^*_R) = 2h (1 - \iota) \\
\frac{\partial x^*_L}{\partial s} < 0, \frac{\partial x^*_R}{\partial s} > 0 & \forall \ (\phi^*_L - \phi^*_R) \in \left( 2h (1 - \iota) , 2h (1 - \iota) + \frac{\phi^*_L}{h (1 - \iota)} \left( \frac{1}{4} \iota \kappa (3x^*_L + x^*_R) \right) \right)
\end{cases}
\]

This can be represented graphically, either along a line:

\[\frac{\partial \phi^*_L}{\partial \phi^*_R} = 0 \quad \frac{\partial \phi^*_R}{\partial \phi^*_L} = 0\]

\[
\begin{cases}
\frac{\partial \phi^*_L}{\partial \phi^*_R} > 0, \frac{\partial \phi^*_R}{\partial \phi^*_L} < 0 \\
\frac{\partial \phi^*_L}{\partial \phi^*_R} < 0, \frac{\partial \phi^*_R}{\partial \phi^*_L} > 0 \\
\frac{\partial \phi^*_L}{\partial \phi^*_R} < 0, \frac{\partial \phi^*_R}{\partial \phi^*_L} > 0
\end{cases}
\]

\[\phi^*_L - \phi^*_R\]

\[\left(-2h (1 - \iota) , 2h (1 - \iota) + \frac{\phi^*_L}{h (1 - \iota)} \left( \frac{1}{4} \iota \kappa (3x^*_L + x^*_R) \right) \right)
\]

Figure 3.5: Comparative statics with respect to the special interest’s position, s, for different domains of \((\phi^*_L - \phi^*_R)\), when inputs are perfectly complementary

or in a Cartesian plane, subject to the obvious restriction that:

\[h > \max \left\{ \frac{\iota \kappa}{(1 - \iota)} \left( 1 - \frac{1}{4} (3x^*_R + x^*_L) \right) , \frac{\iota \kappa}{4 (1 - \iota)} (3x^*_L + x^*_R) \right\}\]

for \(\phi^*_L, \phi^*_R \geq 0\) to hold.
If one focuses again on intermediate values of \((\phi_L^*, \phi_R^*)\), it is found that should the difference in the multipliers satisfy the following threshold:

\[
|\phi_L^* - \phi_R^*| \geq 2h (1 - \iota)
\]  

(3.42)

then one of the two parties is *immune* to the special interest’s influence. Whenever the above threshold holds with equality, the party in question does not change its optimal platform in reaction to a change in the special interest’s position. Furthermore, whenever the above threshold binds, it moves in the direction *opposite* to the change in the special interest’s position. This is in sharp contrast to the other party’s platform, which moves in the same direction as the special interest.
This result is dictated by how electioneering resources are being used by both parties: whether a party’s resource constraint is more or less binding, and relatively to the other party’s. For instance, the more binding is party $L$’s resource constraint relative to party $R$ (that is, $(\phi^*_L - \phi^*_R) \geq 2h(1 - \iota)$), then party $L$ will not be swayed in the direction of the special interest’s position were it to change. This denotes that party $L$ is more dependent than party $R$ on activist labour, its marginal benefit in terms of votes being higher when that dependence is reduced, and thus has no need for the special interest’s contributions. This is obviously not the case for party $R$: it moves in the same direction as the special interest following a change in the latter’s position, for it is less depend upon activist labour and more so upon monetary contributions. Its marginal benefit from a reduction of that dependence is thus lower. The same reasoning applies for the case when $(\phi^*_L - \phi^*_R) \leq -2h(1 - \iota)$.

Whenever $(\phi^*_L - \phi^*_R)$ is sufficiently low, it means that the parties’ resource constraints are similarly binding (such that both parties rely similarly on activist labour, and are thus both susceptible to courting the special interest for gaining an edge over each other). Both parties’ equilibrium policies are then influenced by the special interest.

Armed with the above propositions, let us now return to the chapter’s foremost inquiry. This involves initiating a discussion of the consequences of a decline in high-intensity political participation on the choice of equilibrium electoral policy, in light of technological change affecting how parties rely on different types of electioneering resources. Also included is a reflexion on whether such findings warrant either encouraging (resp. discouraging) high-intensity political participation, and/or regulating (resp. liberalizing) donations by special interests.
3.6 The decline in high-intensity participation and special-interest influence

3.6.1 The decline in participation, changes in technology, and the electoral equilibrium

Among the main trends identified from the literature on high-intensity participation is an emphasis on the decline of participation in recent years, along with a vigorous debate as to what might be underlying these trends. It has been argued on the one hand that highly active party members are no longer as needed as before for electioneering purposes, thus explaining the decline in participation by demand-side factors; on the other hand, that they are just as in demand as before but lack the incentives to participate, thus pinning the reason of the decline on supply-side factors; or even that both demand- and supply-side factors might be at work, and their respective effects are hard to disentangle in practice.

The political-economic analysis conducted previously can contribute something to this debate, as to the desirability of such changes. The current section builds upon its results to first address the effects on special-interest influence of the demand- and supply-side factors considered in isolation, and then discusses their joint effects. Of particular interest on the demand side is the dichotomy between perfectly substitutable and perfectly complementary inputs for electioneering activities — the switch from the latter to the former being the most stark example of a technological change causing a demand-side driven decline in high-intensity participation. On the supply side, the focus is on the number of potential activists (represented by the parameter $\iota$) and exogenous level of motivation (represented by the parameter $\kappa$).

Demand-side factors

Let us first consider the effects of demand-side factors on the need for activists, and thus a de facto decline in high-intensity participation for the lack of volunteering opportunities within parties. As discussed previously (cf. Subsection 3.5.1 on page 74), a technological shift would then be underlying a movement away from mass parties — relying inflexibly
both on monetary contributions from large groups (e.g., trade unions, companies) often representing special interests, and volunteer labour from highly active members — and towards electoral-professional parties, for which the professional human resources (pollsters, fundraisers, advertisers, etc.) necessary for the conduct of electoral campaigns are now often hired rather than recruited: in the former case, both inputs are complementary, whereas in the latter, everything can potentially be bought, implying full substitutability. Given the preceding analysis, should one be worried that such a shift would trigger a convergence of party platforms to some special interest’s preferred policy, as demonstrated in Proposition 3.4 on page 59?

To answer this question, let us compare the results of Propositions 3.17 on page 83 and 3.23 on page 90, both concerning the effect on both parties’ optimal choice of platform of a change in the special interest’s position, \( s \), *ceteris paribus*. The special interest’s influence on party platforms is undisputed in the presence of perfectly substitutable electioneering inputs. In the presence of perfect complements, however, conditions concerning the efficient matching of factors constrain the parties’ policy choices, and may accordingly reduce the special interest’s influence on policy.

**Proposition 3.24.** An increase in the substitutability of inputs may or may not increase the influence of the special interest on policy. It depends on the matching of factors, such that when, for intermediate values of \( |\phi_L^* - \phi_R^*| \):

\[
|\phi_L^* - \phi_R^*| \geq 2h(1 - \iota)
\]

one of the two parties is then immune to the special interest’s influence in the presence of perfectly complementary inputs, whereas this is not the case when inputs are perfect substitutes. Furthermore, the likelihood of one of the two parties being immune to the special interest’s influence in the presence of perfect complements increases as:

\[
\frac{\phi_P^*}{h(1 - \iota)}, \quad P \in \{L, R\}
\]

increases.
The intuition underlying the above proposition stems directly from the parameters composing the fraction $\phi_P^*/h(1-\iota)$. That very fraction determines the size of the intervals in which one party $P$ is not being influenced by the special interest, in the case of perfect complements. The more binding is electioneering resource constraint (which translates into higher values of $\phi_P^*$ that stem from a higher dependence on activist labour and a higher marginal benefit in vote share of a reduction in that dependence), the lower is the efficacy of electioneering resources $h$, and the higher the proportion of informed voters $\iota$, then the less influential the special interest is likely to be in the case with perfectly complementary inputs. An increase in the substitutability of inputs is then more likely to increase the influence of the special interest.

For a more precise comparison, yet one that makes short shrift of any concern for generality, let us examine platforms both in the symmetric equilibria with perfect complements and perfect substitutes where $s = 1/2$. Here, an increase in the influence of the special interest resulting from an increase in the substitutability of electioneering inputs should translate itself by a pull of both parties’ platforms towards the mid-point of the policy space, where the special interest is located. In the case with perfect complements, equilibrium policy platforms are given by, assuming that $\kappa \phi^* > 2$:

$$
x_L^* = \frac{1}{2} - \frac{\iota \kappa \phi^* - 2\iota}{16h^2 (1-\iota)^2 + 4\iota \kappa \phi^*}
$$

$$
x_R^* = \frac{1}{2} + \frac{\iota \kappa \phi^* - 2\iota}{16h^2 (1-\iota)^2 + 4\iota \kappa \phi^*}
$$

While in the case of perfect substitutes, such a symmetric equilibrium features these platforms, assuming that $h > \hat{h} = 2/\kappa(1-\iota)$:

$$
x_L^* = \frac{1}{2} - \frac{h \iota \kappa (1-\iota) - 2\iota}{16h^2 (1-\iota)^2 + 4h \iota \kappa (1-\iota)}
$$

$$
x_R^* = \frac{1}{2} + \frac{h \iota \kappa (1-\iota) - 2\iota}{16h^2 (1-\iota)^2 + 4h \iota \kappa (1-\iota)}
$$

It is immediately noticeable that the two cases coincide when: $\phi^*/h(1-\iota) = 1$. Let us then define: $\alpha \equiv \phi^*/h(1-\iota)$. Plotting $x_L^*$ against $\alpha$ for a certain range of valid parameter values illustrates the results of Proposition 3.24 for the particular case of a symmetric equilibrium.
with $s = 1/2$. (This is so in spite of the equilibrium falling in the area where $\partial x_P^*/\partial s > 0 \forall P$: where because of its symmetry with respect to the special interest’s position and with respect to each other, $\phi^*_L = \phi^*_R = \phi^*$ applies.) The figure below shows that for $\alpha < 1$, the special interest is more influential when inputs are perfectly complementary rather than perfectly substitutable, and less influential when $\alpha > 1$, while it is equally influential in both cases when $\alpha = 1$.

Figure 3.7: Relative influence of the special interest on equilibrium policy platforms, between perfectly complementary and perfectly substitutable inputs, in a symmetric equilibrium with $s = 1/2$, for different values of $\alpha \in \left(\frac{1}{5}, 10\right]$, and for $h = 5\hat{h}$, $\kappa = 2$, $\iota = 1/2$.

Let us now turn to supply-side factors explaining the decline in the high-intensity participation, and what they entail for special-interest influence on policy.

**Supply-side factors**

When considering supply-side factors in isolation, it does not suffice to consider solely the propositions concerning the effects of participation factors ($\iota$, the fraction of informed voters, and $\kappa$, the exogenous level of motivation of activists; see Appendix), as they are not informative as to how a party’s position moves relative to the special interest’s ideal policy. Cross-partial derivatives of $x_L^*$ with respect to $s$ and $\iota$, and $s$ and $\kappa$ must be examined, both
in the case of perfect substitutes and perfect complements.

**Perfect substitutes** For this purpose, first recall that the partial derivative of $x^*_L$ with respect to $s$ is given by:

$$\frac{\partial x^*_L}{\partial s} = \frac{8h (1 - \iota)}{\kappa \left( 3x^*_L + x^*_R \right) + 8h (1 - \iota)}$$

while for $x^*_R$ it is:

$$\frac{\partial x^*_R}{\partial s} = \frac{8h (1 - \iota)}{\iota \kappa \left( 4 - (3x^*_R + x^*_L) \right) + 8h (1 - \iota)}$$

Finding the cross-partial derivatives of the above with respect to $\iota$ and $\kappa$ leads to the results summarized by the propositions below.

**Proposition 3.25.** When electioneering inputs are perfectly substitutable, a decrease in the pool of potential activists (captured by $\iota$, the proportion of informed voters) causes the special interest’s influence on policy to unambiguously increase on both parties’ platforms in equilibrium whenever:

$$\frac{\partial x^*_L}{\partial \iota} = - \frac{\partial x^*_R}{\partial \iota} \geq 0$$

which is to say that as the proportion of informed voters decreases, party platforms in equilibrium either stay put or diverge further. It is then found that:

$$\frac{\partial}{\partial \iota} \left( \frac{\partial x^*_L}{\partial s} \right) < 0, \frac{\partial}{\partial \iota} \left( \frac{\partial x^*_R}{\partial s} \right) < 0$$

Otherwise, how the special interest’s influence on policy varies as the pool of potential activists decreases is ambiguous.

*Proof.* See Appendix A.2.6 on page 244.

**Proposition 3.26.** When electioneering inputs are perfectly substitutable, a decrease in the activists’ motivation (captured by $\kappa$) causes the special interest’s influence on policy to unambiguously and unconditionally increase on both parties’ platforms in equilibrium, which is to say that:

$$\frac{\partial}{\partial \kappa} \left( \frac{\partial x^*_L}{\partial s} \right) < 0, \frac{\partial}{\partial \kappa} \left( \frac{\partial x^*_R}{\partial s} \right) < 0$$
for all admissible parameter values.

Proof. See Appendix A.2.7 on page 245.

These results imply that if an increase in special interest influence were deemed undesirable, then a decline in high-intensity participation due to supply-side factors (and notably a fall in activist motivation) when inputs are perfect substitutes should be a cause for concern. The case where inputs are perfect complements is considered next.

**Perfect complements** Proceeding in a manner similar to that used for perfect substitutes, one finds cross-partial derivatives of $x^*_L$ and $x^*_R$ with respect to $s$ and $\iota$, and $s$ and $\kappa$. They inform the propositions below.

**Proposition 3.27.** When electioneering inputs are perfectly complementary, a decrease in the pool of potential activists (captured by $\iota$, the proportion of informed voters) causes the special interest’s influence on policy to unambiguously increase on both parties’ equilibrium platforms whenever:

$$\frac{\partial x^*_L}{\partial \iota} = -\frac{\partial x^*_R}{\partial \iota} > 0$$

and

$$(\phi^*_L - \phi^*_R) \in (-2h(1-\iota), 2h(1-\iota))$$

which is to say that as the proportion of informed voters decreases, party platforms in equilibrium either stay put or diverge further; and when the difference between the parties’ dependence upon activist labour is small, thus making neither party that much more likely to be influenced than the other, yet with both still competing for the special interest’s contributions.

It is then found that:

$$\frac{\partial}{\partial \iota} \left( \frac{\partial x^*_L}{\partial s} \right) < 0, \frac{\partial}{\partial \iota} \left( \frac{\partial x^*_R}{\partial s} \right) < 0$$

Otherwise, how the special interest’s influence on policy varies as the pool of potential activists decreases is ambiguous.
Proof. See Appendix A.2.8 on page 246

**Proposition 3.28.** When electioneering inputs are perfectly complementary, a decrease in the activists’ motivation (captured by $\kappa$) causes the special interest’s influence on policy to unambiguously increase on both parties’ equilibrium platforms provided that:

$$(\phi^*_L - \phi^*_R) \in (-2h(1-\iota), 2h(1-\iota))$$

which is to say that the difference between the parties’ dependence upon activist labour is small, thus making neither party that much more likely to be influenced than the other, yet with both still competing for the special interest’s contributions. It is then found that:

$$\frac{\partial}{\partial \kappa} \left( \frac{\partial x^*_L}{\partial s} \right) < 0, \frac{\partial}{\partial \kappa} \left( \frac{\partial x^*_R}{\partial s} \right) < 0$$

Otherwise, the effect on the special interest’s influence is ambiguous.

Proof. See Appendix A.2.9 on page 247

**Both factors jointly considered**

What of the reliance on special interest contributions as both demand-side and supply-side factors are jointly at work? That is, what happens as there is an increase in the substitutability of electioneering inputs due to technological and social changes, and the supply of activists also dries up?

As the analysis of demand-side factors alone has shown, the transformation of the party from a mass party to an electoral-professional party may or may not cause the special interest’s influence on policy to increase. This depends primarily on the relative efficiency with which factors are matched, and thus used. Supply-side factors generally increase the special interest’s influence: both a reduction in informed voters (the pool of potential activists) and, most particularly, a fall in the activists’ motivation cause parties to rely more on special-interest contributions, which increases its influence on policy. Yet supply-side results are clearest in the case of perfect substitutes: the case of perfect complements puts caveats concerning the efficient matching of factors squarely in the picture. It would therefore appear
that the interaction of demand- and supply-side factors contributes to unambiguously conferring the special interest a greater influence on policy. This is summarized by the following proposition.

**Proposition 3.29.** An increase in the substitutability of electioneering inputs, on the demand side, coupled with either a decline in the activists’ motivation or a shrinking of the pool of potential activists (and particularly the former), on the supply side, unambiguously leads to an increase in special-interest influence on policy.

The desirability of the special interest’s increased influence hinges upon its effects on voter welfare. However, the lack of general closed-form solutions for equilibrium policy outcomes when both activists and a special interest are present somewhat hinders a formal investigation such welfare implications.

A very particular comparison in welfare levels can be nevertheless be performed between the symmetric equilibrium where \( s = 1/2 \) and electioneering inputs are perfect complements (\( W_{PC} \)), and where they are perfect substitutes (\( W_{PS} \)). It is found that the greater is the pull from activists, which is to say the lower is the influence of the special interest in comparison, then the farther apart are party platforms and the lower is ex-ante expected voter welfare. (Formally speaking, the comparison can be found in the Appendix A.1.2 on page 235.) In accordance with the results of 3.24 on page 95 and the example using this very comparison that follows, this occurs whenever \( \alpha = \phi^*/h (1 - \iota) \) is greatest, which is to say that it occurs whenever the marginal gain in votes from a reduction in the dependence on activists is higher (higher values of \( \phi^* \)), the efficacy of electioneering resources (\( h \)) is lower, and the proportion of informed voters (and potential activists, \( \iota \)) is greater. Graphically, as shown in the figure below, one plainly sees that:

\[
\begin{align*}
W_{PC} - W_{PS} &> 0 \iff \alpha < 1 \\
W_{PC} - W_{PS} &= 0 \iff \alpha = 1 \\
W_{PC} - W_{PS} &< 0 \iff \alpha > 1
\end{align*}
\]
Figure 3.8: Difference in welfare levels between symmetric equilibria with \( s = 1/2 \), in the presence of perfectly complementary and perfectly substitutable inputs, as the relative influence of the special interest wanes (i.e., for higher values of \( \alpha \), with \( \alpha = 1 \) representing the point of equal influence), for \( \alpha \in (1/5, 10] \), and for \( h = 5h \), \( \kappa = 2 \), \( \iota = 1/2 \).

Of course, few “special interests” have bliss points that coincide with the median voter’s. Few are this munificent in bestowing on voters higher ex-ante expected welfare through their greater influence. If one examines the broader problem of the special interest’s effect on welfare, and despite the limitations of not having general closed-form solutions for equilibrium platforms, it appears that both the presence of activists (as established in Proposition 3.10 on page 74) and that of a special interest distort the efficiency of political competition in different ways. What can then generally be established is which of these distortions is worse for voter welfare. To this end, compare ex-ante expected voter welfare for the case where only a special interest is present (equation 3.11 on page 61) with the case where only activists are present (equation 3.28 on page 73):

\[
W(s) = \left(\frac{2}{3} + s - s^2\right)
\]

\[
E[W(x)] = \left(\frac{2}{3} + x_L^* (1 - x_L^*)\right) = \left(\frac{2}{3} + (1 - x_R^*) x_R^*\right)
\]
where the latter equality holds since in the equilibrium with only activists, \( x^*_L = 1 - x^*_R \) holds. It is then plain to see that if \( s < x^*_L \) or if \( s > x^*_R \), that is if the special interest holds more extreme positions than that of either party in the equilibrium with only activists (recall that the special interest’s position corresponds to both parties’ equilibrium policy in the case where there is only a special interest), then the distortion imposed by the special interest’s presence is more damaging. Unless there is party convergence to the median voter’s position, ex-ante expected welfare is here also strictly inferior to the utilitarian planner’s benchmark. Findings with regard to the welfare effects of special-interest influence are summarized by the following proposition.

**Proposition 3.30.** An increase in special-interest influence on policy is deemed welfare-decreasing (resp. augmenting) whenever the distortion that the special interest imposes on the electoral equilibrium is greater (resp. smaller) than that imposed by activists. Concretely, this occurs when the special interest holds a more (resp. less) extreme position than either of the parties’ equilibrium platforms when only activists are present.

The policy discussion that follows focuses on the more immediately appealing case where the special interest holds more extreme views than that of either party relying solely on activist labour, with increases in its influence being welfare-decreasing.

### 3.6.2 Implications for electoral financing laws, and incentives for participation

It follows that if the distortion imposed by the special interest is welfare-decreasing, and its influence is increasing as a result of the decline in high-intensity participation, then certain policy remedies are warranted. Should activist labour be the more damaging distortion, the policy prescriptions that follow should simply be inverted.

The most obvious remedy is an added emphasis on electoral financing laws: starting from the conjecture that the electoral-professional party is not a fiction, then as both factors are fairly substitutable, limiting the supply of one (monetary contributions from the special interest) would cause a decline in the influence of the said factor on equilibrium policy, as parties seek to recruit more of the other (activist labour) to compensate. Also worthy of
consideration for this matter is the fact that highly-active party members contribute roughly two-and-a-half times as much as inactive members in monetary donations (cf. Whiteley and Seyd 2002, p. 208; this amounts to £50 for highly-active members, on average). A decline in high-intensity participation could therefore lead to great financial difficulties for parties, thus making special-interest contributions even more alluring.

It should be emphasized that within the (limited) context of this model, the need for more stringent electoral financing laws is also motivated by the “arms race” character of competing for such resources: an escalation by both sides leads to no greater benefit to either party, while this spending serves no useful social purpose other than drawing uninformed voters to one party over the other. This character trait is shared by both types of resources so that activist labour, especially should it be shown to impose a sizable distortion, could thus be considered under such laws.

That said, the desire for more stringent electoral financing laws does not address the lack of motivation of potential activists, and the decline of high-intensity participation: such a decline could have a deleterious effect on politics should only the most bloody-minded and extremely ideological voters then volunteer their time for political parties. This calls for incentives for participation, either in the form of monetary subsidies (such as the public monies subsidizing political parties in many countries: some proportion could be earmarked towards the recruitment of activists), or preferably through socialization and civic education.

3.7 Conclusion

This chapter presented a model of electoral competition where electioneering resources, provided in the form of volunteer labour by activists and monetary contributions from a special interest, were used to sway uninformed voters towards voting for one party over the other.

A normative benchmark was first established: unbiased electoral competition, where the median voter’s outcome was made to coincide with the utilitarian social planner’s choice.

The introduction of a special interest then biased the electoral outcome towards its bliss point whenever the efficacy of electioneering resources was high enough. Both parties
offered identical platforms that coincided with the policy favoured by the special interest. This generally lowered voter welfare, a result of the special interest’s distortionary influence, except when the very policy chosen also happened to be favoured by the median voter.

In the sole presence of activists, party platforms diverged in equilibrium whenever the efficacy of electioneering resources exceeded a certain threshold, and otherwise converged to the median voter’s bliss point. Policy divergence was a result of parties catering to their activist base by highlighting their difference with the other party’s platform. Unless party platforms converged, ex-ante expected voter welfare was lowered relative to the benchmark. This also illustrated the distortionary influence of party activists on the electoral process.

Where both a special interest and activists were present, two extreme cases were considered: either special interest contributions and activist labour were perfectly substitutable resources for electioneering activities, or they were perfectly complementary. In both cases, it was established that party platforms generally did not converge in equilibrium. In the case of perfectly substitutable inputs, as the special interest’s preferred policy moved in one direction, then in equilibrium a party’s platform moved in the same direction, ceteris paribus. This result did not always hold in the case of perfectly complementary inputs: if one party’s complementarity constraint was sufficiently easily met relative to the other party’s, then the former’s platform moved in the direction opposite to the special interest’s position.

It was finally found that neither demand-side explanations considered in isolation nor supply-side factors alone (in the case of complementary inputs) were entirely conclusive that a decline in high-intensity participation led to an increase in special-interest influence. When both explanations were jointly considered, however, demand-side factors greatly clarified the effects of supply-side factors. Their combined effect was to show a clear increase in the special interest’s influence.

As to the desirability of a heightened special-interest influence on policy, this chapter showed that it depends on whether the distortion that it imposes on electoral competition is greater than that caused by activists. This would then call for more stringent electoral financing laws that limit the amounts that special interests can contribute to political parties, and even potentially for incentives to counteract the decline in high-intensity participation.
It would also be justified on the basis that these expenditures amount to an “arms race”, which is inefficient since the parties’ efforts largely amount to nothing.

While eminently suited to the questions considered, the analysis conducted throughout this chapter suffers from certain limitations. The introduction of more lobbies could mitigate the conclusions that a decrease in high-intensity participation due to (either or both) demand-side and supply-side factors leads to a heightened special-interest influence on policy. The introduction of many lobbies could also be linked to alleged changes in the “market for participation”, raised primarily by Richardson (1994), which are said to cause highly politically-active citizens to join special-interest groups rather than parties. This still raises other questions with respect to the efficiency of such arrangements, and whether they may lead to a cacophony of special interests.

The analysis’ second most prominent limitation is that activists are only considered as an electioneering resource: they are not given any policy-making role, in spite of their importance for this particular task in reality. If this were included, the decline in high-intensity participation could lead to even more dire conclusions as to the influence of special interests on the choice of policy.

A third limitation is the assumption that all voters, and especially uninformed voters, cast a ballot. Should this be relaxed, it would raise further questions regarding the very desirability of getting these voters to the polls. These voters might hold more extreme views, something that is not assumed in the model, and their presence could lead to less desirable policy outcomes. This could corroborate findings that for elections to effectively aggregate preferences, only informed voters need to participate by casting a ballot (cf. Feddersen and Pesendorfer 1996).

In sum, this chapter provided an attempt at theoretically assessing how parties rely on both monetary and non-monetary inputs for the conduct of electioneering activities. It also tried to ascertain what may be the effect of a decline in high-intensity participation on the relative influence of special interests on the choice of policy, and welfare. In so doing, it particularly contributed to the literature on political competition by further emphasizing the policy cleavages induced by activists, this in the presence of converging influences coming from a special interest and a demand-driven decline in high-intensity participation. It also
suggested a useful course of action in the event that the influence of special interests is deemed sufficiently detrimental to voter welfare, and democracy at large.
Chapter 4

The Effect of Party Discipline on the Electoral Accountability of Politicians

4.1 Introduction

In parliamentary systems, and to a lesser extent in presidential systems\textsuperscript{1}, the organization and composition of political parties are determinant forces for the choice of policy. When choosing policies while in office, a party leader must lend an ear to the demands of the party’s grassroots, activists, and other factions, or else face disavowal and a forced exit.

There are salient examples which show party leaders being ousted from their posts while also in office. Most recently (June 2010, as reported by Le Noël \textsuperscript{2}, 2010), Australia’s Labor Party leader and Prime Minister Kevin Rudd was removed from his post as his party deemed his performance in office, characterized by certain policy choices, to be unsatisfactory\textsuperscript{2}. This came in light of his waning popularity with the electorate and a decline in the Labor Party’s forecast electoral fortunes. Bowing to party pressure in the form of a “bloodless coup” led

\textsuperscript{1}Many presidential systems have party primaries, which can either amount to routine coronations, or harsh disavowals of the leader by party members and affiliated supporters. For a clear example, see the United States’ Democratic Party’s internal divisions over the Vietnam War, and how it led to Lyndon B. Johnson’s decision not to run for a second (full) term as president, following some poor primary results.

\textsuperscript{2}The very policies that caused his demise were the abandonment of a carbon dioxide emission control plan, and a plan to further tax the profits of mining companies.
by Deputy Prime Minister Julia Gillard, Rudd chose to resign.

The demise of Margaret Thatcher’s leadership forms another notorious example of a party leader being shown the door due in part to her choice of policies. In 1990, she faced opposition within Conservative Party ranks to her continued leadership, which was partly attributable to the introduction of a poll tax and controversial decisions concerning the European Monetary Union (EMU). She thereafter chose to resign.

Yet another Conservative British Prime Minister was also forcibly coerced by his party. John Major’s mettle was tested when, in 1992, speculative attacks on the pound sterling – leading to the forced devaluation of Black Wednesday and the United Kingdom’s exit from the Exchange Rate Mechanism (ERM) of the EMU – put his government’s economic policies and leadership in doubt. This perceived policy blunder contributed to Major’s resignation from the Conservative Party’s leadership in 1995, yet he cleverly outplayed leadership contenders and factions opposed to him when he ran for his own succession, and won (see for instance Richards, 2008).

It is therefore plain to see that parties seek to hold their leaders responsible for their policy choices when in office, and do so through the threat of non-confidence and removal. Moreover, the preceding examples only constitute a fraction of such events, since non-salient cases of leaders who responded well to party discipline such that they avoided triggering their own demise are much harder to establish.

Define accountability as meaning to act in the voters’ interests, and to have to show for it or face dismissal from office. How can one then reconcile party discipline with the traditional mechanism for keeping politicians accountable for their policy choices, this time to the broader electorate (the party being a mere subset of it), that is elections? They provide retrospective-looking voters with a means of removing an incumbent who displeases them. This disciplines the politician in office, thus creating an imperfect contract between the politician – the agent – and the representative voter – the principal. Interestingly, and motivating in part this chapter’s enquiry, this line of research has largely been left unexplored, as this quote by Besley (2006, p. 105, emphasis added) patently demonstrates:

In almost all democratic settings, parties play an important role in the workings of political competition. How they affect the process of political accountability is
not altogether clear. Parties may have longer time horizons and may therefore make individuals who hold power take a longer view, leading to less opportunistic behavior by incumbents. Obviously the degree of attachment of the incumbents to parties and the kinds of sanctions that parties have are crucial here.

The importance of establishing clearly the role of parties for electoral accountability and voter welfare is made even more prominent by recent claims of the demise of political parties, as compared with their traditionally-upheld model of organization. This ideal party organization, as favoured by a 1950 report by the American Political Science Association (“Toward a More Responsible Two-Party System”), can be likened to a “responsible party” most associated with the British parliamentary system, and consisting of cohesive organizations with collectively-drafted and well-defined programs, strong and active supporters, and a permanent staff (Whiteley and Seyd, 2002, p. 11).

However, as cited by Whiteley and Seyd (2002, p. 12), various theses have been put forward to describe changes in the parties’ importance for political life, away from the responsible party model. For instance, the “cartel” party thesis (Katz and Mair, 1995) views parties as having become mere agencies of the state, and thus having lost their autonomy. The “electoral-professional” party thesis, first championed by Panebianco (1988), sees the party as having become a mere electoral machine, devoid of grassroots support and internal democracy.

Such claims, while disputed by many (including Whiteley and Seyd), nonetheless cast doubt as to whether the party still can, or could in the near future, be a disciplining force on politicians. This is also compounded by declining trends in active participation in political parties (Whiteley and Seyd, 2002), which might call into question their existence as mass organizations with a popular legitimacy.

These considerations therefore motivate the present chapter’s focus, which can be summarized by the following research questions:

- What is the influence of the party on the politician, conditional on the type of discipline exerted, and on her accountability to the electorate?

- How does the party factions’ access to information regarding policy affect the politician’s accountability and ex-ante expected voter welfare? And what of their near- or
far-sightedness?

- Is the “responsible party” model one that should be favoured, with regard to its effect on the accountability of politicians to the electorate?

In tackling these questions, this chapter uses an approach that borrows from the models of political agency of Barro (1973), Ferejohn (1986), and Besley (2006), and their emphasis on a politician’s accountability to the electorate, in the presence of a representative voter casting a ballot retrospectively. The basic agency framework is taken from Besley (2006), with the present chapter’s contribution being mainly the inclusion of the incumbent politician’s party and its coercive effect on its leader in office. The party is modelled as being heterogeneous and consisting of factions following Roemer (1999), with its internally-diverging interests not necessarily agreeing with its leader’s or the electorate’s. (A minor contribution pertains also to the use of ideology as a motivation for policy choices, cf. infra.)

In this chapter’s political agency model, the politician’s innate preferences over policy – which vary according to the politician’s type (either welfarist or ideological) and which may or may not coincide with the electorate’s – must be balanced with ego rents from being in office, and thus a concern for re-election. To this end, a two-period model is used, where challengers elected after the first period are “lame duck” politicians.

Considerations of a party’s discipline (or coercion – the two terms are used interchangeably throughout the chapter) on its leader are included by introducing a supplementary agency relationship between the leader and incumbent politician (the agent), and her party (the principal). The timing of the game is such that the party may choose to remove the politician at its helm before the election is held at the end of the first period.

The party’s preferences over policy are assumed to be heterogeneous, with the party being composed of three factions. They take their names from Roemer’s work, but their preferences are tailored to suit the chapter’s needs. These include: militants, whose concern is ideology; opportunists, who favour being in office above all else; and reformists, whose objective is to maximize the utility of the average party member, deemed here to match the preferences of the representative voter. This heterogeneity of preferences means that discipline can express itself through majority rule, either ex-ante through a policy line with
full commitment to remove an incumbent not abiding by it, or ex-post through a leadership review. It can also happen via a *coup de force*, that is a putsch against the party leader.

This chapter finds that the party as a means of coercion on the incumbent politician’s choices has ambiguous results on accountability and ex-ante expected voter welfare, all dependent on context. In the setting which serves as this chapter’s benchmark, and in which the election is an effective mechanism for keeping the politicians in office accountable to the representative voter’s interests, the introduction of the party – a distortion – diminishes both political accountability and voter welfare when its coercion is expressed through non-democratic means (i.e., the threat of a putsch). Meanwhile, it can at best be accountability- and welfare-enhancing when its coercion is expressed through democratic means.

In contrast, in a second-best setting – where welfarist politicians are induced to pander to the electorate, resulting in a distortion that diminishes the effectiveness of the electoral mechanism for keeping politicians accountable – the party’s presence is generally accountability- and welfare-enhancing, relative to the second-best results where the party is absent. This is particularly so for democratic means of coercion, but also holds surprisingly for the influence of putschist militants on accountability and welfare.

It is also found that the factions’ low informedness considerably weakens the effectiveness of internally-democratic means of coercion, with detrimental effects for accountability and welfare in a second-best setting. It is to be noted, however, that putschist threats are just as effective in the presence of imperfect information. Far-sighted factions meanwhile cause all means of party discipline to be generally less effective in a second-best setting. Finally, findings related to the responsible party model depend on what exactly are the factors affected by the decline of parties and of political participation, for instance the size of certain factions or the quality of the pool of politicians.

The chapter is organized as follows. The section that follows presents the benchmark model of political agency, which is then updated with the party’s presence in section 3. Section 4 presents and contrasts results when a distortion, pandering welfarist politicians, is introduced. The fifth section discusses the effect of imperfect information on the results. Finally, section 6 concludes, summarizing results and answering questions concerning the responsible party model and theses of party decrepitude.
4.2 Benchmark

4.2.1 Timing of the game and environment

The world lasts for two periods, \( t \in \{1, 2\} \). At the beginning of period 1, a politician is chosen to lead the party and is henceforth elected in office, both processes from which we abstract as they are of no interest to the question of political accountability.

At the beginning of each period, the politician in office observes a state of the world \((s_t \in \{0, 1\}, \text{each equally likely to occur})\), unknown to the representative voter, and which is known to party members in this benchmark. The incumbent must then decide which one of two policies to implement, \( p_t \in \{0, 1\} \). Assessing the policy’s worth is impossible for the representative voter without also knowing the state of the world. The policy could then be observed by the representative voter, or not.

When making her choice, the politician in office has to take into account her own preferences (that vary according to her type) for policy, and the representative voter’s preferences (which determine her chances of re-election). Politicians discount future (second-period) payoffs at rate \( \delta < 1 \), which is fully observable by everyone.

More precisely, policies and thus payoffs to the representative voter and welfarists are state-dependent, meaning that \( p_t = s_t \) yields payoff \( \Psi \), and \( p_t = 1 - s_t \) yields zero payoff to both agents. Payoffs from the welfare-maximizing policy are fully known to everyone.

However, ideological politicians (also referred to as ideologues) only derive rents from implementing the ideologically-identified policy, which is deemed to be \( p_t = 1 \), by assumption. These rents, denoted by \( r_t \), are stochastic and drawn from distribution \( F \) with support \([0, R]\) and mean \( \bar{r} \). It is assumed to be \( C^2 \) (i.e., smooth, continuous, and twice-continuously differentiable) and increasing. Its cumulative distribution function (c.d.f.) is denoted by \( F(\cdot) \), while its probability density function (p.d.f.) is \( F'(\cdot) = f(\cdot) \). The distribution, its mean and support are fully known to everyone, but only ideologues are privy to the rents’ realization.

The rents’ stochastic character (shared by Besley’s characterization of “dissonance rents”), while perhaps not the most realistic of assumptions, serves an important purpose as it introduces fluctuations in the behaviour of ideologues, and allows to characterize probabilistically
their electoral accountability. This is of particular use for both the researcher in performing comparisons between equilibria, and for the representative voter in forming posterior beliefs (cf. infra).

Furthermore, all types of politicians, but not the representative voter, receive ego rents both for being in office \((E_t)\), and at the party’s helm \((e_t)\). These are fully known by everyone. Note that party leadership ego rents are included throughout this benchmark for consistency with sections to follow, but do not matter in this section due to a lack of party discipline.

In choosing whether or not to re-elect the incumbent politician at the end of period 1, the representative voter seeks to remove ideologues from office, as they do not have his best interests’ in mind. He thus observes policy benefits (i.e., the signal of an incumbent acting in the representative voter’s interest), and compares his posterior belief of the incumbent being a welfarist, derived via Bayes rule, with the prior, \(\pi \in (0, 1)\), which is identical across parties. This is so as all leaders can be thought of as drawn from a single pool (i.e., party leaders as a professional class of its own), or that the incidence of ideological bias among potential leaders is the same across parties. If the voter’s posterior belief exceeds his prior belief, the incumbent is re-elected with certainty.

The second period is a repeat of the first period, except that politicians are now unburdened by electoral concerns: all challengers elected at the end of period 1 are “lame-duck” politicians. No strategic concerns thus apply to policy choices made in the second period.

To summarize, the full timing follows.

In \(t = 1\):

1. Nature plays: the state of the world is realized, and ideological policy rents \(r_1\) are revealed to the ideological politician.

2. The incumbent politician chooses policy, after having observed the state of the world, and in the case of ideologues, \(r_1\), and correctly anticipating the representative voter’s beliefs and behaviour.

3. The payoffs from policy are revealed to the representative voter. The representative voter thus forms beliefs regarding the type of politician in office.

4. End of \(t = 1\): The incumbent faces re-election.
In $t = 2$:


2. The politician chooses policy, driven by the state of the world, and her innate preferences.

3. The world ends.

### 4.2.2 State-dependent policies: examples

The reader might have some difficulty grasping what is meant by state-contingent policies, that is policies that yield voters and politicians payoffs only in certain states of the world. In order to facilitate the comprehension of the sections to follow, some plausible examples of state-contingent policies are presented below.

In the case of economic policies, it is possible to claim that their complexity, especially with respect to context (i.e., the so-called state of the world) often escapes the general public. It is therefore plausible for the politician to be more informed about what is best than the representative voter, and especially about the exact economic context, or state of the world.

A canonical example of such a state-dependent policy choice relates to the presence or the absence of market failure. There is a theoretical case for government intervention whenever such a market failure is present – as famously pointed out by Greenwald and Stiglitz (1986), it is even nearly always the case that government intervention is in theory welfare-improving in the presence of imperfect information and incomplete markets – provided that public choice concerns about government failure are not too prevalent. Let state $s_t = 0$ denote no market failure, while letting $s_t = 1$ denote the presence of market failure, in one or several markets that may vary across time $t$. It follows that the welfare-maximizing policy here is *laissez-faire* ($p_t = 0$) in $s_t = 0$, and *interventionism* ($p_t = 1$) in $s_t = 1$.

A more precise example, culled from the literature on optimal taxation, concerns the enactment of a minimum wage (and any further changes in that wage rate, for that matter). It was shown by Lee and Saez (2008) that the imposition of a binding minimum wage (e.g., $p_t = 1$) can be welfare improving when there is *efficient rationing* ($s_t = 1$) in the labour
market (i.e., workers receiving the least surplus from working – the utility from consumption derived from wage income, minus the disutility from labour, which is heterogeneous across workers, relative to the utility from not working – are laid-off first by firms, following the enactment of a minimum wage), rather than uniform rationing \((s_t = 0)\), where workers are fired independently of their surplus as a result of the minimum wage’s enactment). This binding minimum wage makes redistribution towards low-income workers (in the form of an earned-income tax credit, for instance) more effective, as it prevents supply-side effects that would normally depress low-skill wages and partially offset government transfers. The state here can also be conceived to represent how well the (otherwise perfectly competitive) labour market functions in screening workers in terms of their preferences for leisure.

It is of great importance to this chapter that these examples of state-dependent policies also have clear ideological implications. The political left can historically be said to have favoured interventionism in the economy over *laissez-faire*, at least until the social-democratic “Third Way” (arising from the writings of Anthony Giddens\(^3\) in the United Kingdom, and applied notably by the centre-left governments of Tony Blair, in the UK, and Gerhard Schröder, in Germany) of the 1990s moderated such leanings. In contrast, the political right has tended to favour economic *laissez-faire* both out of ideology, and when intervention is nonetheless deemed desirable by some, then out of the perceived greater inefficiency of government relative to the private sector. More pointedly, the political left was historically supportive of minimum wages (with an emphasis on their redistributive purpose, at little to no cost for the state), while the political right deemed that the fiscal burden of low-income support should not fall on employers, when it did not oppose minimum wages for reasons of economic liberalism.

Let us now turn to defining the equilibrium concept of this game, as well as presenting some benchmark results.

### 4.2.3 Equilibrium

In this framework, let us characterize a *perfect Bayesian equilibrium* (PBE), as defined below.

\(^3\)See for instance Giddens (1998).
Definition 4.1. A PBE is:

- a set of policies $P = \{p_{1,W}, p_{2,W}, p_{1,I}, p_{2,I}\}$ encompassing all periods ($t = \{1, 2\}$) and all types ($j = \{W, I\}$, which stand respectively for welfarist and ideologue), such that an incumbent’s intertemporal utility is maximized given the representative voter’s beliefs;

- a set of equilibrium prior and posterior beliefs for the representative voter, the latter generated using Bayes rule, with corresponding out-of-equilibrium beliefs, such that the representative voter’s decision to re-elect or not the incumbent is optimal given these beliefs and the incumbent’s policy choice (itself optimal given the representative voter’s beliefs and decision).

This equilibrium is solved for by backward induction, that is by determining what choices are made by the politician in $t = 2$, and then by finding the representative voter’s equilibrium and out-of-equilibrium posterior beliefs of the politician’s welfarism at the end of $t = 1$. These, in turn, determine the politician’s optimal action in $t = 1$. This is done in the subsections that follow.

4.2.4 Of welfarist and ideological politicians

Recall that policy rents to ideologues are only derived if $p_t = 1$, the ideological policy choice (irrespective of the state of the world). By construction, welfarists fully behave according to their type and are thus re-elected with certainty.

Behaviour in $t = 2$

In the second period, when in office, both types of politicians choose their preferred policy since they have to worry neither about their tenure at the helm of the party, nor about their chances of re-election. Their payoffs and policy choices are summarized by the following proposition.

**Proposition 4.2.** In $t = 2$, politicians in office behave non-strategically. Welfarists choose $p_2 = s_2$ and receive utility $U_{2,W} = E_2 + e_2 + \Psi$. Ideological politicians choose $p_2 = 1$ and obtain utility $U_{2,I} = E_2 + e_2 + r_2$. 
Equilibrium and out-of-equilibrium posterior beliefs of the representative voter

The representative voter judges a politician’s performance based on whether or not they observe payoffs $\Psi$ before the election; this follows from the assumption of retrospective voting. They also update their beliefs, and hence form posterior beliefs of a politician’s welfarism, based on that observation. The posterior equilibrium beliefs that arise via Bayes rule is that a politician yielding $\Psi$ cannot be deemed less welfarist than he previously was (given by the prior, $\pi$). The implications of such updating of beliefs are summarized below.

**Proposition 4.3.** The representative voter will not re-elect an incumbent unless she acts as a welfarist, that is provide them with payoff $\Psi$, in which case the probability of re-election is 1. Their out-of-equilibrium posterior belief that an incumbent not producing $\Psi$ is welfarist is zero, and they re-elect her with probability 0.

**Proof.** The representative voter’s estimate of the probability of receiving payoff $\Psi$ is given by Bayes rule:

$$P(\Psi) \equiv P(\Psi|W)P(W) + P(\Psi|I)P(I) = \pi + \lambda(1 - \pi) \leq 1 \quad (4.1)$$

Hence, his posterior belief $\Pi$ is given by Bayesian updating:

$$\Pi = \frac{\pi}{\pi + (1 - \pi)\lambda} \geq \pi \quad (4.2)$$

where $\lambda \in [0, 1]$ is the probability of an ideologue yielding payoffs $\Psi$ in $t = 1$. His posterior belief exceeds his prior $\pi$, which gives him an inclination to re-elect the incumbent with certainty.

As $\Pi \geq \pi$, any politician who implements $p_1 = s_1$ is re-elected. In this setting, $\lambda$ can be thought of as an “index of political discipline” ([Besley 2006](#)), as it measures the likelihood that an ideologue would “control” herself so as to cater to the voter’s best interests (in $s_1 = 0$) rather than follow an agenda of her own.
Welfarists’ behaviour in \( t = 1 \)

In the first period, a politician has to weigh current and expected future payoffs from a particular action: the representative voter judges a politician’s performance based on whether they observe \( \Psi \), and will therefore not re-elect an incumbent unless she acts as a welfarist.

**Problem 4.4.** The welfarist’s problem in \( t = 1 \) is given by the following equations:

\[
E [U_W(p_1 = 0, s_1 = 0)] = E_1 + e_1 + \Psi + \delta (E_2 + e_2 + \Psi) \quad (4.3)
\]

\[
E [U_W(p_1 = 1, s_1 = 0)] = E_1 + e_1 + \delta e_2 \quad (4.4)
\]

\[
E [U_W(p_1 = 0, s_1 = 1)] = E_1 + e_1 + \delta e_2 \quad (4.5)
\]

\[
E [U_W(p_1 = 1, s_1 = 1)] = E_1 + e_1 + \Psi + \delta (E_2 + e_2 + \Psi) \quad (4.6)
\]

Equations (4.3) and (4.6) represent the intertemporal utility of a welfarist who behaves according to what her preferences dictate in each state, while equations (4.4) and (4.5) represent a welfarist’s intertemporal utility if she were to diverge from those preferences, for reasons of re-election, for instance. Since the welfarists’ incentives to deviate from their prescribed behaviour are not a concern here (for it must be that the electoral system at the very least keeps them fully accountable, if it is to be well-functioning in this benchmark), it must be that \( E [U_W(p_1 = 0, s_1 = 0)] \geq E [U_W(p_1 = 1, s_1 = 0)] \) and \( E [U_w(p_1 = 1, s_1 = 1)] \geq E [U_w(p_1 = 0, s_1 = 1)] \). This requires:

\[
\Psi \geq -\frac{\delta E_2}{1 + \delta} \quad (4.7)
\]

which holds for any \( \Psi > 0 \), and hence by assumption.

For simplicity, let us denote expected utilities from now on for all types, policies, and states in the form \( E [U_j (p_1, s_1)] \forall j \). For instance, \( E [U_W(p_1 = 0, s_1 = 0)] \) now becomes \( E [U_W (0, 0)] \).
Ideologues’ behaviour in $t = 1$

Problem 4.5. By the time ideologues make their choice of policy, the ideological rent $r_1$ is assumed to have been revealed, making it simple to compute their lifetime expected utility:

$$E [U_I(0, 0)] = E_1 + e_1 + \delta (E_2 + e_2 + \bar{r})$$  \hspace{1cm} (4.8)

$$E [U_I(1, 0)] = E_1 + e_1 + r_1 + \delta e_2$$  \hspace{1cm} (4.9)

$$E [U_I(0, 1)] = E_1 + e_1 + \delta e_2$$  \hspace{1cm} (4.10)

$$E [U_I(1, 1)] = E_1 + e_1 + r_1 + \delta (E_2 + e_2 + \bar{r})$$  \hspace{1cm} (4.11)

Solving this problem yields the following proposition.

Proposition 4.6. In state $s_1 = 0$, the behaviour of politicians pools whenever $r_1 \leq \delta (E_2 + \bar{r})$, while it separates whenever $r_1 > \delta (E_2 + \bar{r})$. In state $s_1 = 1$, the behaviour of politician pools whenever $r_1 \geq -\delta (E_2 + \bar{r})$, which in fact means that it always does (recall $r_t \in [0, R]$). This is driven by the ideologues’ innate preferences, which coincide with the welfarists’ preferences (and the representative voter’s) in $s_1 = 1$.

In other words, whenever first period rents are sufficiently low in $s_1 = 0$, we have a pooling equilibrium for this game. This is more likely the higher is the mean of future rents ($\bar{r}$), the higher is the discount rate ($\delta$, that is the more patient are politicians), and the greater are the future ego rents from office ($E_2$): unsurprisingly, politicians thus behave so as to be re-elected the more profitable is re-election.

Effect on accountability

To perform an analysis of the ideologues’ inclination to act following the electorate’s wishes, let us determine probabilistically when ideologues mimic welfarist types. In doing so, cut-off values of $r_1$ and the likelihood that $r_1$ falls below such a threshold again matters. One can therefore obtain values for the index of accountability, $\lambda$, in each state. It is found that in $s_1 = 0$:

$$\lambda_{s_1=0} = F (\delta (E_2 + \bar{r}))$$  \hspace{1cm} (4.12)
while in $s_1 = 1$:

$$\lambda_{s_1=1} = 1$$  \hspace{1cm} (4.13)

Therefore, averaged across states, it yields:

$$\bar{\lambda} = \frac{1}{2} \lambda_{s_1=0} + \frac{1}{2} \lambda_{s_1=1} = \frac{1}{2} F(\delta (E_2 + \bar{r})) + \frac{1}{2}$$  \hspace{1cm} (4.14)

**Effect on welfare**

Ex-ante expected voter welfare is characterized by the fact that ideologues will act in the representative voter’s interest (and thus provide them with $\Psi$, while still receiving $r_1$) half of the time by implementing $p_1 = s_1 = 1$. This is of course driven by the fact that each state of the world has an equal chance of occurring. Given these considerations, ex-ante voter welfare can be expressed in the following way:

$$E[W(\lambda_{s_1=0})] = \Pr(s_1 = 0) (\pi + (1 - \pi) \lambda_{s_1=0}) \Psi + \Pr(s_1 = 1) (\pi + (1 - \pi) \cdot 1) \Psi$$

$$+ \delta \pi \Psi + \delta \Psi \Pr(s_2 = 0) \Pr(s_1 = 0) (\pi (1 - \pi) (1 - \lambda_{s_1=0}))$$

$$+ \delta \Psi \Pr(s_2 = 1) \Pr(s_1 = 0) (1 - \pi)$$

$$+ \delta \Psi \Pr(s_2 = 1) \Pr(s_1 = 1) (1 - \pi)$$  \hspace{1cm} (4.15)

This fully captures the effect of the state of the world on the ideologue in office, and how any mimicking behaviour on her part in $t = 1$ impacts expected welfare in $t = 2$, since re-election is a given if $\Psi$ is observed by the representative voter. As for the effect of accountability on welfare, it yields:

$$\frac{\partial E[W(\lambda_{s_1=0})]}{\partial \lambda_{s_1=0}} = \frac{1}{2} \Psi (1 - \pi) \left( 1 - \frac{1}{2} \delta \pi \right) > 0$$  \hspace{1cm} (4.16)

The effect of accountability on welfare is therefore unambiguously positive, and the more so whenever $\pi$ and $\delta$ are low. This is so as when the quality of the pool of politicians decreases (i.e., as $\pi$ falls), the effect on welfare on making ideological politicians in office accountable in $t = 1$ is greater, as expected second-period welfare is then lower. Similarly, as future utility is discounted more heavily (i.e., the lower is $\delta$), the more welfare-maximizing (i.e.,
accountable) behaviour on the part of ideologues in office matters for ex-ante expected voter welfare.

Let us now turn to the model of interest *per se*, that is the above benchmark augmented with the politician’s party.

### 4.3 Adding party discipline

Party discipline on its leader can be modelled simply as the possibility that she gets ousted from her post. This can be a certainty that results from the democratic choice of an ex-ante party policy line by party factions (with full commitment to removing a politician who crosses this line), or from a democratic ex-post leadership review after the policy has been announced. It can also occur with some probability, such as the probability that a putsch to remove the leader is successful.

The former cases of discipline are weaker in the sense that more party support is needed to oust the politician, but the sentence without appeal if that conclusion is reached. Of course, the voting (or majority) rule plays an important role: the weakest form of discipline would be *unanimous* assent of party members to *remove* the leader, while its strongest form would be *unanimous* assent of party members to *keep* the leader.

In contrast, the probability of a putsch removing the leader is lower, yet it is far more arbitrary as it requires only a determined subset of the party’s members to succeed.

All cases are herein considered. Timing in the presence of these different means of coercion is given below, and by the figure that follows.

In $t = 1$:

1. Nature plays: the state of the world and the ideological policy rents are realized.

2. If applicable, the party chooses a policy line by democratic means (i.e., majority voting). This takes into account rational expectations of the politician’s choice, subject to the information available to the party factions concerning the state of the world, ideological policy rents, and ego rents.

3. The politician is elected in office and chooses a policy after observing the state of the
world, and the ideological rents, if applicable.

4. Once the incumbent politician has chosen a policy, she is deemed worthy or unworthy of remaining at the helm of her party in an ex-post leadership review, by commitment (or lack thereof) to an ex-ante policy line, or through the influence of putschist factions. Either she is removed, or remains party leader.

(a) Should she remain party leader, she is then either voted in for a second mandate in office or voted out in favour of the challenger party’s candidate, whose type is unknown but about whom the representative voter has prior belief $\pi \in (0, 1)$.

(b) In the event that the incumbent is removed by party factions before the election, her replacement is also drawn from the pool of available politicians and hence is a welfarist with probability $\pi$; the election is therefore a toss-up, with each party’s candidate being elected with probability $1/2$.

5. The representative voter observes benefits from the policy enacted, and updates his beliefs concerning the incumbent politician’s type ahead of the election.

6. The incumbent (or the new leader of the incumbent party) faces re-election (resp. election). If defeated, the challenger party leader takes power.

In $t = 2$:


2. The politician in office chooses a policy.

3. There is no effective party discipline in $t = 2$ as the world ends.

Figure 4.1: Timing of the game in the presence of different forms of party discipline
4.3.1 Equilibrium

Definition 4.7. A PBE now becomes:

- a set of policies $P = \{p_{1,W}, p_{2,W}, p_{1,I}, p_{2,I}\}$ encompassing all periods ($t = \{1, 2\}$) and all types ($j = \{W, I\}$, which stand respectively for welfarist and ideologue), such that an incumbent’s intertemporal utility is maximized given the representative voter’s beliefs;

- a set of equilibrium prior and posterior beliefs for the representative voter, the latter generated using Bayes rule, with corresponding out-of-equilibrium beliefs, such that the representative voter’s decision to re-elect or not the incumbent is optimal given these beliefs and the incumbent’s policy choice (itself optimal given the representative voter’s beliefs and decision);

- a set of optimally-chosen coercive measures by party factions, given the optimal choice of actions from the politicians and the representative voter’s optimal beliefs.

This equilibrium is again solved for by backward induction.

The organization of the following subsections is as follows. First, party factions and their objectives are described at length. Then, the effect of different forms of discipline on the leader are considered and contrasted, along with their effects on accountability and voter welfare. Throughout this section, party factions are deemed to have access to the same information about the state of the world and policy as the politician, with the exception of the realization of ideological rents. Section 5 considers what happens when that assumption is relaxed so that an informational asymmetry is present.

4.3.2 Party factions: descriptions and preferences

Let us suppose that there are three factions $\Phi \in \{m, o, r\}$ in the party, the size of which is normalized to be $N = 1$. All factions have an informational advantage over the representative voter in that they know the exact policy that was implemented. The first faction is that of the militants ($m$), the size of which is denoted by $\mu \in (0, 1)$: they only care about policy as they would like to take a stance for the party’s principles. Assume here that their
The opportunists constitute the second faction, of size $\omega \in (0,1)$: they care about staying in office, and their objective function is to maximize the probability of re-election. It is given by:

$$v_o(p_1, s_1) = \begin{cases} 
\Pr(\text{re-elect} | p_1 = 0, s_1 = 0) = 1 \\
\Pr(\text{re-elect} | p_1 = 1, s_1 = 0) = 0 \\
\Pr(\text{re-elect} | p_1 = 1, s_1 = 1) = 1 \\
\Pr(\text{re-elect} | p_1 = 0, s_1 = 1) = 0 \\
\Pr(\text{re-elect} | \text{Leader replaced}) = \frac{1}{2}
\end{cases}$$

The third faction is composed of reformists, and is of size $\rho = 1 - \mu - \omega$: their objective function matches the representative voter’s, yet only provided that their party is in office when the policy is chosen (thus mitigating their benevolence), meaning that their payoffs are:

$$v_r(p_1, s_1) = \begin{cases} 
\Psi > 0 \quad \forall p_1 = s_1 \\
0 \quad \forall p_1 = 1 - s_1
\end{cases}$$

Contrary to reformists, militants and opportunists are active factions in the sense that they might initiate a putsch against a leader whose policy choice they dislike. Reformists are therefore only needed when voting ex-ante on a policy line or ex-post in a leadership review is required.
4.3.3 An ex-ante policy line with full commitment

Assume at the outset that no single faction has a simple majority of members (50%+ 1 vote), yet any two factions voting together satisfy the majority rule \( Q \geq \frac{1}{2} \). All results are conditional on this voting rule being sufficiently low for effective majorities to prevail: for \( Q \) sufficiently high, discipline is much weakened since any two factions voting together may not satisfy it. It then amounts to requiring unanimity among all factions. The propositions that follow all come with the caveat that an agreement satisfying \( Q \) is found, provided that a consensus exists.

All factions are assumed to be voting sincerely, which allows one to focus solely on the Condorcet winner, should it exist. If no majority is found, the status quo consisting of no policy line – \( N \) – then prevails. By assumption, and so as to avoid ambiguities whenever unimodality of preferences is violated, should a faction be ambivalent between a policy line and the status quo, it sides for the latter in any pair-wise vote.

Due to the policy line being determined before the politician’s choice of policy in office, the benefits of each choice must be derived by backward induction. Rational expectations regarding the behaviour of both types of politicians subject to party discipline are given by the following problems. Recall that a leader who does not toe the line is deemed to be automatically dismissed, a stark punishment.

Rational expectations of a policy line’s effect on the leader’s choices

**Problem 4.8.** Welfarist politicians in \( s_1 = 0 \) face the following lifetime expected payoffs, given a policy line of \( p_1 = 0 \):

\[
E [U_W(0, 0)] = E_1 + e_1 + \Psi + \delta (E_2 + e_2 + \Psi)
\]

\[
E [U_W(1, 0)] = E_1 + e_1 + 0
\]
which causes them to always choose \( p_1 = 0 \). If the policy line is \( p_1 = 1 \) in \( s_1 = 0 \), their lifetime expected payoffs are:

\[
E[U_W(0, 0)] = E_1 + e_1 + \Psi
\]
\[
E[U_W(1, 0)] = E_1 + e_1 + 0 + \delta (e_2)
\]

Hence, \( p_1 = s_1 = 0 \) is always chosen by welfarist politicians as long as \( \Psi \geq \delta e_2 \). Meanwhile, in \( s_1 = 1 \), if the policy line chosen is \( p_1 = 0 \), expected payoffs are given by:

\[
E[U_W(0, 1)] = E_1 + e_1 + 0 + \delta (e_2)
\]
\[
E[U_W(1, 1)] = E_1 + e_1 + \Psi
\]

Thus, \( p_1 = 1 \) is chosen provided again that \( \Psi \geq \delta e_2 \). For a policy line of \( p_1 = 1 \), it yields:

\[
E[U_W(0, 1)] = E_1 + e_1 + 0
\]
\[
E[U_W(1, 1)] = E_1 + e_1 + \Psi + \delta (E_2 + \Psi + e_2)
\]

This leads to an unambiguous choice of \( p_1 = 1 \) by welfarists.

In the case of ideologues, the effect of party discipline is given by the next problem.

**Problem 4.9.** Ideologues’ incentives change in \( s_1 = 0 \) when \( p_1 = 0 \) is chosen as a policy line. They now opt to mimic welfarists with probability denoted \( \lambda'_{s_1=0} \), to distinguish it from probability \( \lambda_{s_1=0} \) when there is no party discipline:

\[
\lambda'_{s_1=0} = F (\delta (E_2 + \bar{r} + e_2)) > F (\delta (E_2 + \bar{r})) = \lambda_{s_1=0}
\]

Ideological politicians are also induced to toe the policy line when it is chosen to be \( p_1 = 1 \) when \( s_1 = 0 \): \( \lambda'_{s_1=0} = 0 \), that is no ideologue ever mimics a welfarist.

Little change in behaviour is expected when either policy line is chosen in \( s_1 = 1 \). If \( p_1 = 0 \) were chosen, for instance, then any ideologue choosing \( p_1 = 1 \) would be removed from the party’s helm. However, scarcely any benefits, future or present, would accrue
to her if she were to toe the policy line, as she would then be ousted from office by the representative voter. Precisely, the policy line is never toed whenever \( r_1 \geq \delta e_2 \), which holds for low enough rents from party leadership and a high enough degree of impatience. This makes the politician accountable in \( s_1 = 1 \) with probability:

\[
\lambda'_{s_1=1} = 1 - F(\delta e_2) < 1 = \lambda_{s_1=1}
\]

which is therefore less than in the status quo. In the event where the policy line chosen is \( p_1 = 1 \), there is absolutely no change in incentives.

The factions’ choice of policy line

The expected payoffs for each faction, given the known state of the world and the politician’s reaction, for each choice of a policy line, are presented in the following tables:

<table>
<thead>
<tr>
<th>Policy line</th>
<th>( p_1 = 0 )</th>
<th>( p_1 = 1 )</th>
<th>( N )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opportunists, ( \omega )</td>
<td>( \pi + \frac{1}{2} (1 - \pi) (1 + \lambda'_{s_1=0}) )</td>
<td>( \frac{\pi}{2} )</td>
<td>( \pi + (1 - \pi) \lambda_{s_1=0} )</td>
</tr>
<tr>
<td>Militants, ( \mu )</td>
<td>( v_m (1 - \pi) (1 - \lambda'_{s_1=0}) )</td>
<td>( v_m (1 - \pi) )</td>
<td>( v_m (1 - \pi) (1 - \lambda_{s_1=0}) )</td>
</tr>
<tr>
<td>Reformists, ( \rho )</td>
<td>( \Psi (\pi + (1 - \pi) \lambda'_{s_1=0}) )</td>
<td>( \Psi \pi )</td>
<td>( \Psi (\pi + (1 - \pi) \lambda_{s_1=0}) )</td>
</tr>
</tbody>
</table>

Table 4.1: Expected payoffs for factions, for each choice of a policy line, in \( s_1 = 0 \), given rational expectations and full commitment, and assuming \( \Psi \geq \delta e_2 \).

<table>
<thead>
<tr>
<th>Policy line</th>
<th>( p_1 = 0 )</th>
<th>( p_1 = 1 )</th>
<th>( N )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opportunists, ( \omega )</td>
<td>( \frac{1}{2} \pi + \frac{1}{2} (1 - \pi) \lambda'_{s_1=1} )</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Militants, ( \mu )</td>
<td>( v_m (\pi + (1 - \pi) \lambda'_{s_1=1}) )</td>
<td>( v_m )</td>
<td>( v_m )</td>
</tr>
<tr>
<td>Reformists, ( \rho )</td>
<td>( \Psi (\pi + (1 - \pi) \lambda'_{s_1=1}) )</td>
<td>( \Psi \pi )</td>
<td>( \Psi )</td>
</tr>
</tbody>
</table>

Table 4.2: Expected payoffs for factions, for each choice of a policy line, in \( s_1 = 1 \), given rational expectations and full commitment, and assuming \( \Psi \geq \delta e_2 \).

This leads to factions having the following preference orderings:

<table>
<thead>
<tr>
<th>Opponists, ( \omega )</th>
<th>Militants, ( \mu )</th>
<th>Reformists, ( \rho )</th>
</tr>
</thead>
<tbody>
<tr>
<td>( s_1 = 0 )</td>
<td>( s_1 = 1 )</td>
<td>( s_1 = 0 )</td>
</tr>
<tr>
<td>( {p_1 = 0} )</td>
<td>( {p_1 = N}^* )</td>
<td>( {p_1 = 1} )</td>
</tr>
<tr>
<td>( {p_1 = N} )</td>
<td>( {p_1 = 1}^* )</td>
<td>( {p_1 = N} )</td>
</tr>
<tr>
<td>( {p_1 = 1} )</td>
<td>( {p_1 = 0} )</td>
<td>( {p_1 = 0} )</td>
</tr>
</tbody>
</table>

Table 4.3: Preference rankings for factions under no-pandering, for each choice of a policy line, in each state, given rational expectations and full commitment, and assuming \( \Psi \geq \delta e_2 \). (An asterisk denotes an ex-æquo ranking.)
Recall that ex-æquo rankings exhibit status quo bias by assumption. That is to say that no policy line is always preferred to a policy line when the expected benefits from both choices are the same. The result is that \( \{ p_1 = 0 \} \) is a Condorcet winner in \( s_1 = 0 \), while \( \{ p_1 = N \} \) is chosen in \( s_1 = 1 \).

**Effect on accountability and ex-ante expected voter welfare**

The effect of such a choice of ex-ante policy line with full commitment is to further coerce ideologues in \( s_1 = 0 \). No such choice is made in \( s_1 = 1 \), since it is rationally expected by factions to not have any effective impact on the incentives of politicians, such that it would benefit a majority of party members.

**Proposition 4.10.** *In the benchmark case where welfarists behave true to their type, the choice of \( p_1 = 0 \) as an ex-ante policy line by fully-informed factions further constrains ideologues in \( s_1 = 0 \). They mimic welfarists with greater probability, provided that future party ego rents, \( e_2 \), are positive. This is welfare-increasing. In \( s_1 = 1 \), no such discipline is effective or beneficial to a majority of members. No policy line is thus chosen in that state.*

**4.3.4 An ex-post leadership review, with factions voting retrospectively**

In the case of an ex-post leadership review, one must again proceed by backward induction, by first looking at the factions’ choice.

In \( s_1 = 0 \), militants are the only faction that would like to see a politician who implemented \( p_1 = 0 \) removed. Since \( \mu < Q \), no politician who chose this is ever removed. However, a politician who chooses \( p_1 = 1 \) is disavowed by a majority of party members, \( \omega + \rho \geq Q \). This expected discipline weakens the incentives of ideologues to act true to their innate preferences, which means that they now mimic welfarists with probability:

\[
\lambda'_{s_1=0} = F(\delta(E_2 + \bar{r} + e_2)) > F(\delta(E_2 + \bar{r})) = \lambda_{s_1=0}
\]

In \( s_1 = 1 \), no faction likes to see a politician choose \( p_1 = 0 \), which means that anyone doing so is unanimously disavowed and removed. However, since both types of politicians would choose \( p_1 = s_1 = 1 \) anyway, this does not amount to an effective means of coercion.
In turn, the lack of effective discipline causes the incentives of politicians of all types to be unchanged.

These results lead to the following proposition.

**Proposition 4.11.** *In the absence of pandering by welfarist politicians, an ex-post leadership review is an equivalent means of changing the incentives of ideological politicians in $s_1 = 0$ compared with a ex-ante policy line with full commitment. (It is also equally ineffective in $s_1 = 1$.) This requires that the voting rule, $Q$, be the same in both processes.*

**Corollary 4.12.** *The fact that factions vote retrospectively is sufficient to ensure full commitment when it is not assumed at the outset. This is so as they would not renge on the decision to remove the leader who crossed the policy line even if they were given the opportunity to do so.*

### 4.3.5 A putsch by one or more factions

But it would be somewhat naïve to think that parties are utterly democratic bodies. Cloak-and-dagger moments also have their place, and one must reckon with a *coup de force* by a determined minority ousting the party’s leader.

Let us thus model a party’s discipline by minority interests in such a fashion that the size of the two putschist factions (militants and opportunists, the most extreme factions or “hardliners”, in political jargon) also corresponds to the probability of that faction successfully removing the leader alone through a putsch, rather than through democratic means. The preferences of each faction are here unchanged, with putschist opportunists seeking to remove any leader not choosing $p_1 = s_1 \forall s_1$, and succeeding with probability $\omega$, and militants any incumbent not choosing $p_1 = 1 \forall s_1$, their probability of success being $\mu$. Factions are once again first assumed to be perfectly informed about the state of the world. Only later on in Section 4.5 are they assumed to only observe policy.

As a result of the putschist factions’ presence, the behaviour of politicians is changed in the manner characterized by the following two problems, respectively for welfarists and ideologues.
Problem 4.13. Welfarists in $s_1 = 0$:

\[
E[U_W(0, 0)] = E_1 + e_1 + \Psi + \delta (1 - \mu) (E_2 + e_2 + \Psi)
\]
\[
E[U_W(1, 0)] = E_1 + e_1 + 0 + \delta (1 - \omega) e_2
\]

where

\[
\Psi \geq \frac{\delta ((\mu - \omega)e_2 - (1 - \mu)E_2)}{1 + \delta(1 - \mu)}
\]  \hspace{1cm} (4.17)

which holds by assumption for any $\Psi > 0$ given that $E_2 \gg e_2$, that is the ego rents from holding office far exceed those of being at the party’s helm.

Welfarists in $s_1 = 1$:

\[
E[U_W(1, 1)] = E_1 + e_1 + \Psi + \delta (E_2 + \Psi + e_2)
\]
\[
E[U_W(0, 1)] = E_1 + e_1 + 0 + \delta (1 - \mu - \omega) e_2
\]

There is here no question that welfarists conform to their innate preferences by choosing $p_1 = s_1 = 1$, as otherwise they lose the subsequent election, and also risk losing their place at the party’s helm. Let us now turn to the ideological politicians’ analogous problem.

Problem 4.14. Ideologues in $s_1 = 0$:

\[
E[U_I(0, 0)] = E_1 + e_1 + 0 + \delta (1 - \mu) (E_2 + e_2 + \bar{r})
\]
\[
E[U_I(1, 0)] = E_1 + e_1 + r_1 + \delta (1 - \omega) e_2
\]

Therefore, the accountability index, now denoted by $\lambda''_{s_1=0}$ to distinguish it from accountability resulting from democratic coercion ($\lambda'_{s_1=0}$) or from the absence of a policy line ($\lambda_{s_1=0}$), is given by:

\[
\lambda''_{s_1=0} = F (\delta (1 - \mu) (E_2 + \bar{r}) + \delta (\omega - \mu) e_2) > 0
\]

In state $s_1 = 0$, the behaviour of politicians pools whenever:

\[
r_1 \leq \delta ((1 - \mu) (E_2 + e_2 + \bar{r}) - (1 - \omega) e_2)
\]
while it separates whenever:

\[ r_1 > \delta ((1 - \mu) (E_2 + e_2 + \bar{r}) - (1 - \omega) e_2) \]

Ideologues in \( s_1 = 1 \):

\[
E [U_I(0, 1)] = E_1 + e_1 + 0 + \delta (1 - \mu - \omega) e_2 \\
E [U_I(1, 1)] = E_1 + e_1 + r_1 + \delta (E_2 + \bar{r} + e_2)
\]

Therefore, the accountability index in \( s_1 = 1 \) remains:

\[ \lambda''_{s_1=1} = 1 \]

This is so since in state \( s_1 = 1 \), the behaviour of politician pools whenever:

\[ r_1 \geq -\delta (E_2 + \bar{r} + (\omega + \mu)e_2) \]

It thus implies that it always does (i.e., recall \( r_t \in [0, R] \)). This is driven by the ideologues’ innate preferences, which coincide with the welfarist politicians’ preferences (and the representative voter’s) in \( s_1 = 1 \).

**Effect of fully-informed putschist factions on accountability**

What does this entail for accountability? As before, let us determine probabilistically when ideologues mimic welfarist types. In doing so, one must look at the cut-off values of \( r_1 \) and the likelihood that \( r_1 \) will fall below such a threshold, as determined by the c.d.f. of \( r \), \( F \). One therefore obtains new values for the index of accountability, \( \lambda''_{s_1} \), in each state. It is found that in \( s_1 = 0 \):

\[
\lambda''_{s_1=0} = F (\delta (1 - \mu) (E_2 + \bar{r}) + \delta (\omega - \mu) e_2)
\]

(4.18)
While in $s_1 = 1$:

$$
\lambda''_{s_1=1} = 1
$$

(4.19)

It is therefore that across all states:

$$
\bar{\lambda}'' = \frac{1}{2} \lambda''_{s_1=0} + \frac{1}{2} \lambda''_{s_1=1} = \frac{1}{2} F (\delta (1 - \mu) (E_2 + \bar{r}) + \delta (\omega - \mu) e_2) + \frac{1}{2}
$$

(4.20)

The ex-ante probability of ideologues acting opportunistically across states may be compared with the case where party discipline is absent, where:

$$
\bar{\lambda} = \frac{1}{2} F (\delta (E_2 + \bar{r})) + \frac{1}{2}
$$

(4.21)

Hence, it holds that:

$$
F (\delta (1 - \mu) (E_2 + \bar{r}) + \delta (\omega - \mu) e_2) < F (\delta (E_2 + \bar{r}))
$$

(4.22)

since whatever gain in party ego rents exists on the left-hand side is likely to be minuscule if both factions are close in relative size, and for $E_2$ sufficiently large relatively to $e_2$. By normalizing future party leadership ego rents, that is setting $e_2 = 0$, a clearer result is obtained. It shows that accountability is unambiguously reduced as a result of the party’s putschist factions’ coercive influence, whenever party ego rents are sufficiently low:

$$
F (\delta (1 - \mu) (E_2 + \bar{r})) < F (\delta (E_2 + \bar{r}))
$$

(4.23)

**Effect of fully-informed putschist factions on ex-ante expected voter welfare**

Recall that ex-ante expected voter welfare can be expressed in the following way, which is an increasing function of the accountability index across states of the world, $\bar{\lambda}''$, or equivalently
here, of $\lambda''_{s_1=0}$ since $\lambda''_{s_1=1} = 1$:

$$E[W(\lambda''_{s_1=0})] = \Pr(s_1 = 0) \left[ \pi + (1 - \pi) \lambda''_{s_1=0} \right] \Psi + \Pr(s_1 = 1) \left[ \pi + (1 - \pi) \cdot 1 \right] \Psi$$

$$+ \delta \pi \Psi + \delta \Psi \Pr(s_2 = 0) \Pr(s_1 = 0) \left[ \pi (1 - \pi) \left( 1 - \lambda''_{s_1=0} \right) \right]$$

$$+ \delta \Psi \Pr(s_2 = 1) \Pr(s_1 = 0) \left[ (1 - \pi) \right]$$

$$+ \delta \Psi \Pr(s_2 = 1) \Pr(s_1 = 1) \left[ (1 - \pi) \right]$$

(4.24)

As the accountability of ideologues is reduced by the putschist factions’ coercion, ex-ante expected voter welfare is consequently reduced. As for the respective effect of each faction’s size on welfare, it paints an unambiguous picture: the opportunists’ clout is accountability- and welfare-increasing, while the ideologues’ influence is rather accountability- and welfare-decreasing. The faction of ideologues is determined in making ideological politicians select $p_1 = 1$, which is welfare-decreasing in $s_1 = 0$; it has no positive effect in one state ($s_1 = 1$, where it is now a given what policy is implemented by ideologues, with or without any party discipline) that could counteract its negative effect in the other ($s_1 = 0$). The results in terms of comparative statics are summarized by the following equations, while the proposition below reprises the results that concern accountability, welfare, and the influence of both putschist factions.

$$\frac{\partial \lambda}{\partial \mu} = -\frac{1}{2} \delta (E_2 + \bar{r} + e_2) f (\delta (1 - \mu) (E_2 + \bar{r}) + \delta (\omega - \mu) e_2) < 0$$

$$\frac{\partial \lambda}{\partial \omega} = \frac{1}{2} \delta e_2 f (\delta (1 - \mu) (E_2 + \bar{r}) + \delta (\omega - \mu) e_2) > 0$$

(4.25)

**Proposition 4.15.** Coercion by putschist factions reduces the accountability of ideologues to the electorate, thereby reducing ex-ante expected voter welfare. More precisely, the influence of the militant faction is accountability- and welfare-decreasing, while that of opportunists is accountability- and welfare-increasing.

### 4.4 Pandering welfarist politicians and party discipline

Looking back at the previous section’s results, nothing is terribly surprising: putschist militants, by threatening to forcibly remove a leader who dares choose a policy that is not true to the party’s ideology, thus reduce the accountability of ideological politicians, and ex-
ante expected voter welfare. Putschist opportunists have the opposite effect, as they seek to maximize the probability of re-election, hence always striving to provide the representative voter with whatever policy benefits will lead him to believe that a welfarist politician is in office.

Meanwhile, due to the agreement between the opportunists and reformists, they effectively coerce politicians through democratic means in \( s_1 = 0 \). This makes democratic means of coercion accountability- and welfare-increasing, provided still that majority voting rule \( Q \) is satisfied.

But this lack of surprises is largely driven by the informational structure of the game, the resulting beliefs, and the incentives for both welfarist and ideological politicians. It is conducive to the unwavering behaviour of welfarist politicians: they are comforted in acting according to their innate preferences regarding the choice of policy, for it guarantees their re-election. It is also key to their democratically-unchallenged leadership of the party. Yet what if incentives are present for welfarists to choose a policy that does not necessarily maximize voter welfare, yet maximizes their own lifetime expected utility? In other words, what if welfarists are induced to pandering to the electorate, in spite of their own innate preferences for policy, so as to ensure their re-election and remain in office for another term? To this effect, consider the following modifications to the structure of the game, with regard to the representative voter’s beliefs and access to information.

### 4.4.1 A second-best benchmark: pandering welfarist politicians

To induce welfarist politicians to pandering to the electorate — defined here as acting according to what the representative voter wants to see or hear, not what is necessarily best for him, to the end of being re-elected — suppose that the representative voter now necessarily observes policies, yet only observes payoffs before the election with probability \( q \), unknown to him.

Furthermore, assume that policy \( p_t = 1 \) now has an ideological connotation for the representative voter as well, causing any politician implementing it to be branded as an ideologue in the eyes of the representative voter, unless payoffs are revealed before the election, in which case the previous equilibrium and out-of-equilibrium beliefs prevail. Conversely, the choice of \( p_t = 0 \) is judged to be a sign of welfarism, unless payoffs are revealed before the
election is held to show otherwise; the previous equilibrium and out-of-equilibrium beliefs then hold. The probabilities of re-election are therefore now given by:

\[
\begin{align*}
\Pr (\text{Re-elect} | p_1 = 0, s_1 = 0) &= 1 \\
\Pr (\text{Re-elect} | p_1 = 1, s_1 = 0) &= 0 \\
\Pr (\text{Re-elect} | p_1 = 0, s_1 = 1) &= 1 - q \\
\Pr (\text{Re-elect} | p_1 = 1, s_1 = 1) &= q \\
\Pr (\text{Re-elect} | \text{Leader replaced}) &= \frac{1}{2}
\end{align*}
\]

While one might object to the *ad hoc* and mistaken nature of such beliefs, which are used in a similar example by Besley (2006, p. 136), they merely serve to induce a bias against a subset of policies. This type of bias may well be present in the electorate against, say, the enactment of a minimum wage, or all types of government intervention. They also provide an easy way of inducing welfarist yet office-motivated politicians to pander. For instance, if there is no coercion by the party, as in the previous benchmark case, the lifetime payoffs of welfarist politicians are now:

\[
\begin{align*}
E[U_W(0, 0)] &= E_1 + e_1 + \Psi + \delta (E_2 + e_2 + \Psi) \\
E[U_W(1, 0)] &= E_1 + e_1 + 0 + \delta e_2 \\
E[U_W(0, 1)] &= E_1 + e_1 + 0 + \delta ((1 - q) (E_2 + \Psi) + e_2) \\
E[U_W(1, 1)] &= E_1 + e_1 + \Psi + \delta (q (E_2 + \Psi) + e_2)
\end{align*}
\]

Welfarist politicians still always opt for \( p_1 = s_1 = 0 \), yet while they were previously deemed to choose \( p_1 = s_1 = 1 \), it now happens that whenever:

\[
\Psi < \frac{\delta (1 - 2q) E_2}{1 - \delta (1 - 2q)}, \quad q < 1/2 \tag{4.26}
\]

welfarist politicians pander by choosing \( p_1 = 1 - s_1 = 0 \), the policy which maximizes lifetime expected utility and, *de facto*, chances of re-election.

In contrast, the basic problem for an ideologue when policies are observed by the repre-
sentative voter is now given by:

\[
E[U_I(0, 0)] = E_1 + e_1 + 0 + \delta (E_2 + e_2 + \bar{r})
\]
\[
E[U_I(1, 0)] = E_1 + e_1 + r_1 + \delta e_2
\]
\[
E[U_I(0, 1)] = E_1 + e_1 + 0 + \delta ((1 - q) (E_2 + \bar{r}) + e_2)
\]
\[
E[U_I(1, 1)] = E_1 + e_1 + r_1 + \delta (q (E_2 + \bar{r}) + e_2)
\]

In \( s_1 = 0 \), the condition for ideologues being held accountable (i.e., here now defined as acting true to the representative voter’s – known – interests, not their perception thereof) is left unchanged (see equation 4.12), yet in \( s_1 = 1 \) it now becomes:

\[
r_1 \geq \delta (1 - 2q) (E_2 + \bar{r}), q < 1/2
\]

or in probabilistic form:

\[
\lambda_{s_1=1} = 1 - F(\delta (1 - 2q) (E_2 + \bar{r})) < 1
\]

The accountability of ideologues is reduced in this setting, relative to the initial benchmark where policy is not observed. If one can label the first benchmark case derived above in Section 4.2 as being “first-best”, since welfarists always behaved true to type, then this new benchmark with pandering is definitely a second best. These results are summarized by Proposition 4.16 next.

**Proposition 4.16.** When payoffs from the welfare-maximizing policy are low enough (see condition 4.26, above), and given that the representative voter deems any politician choosing \( p_1 = 1 \) to be an ideologue, then the office-motivated welfarist panders to the representative voter. This is welfare-reducing relative to the initial benchmark case without pandering, and

---

4Pandering is welfare-decreasing relative to the case where the policy is always observed, the payoff is only observed with probability \( q \), and there is no pandering: for a proof, refer to Appendix 3.1 on page 248. Yet it is also that as the accountability of ideologues is decreased in \( s_1 = 1 \), the latter case remains stricto sensu a second best relative to this chapter’s initial benchmark, where policy is unobserved but payoffs are, and there is no pandering. The case with pandering and decreased accountability of ideologues is therefore strictly speaking a “third best” relative to the other two cases.
so is the ideological politicians’ diminished incentives to be held accountable (here, meant to be acting in the representative voter’s interest) in $s_1 = 1$. This is therefore a “second-best” benchmark.

As a result, there are three possible equilibria for this new benchmark:

- one where welfarists pander and choose $p_1 = 0$ in both states, while ideologues are held accountable by choosing $p_1 = s_1$ (i.e., whenever $r_1 \in [\delta (1 - 2q) (E_2 + \mu), \delta (E_2 + \bar{r})]$), their behaviour thus pooling in $s_1 = 0$ and separating in $s_1 = 1$;

- one where welfarists pander and choose $p_1 = 0$ in both states, while ideologues are held accountable only in $s_1 = 0$ (i.e., whenever $r_1 < \delta (1 - 2q) (E_2 + \bar{r})$), thus pooling in both states;

- and one where welfarists pander and choose $p_1 = 0$ in both states, while ideologues are held accountable only in $s_1 = 1$ (whenever $r_1 > \delta (E_2 + \bar{r})$), their behaviour thus separating in both states.

4.4.2 An ex-ante policy line with full commitment

To examine the effect of democratic means of coercion on accountability and welfare, one must proceed by backward induction, and examine how the threat of sure removal for crossing the policy line affects behaviour of both types of politicians. This allows the ranking of choices for an ex-ante policy line, under rational expectations of compliance with it that arise from the previous step.

Rational expectations of a policy line’s effect on the leader’s choices

**Problem 4.17.** Let us first consider party discipline through a policy line chosen democratically. Proceeding still by way of backward induction, let us first examine the effects of discipline on the behaviour of both types of politicians, in both states.

Welfarist politicians in $s_1 = 0$ face the following lifetime expected payoffs, given a policy
The policy line of \( p_1 = 0 \):

\[
E[U_W(0, 0)] = E_1 + e_1 + \Psi + \delta (E_2 + e_2 + \Psi)
\]

\[
E[U_W(1, 0)] = E_1 + e_1 + 0
\]

which causes them to always choose \( p_1 = 0 \). If the policy line is \( p_1 = 1 \) in \( s_1 = 0 \), their lifetime expected payoffs are:

\[
E[U_W(0, 0)] = E_1 + e_1 + \Psi
\]

\[
E[U_W(1, 0)] = E_1 + e_1 + 0 + \delta e_2
\]

Hence, \( p_1 = s_1 = 0 \) is still chosen by welfarist politicians as long as \( \Psi \geq \delta e_2 \). Meanwhile, in \( s_1 = 1 \), if the policy line chosen is \( p_1 = 0 \), expected payoffs are given by:

\[
E[U_W(0, 1)] = E_1 + e_1 + 0 + \delta ((1 - q) (E_2 + \Psi) + e_2)
\]

\[
E[U_W(1, 1)] = E_1 + e_1 + \Psi
\]

Thus, \( p_1 = 0 \) is chosen provided that:

\[
\Psi < \delta ((1 - q) (E_2 + \Psi) + e_2)
\]

\[
\iff \Psi < \frac{\delta ((1 - q) E_2 + e_2)}{1 - \delta (1 - q)}
\]

A policy line of \( p_1 = 1 \), on the other hand, yields:

\[
E[U_W(0, 1)] = E_1 + e_1 + 0
\]

\[
E[U_W(1, 1)] = E_1 + e_1 + \Psi + \delta (q (E_2 + \Psi) + e_2)
\]

This means that pandering is eliminated by the choice of policy line \( p_1 = 1 \).

Problem 4.18. Ideologues in \( s_1 = 0 \) face the following lifetime expected payoffs, allowing
for the choice of policy line $p_1 = 0$:

$$E [U_I(0, 0)] = E_1 + e_1 + 0 + \delta (E_2 + e_2 + \bar{r})$$

$$E [U_I(1, 0)] = E_1 + e_1 + r_1$$

Such a policy line affects their incentives in $s_1 = 0$, since the accountability index becomes:

$$\lambda'_{s_1=0} = F (\delta (E_2 + \bar{r} + e_2)) > F (\delta (E_2 + \bar{r})) = \lambda_{s_1=0}$$

Now, allowing for the choice of a policy line $p_1 = 1$ in $s_1 = 0$:

$$E [U_I(0, 0)] = E_1 + e_1 + 0$$

$$E [U_I(1, 0)] = E_1 + e_1 + r_1 + \delta e_2$$

Ideologues are therefore never held accountable here, due to party discipline. In other words, the accountability index $\lambda_{s_1=0}$, which used to be positive yet less than 1 in the benchmark case, is then reduced to zero. In contrast, in $s_1 = 1$, if the policy line chosen is $p_1 = 0$, their payoffs are:

$$E [U_I(0, 1)] = E_1 + e_1 + 0 + \delta ((1 - q) (E_2 + \bar{r}) + e_2)$$

$$E [U_I(1, 1)] = E_1 + e_1 + r_1$$

This reduces their accountability in $s_1 = 1$, since

$$\lambda'_{s_1=1} = 1 - F (\delta (1 - q) (E_2 + \bar{r}) + e_2)) < 1 - F (\delta (1 - 2q) (E_2 + \bar{r})) = \lambda_{s_1=1}$$

Meanwhile, if $p_1 = 1$ is chosen as a policy line, lifetime payoffs become:

$$E [U_I(0, 1)] = E_1 + e_1 + 0$$

$$E [U_I(1, 1)] = E_1 + e_1 + r_1 + \delta (q (E_2 + \bar{r}) + e_2)$$
Similarly to welfarists, ideologues are now constrained in \( s_1 = 1 \) by the party’s coercion whenever the policy line is \( p_1 = 1 \), thus making them perfectly accountable to the representative voter’s interests:

\[
\lambda_{s_1=1}' = 1 > \lambda_{s_1=1}
\]

This form of coercion is therefore welfare-improving in all states by taming the welfarists’ tendency to pander, the ideological politicians’ office-motivated behaviour in \( s_1 = 1 \), and their ideologically-motivated behaviour in \( s_1 = 0 \).

### The factions’ expected payoffs, preference orderings, and choice of ex-ante policy line

Given that politicians are expected to behave in the way represented above, the payoffs of all factions for each choice of policy line, in every known state, are given by the following tables:

Table 4.4: Expected payoffs for factions with pandering, for each choice of a policy line, in \( s_1 = 0 \), given rational expectations and full commitment, and assuming \( \Psi \geq \delta e_2 \).

![Table 4.4](image)

Table 4.5: Expected payoffs for factions with pandering, for each choice of a policy line, in \( s_1 = 1 \), given rational expectations and full commitment, and assuming \( \Psi \geq \delta e_2 \).

![Table 4.5](image)

These yield the following preference orderings:
Table 4.6: Preference rankings for factions under no-pandering, for each choice of a policy line, in each state, given rational expectations and full commitment, and assuming \( \Psi \geq \delta e_2 \).

In \( s_1 = 0 \), the Condorcet winner is policy line \( p_1 = 0 \), due to the joint influence of the opportunists and the militants, while in \( s_1 = 1 \) it is \( p_1 = 1 \), this time due to the convergence between the interests of the militants and the reformists.

Two equilibria are consequently possible in the presence of party discipline through the choice of an ex-ante policy line with full commitment: one where ideologues pool with welfarist politicians in either state of the world (i.e., both choosing \( p_1 = s_1 \forall s_1 \)), which happens whenever \( r_1 \leq \delta (E_2 + \bar{r} + e_2) \), and one where they behave true to their type’s innate preferences over policy in both states of the world by choosing \( p_1 = 1 \forall s_1 \) (which happens whenever \( r_1 > \delta (E_2 + \bar{r} + \mu) \)), thus separating in \( s_1 = 0 \). Proposition 4.19 summarizes this subsection’s results.

**Proposition 4.19.** When factions choose an ex-ante policy line with full commitment, under full information and rational expectations, they choose \( p_1 = s_1 \forall s_1 \). All incumbent leaders not toeing the policy line are removed, which then eliminates pandering of welfarist politicians in \( s_1 = 1 \), while also improving the accountability of ideologues in \( s_1 = 1 \) relative to the second-best benchmark. This type of discipline is therefore unambiguously welfare-improving.

4.4.3 An ex-post leadership review, with factions voting retrospectively

By the equivalence between an ex-ante policy line and an ex-post leadership review in disciplining the politician in each state, which still holds as retrospective voting by factions and identical majority rules (i.e., \( Q \)) are maintained (see Proposition 4.11), the results above carry through for the latter’s effect on the politician. Any leader not choosing \( p_1 = s_1 \forall s_1 \) is removed in an ex-post leadership review: in \( s_1 = 0 \) by the coalition of opportunists and
reformists, assuming again that \( \omega + \rho \geq Q \); and in \( s_1 = 1 \) by the coalition of militants and reformists, provided that \( \mu + \rho \geq Q \).

4.4.4 A putsch by one or more of the factions

How effective, in comparison with democratic means, is the threat of being forcibly removed on a leader? That is what this section endeavours to establish. Let us proceed as in Subsection 4.4.4, keeping in mind how the benchmark results have changed with the change in the informational structure of the game: recall the second-best benchmark that opened Section 4.4.

Full information: state of the world known, and \( q \) known to the putschist factions

Let us assume that party factions are still fully informed, yet now have to contend with the probability of payoffs being revealed, \( q \). (Remember that by assumption, so as to induce pandering, \( q < 1/2 \).) This will cause the opportunistic faction to weigh differently whether or not to attempt a putsch. Namely, the ex-ante probability of re-election if \( p_1 = 1 = s_1 \) is chosen and the incumbent remains at the party’s helm is \( q \), whereas the ex-ante probability of (party) re-election if \( p_1 = 1 = s_1 \) is chosen and the incumbent politician is removed by the opportunistic faction is \( 1/2 \). As a consequence, the faction of putschist opportunists will not be as virtuous as it used to be.

Problem 4.20. Welfarist politicians in \( s_1 = 0 \) now face the following choice:

\[
E[U_W(0, 0)] = E_1 + e_1 + \Psi + \delta (1 - \mu) (E_2 + e_2 + \Psi)
\]

\[
E[U_W(1, 0)] = E_1 + e_1 + 0 + \delta (1 - \omega) e_2
\]

which causes them to always choose \( p_1 = s_1 = 0 \) for all \( \Psi > 0 \), as before. What happens in \( s_1 = 1 \), in contrast? Expected utilities – given that the opportunistic faction now prefers to see \( p_1 = 0 \) being implemented, as it maximizes the politician’s re-election chances – are
given by:

\[ E[U_W(0, 1)] = E_1 + e_1 + 0 + \delta (1 - \mu) (1 - q) (E_2 + \Psi) + e_2 \]

\[ E[U_W(1, 1)] = E_1 + e_1 + \Psi + \delta (1 - \omega) (q (E_2 + \Psi) + e_2) \]

The condition for welfarist incumbents to pander to the representative voter and choose \( p_1 = 1 - s_1 = 0 \) is therefore modified to become:

\[ \delta (1 - \mu) ((1 - q) (E_2 + \Psi) + e_2) > \Psi + \delta (1 - \omega) (q (E_2 + \Psi) + e_2) \]

\[ \iff \Psi < \frac{\delta (1 - 2q) E_2 - (\mu (1 - q) - \beta q) E_2 - (\mu - \omega) e_2}{1 - \delta ((1 - 2q) - (\mu (1 - q) - \omega q))} \] (4.27)

This leads to the following proposition.

**Proposition 4.21.** Coercion by putschist factions may reduce the incidence of pandering by welfarist incumbents for any given payoff \( \Psi > 0 \), or even eliminate it for all possible \( \Psi > 0 \).

In the former case, this happens whenever a certain threshold \( \mu > \tilde{\mu} \) is met, where:

\[ \tilde{\mu} = \frac{qE_2 + e_2}{(1 - q) E_2 + e_2} \omega \]

and in the latter case, whenever a certain (stronger) threshold \( \mu > \hat{\mu} \) is met, where:

\[ \hat{\mu} = \frac{(1 - 2q) E_2}{(1 - q) E_2 + e_2} + \omega \left( \frac{qE_2 + e_2}{(1 - q) E_2 + e_2} \right) \]

\[ = \frac{(1 - 2q) E_2}{(1 - q) E_2 + e_2} + \tilde{\mu} \]

*Proof.* See Appendix B.2 on page 249. \( \square \)

Let us now turn to the ideological politicians’ problem.

**Problem 4.22.** The ideologues’ problem in \( s_1 = 0 \) is left unchanged, which means that the accountability index is also unchanged from the case with putschist factions, and without pandering from welfarist politicians, i.e.:

\[ \lambda''_{s_1=0} = F (\delta (1 - \mu) (E_2 + \tilde{r}) + \delta (\omega - \mu) e_2) > 0 \] (4.28)
This is of course not the case in \( s_1 = 1 \), where the coercion by party factions has changed, with the opportunistic faction now demanding to see \( p_1 = 0 \) as it maximizes chances of re-election:

\[
E [U_I(0, 1)] = E_1 + e_1 + 0 + \delta (1 - \mu) (1 - q) (E_2 + \bar{r}) + e_2
\]

\[
E [U_I(1, 1)] = E_1 + e_1 + r_1 + \delta (1 - \omega) (q (E_2 + \bar{r}) + e_2)
\]

Therefore, the accountability index becomes:

\[
\chi''_{s_1=1} = 1 - F \left( \delta ((1 - \mu) (1 - q) - (1 - \omega)q) (E_2 + \bar{r}) + \delta (\omega - \mu) e_2 \right)
\]  

(4.29)

It is thus plain to see that the faction of militants has an ambiguous effect on the accountability of ideologues, as an increase in its size coerces them to select \( p_1 = 1 \) more often across all states, which is beneficial in \( s_1 = 1 \) and detrimental in \( s_1 = 0 \). Similarly, the faction of opportunists increases the accountability of ideological politicians in \( s_1 = 0 \) while reducing it in \( s_1 = 1 \).

*Six* equilibria are therefore possible in the presence of party discipline through putschist factions. *Three* equilibria exist where there is pandering:

**Case 1.** An equilibrium where ideologues **fully pool** with pandering welfarist politicians in either state of the world by choosing \( p_1 = 0 \) in all states, that is when:

\[
r_1 \leq \delta ((1 - \mu) (1 - q) - (1 - \omega)q) (E_2 + \bar{r}) + \delta (\omega - \mu) e_2
\]

**Case 2.** An equilibrium where they behave true to their type’s innate preferences over policy in both states of the world by choosing \( p_1 = 1 \forall s_1 \), thus **fully separating** given pandering welfarists always choosing \( p_1 = 0 \), whenever:

\[
r_1 > \delta (1 - \mu) (E_2 + \bar{r}) + \delta (\omega - \mu) e_2
\]

**Case 3.** An equilibrium where ideologues choose \( p_1 = s_1 \), therefore **pooling** with pandering
welfarists in $s_1 = 0$, and separating in $s_1 = 1$, which occurs whenever:

$$r_1 \in (\delta ((1 - \mu) (1 - q) - (1 - \omega)q) (E_2 + \bar{r}) + \delta (\omega - \mu) e_2),$$

$$\delta (1 - \mu) (E_2 + \bar{r}) + \delta (\omega - \mu) e_2]$$

And three equilibria exist where there is not any pandering:

**Case 1.** An equilibrium where ideologues choose $p_1 = 0$ in all states, their behaviour pooling with that of welfarists in $s_1 = 0$ and separating in $s_1 = 1$, i.e., whenever:

$$r_1 \leq \delta ((1 - \mu) (1 - q) - (1 - \omega)q) (E_2 + \bar{r}) + \delta (\omega - \mu) e_2$$

**Case 2.** An equilibrium where ideologues choose $p_1 = 1$ in all states, pooling with welfarists in $s_1 = 1$, and separating in $s_1 = 0$ (i.e., whenever $r_1 > \delta (1 - \mu) (E_2 + \bar{r}) + \delta (\omega - \mu) e_2$);

**Case 3.** A fully-pooling equilibrium where $p_1 = s_1 \forall s_1$ for both types of politicians, which requires:

$$r_1 \in (\delta ((1 - \mu) (1 - q) - (1 - \omega)q) (E_2 + \bar{r}) + \delta (\omega - \mu) e_2),$$

$$\delta (1 - \mu) (E_2 + \bar{r}) + \delta (\omega - \mu) e_2]$$

for ideologues to comply with such policy choices.

To assess the overall influence of both putschist factions on welfare, one must therefore weigh the effects of both on the welfarists’ pandering relative to their keeping ideologues accountable to the representative voter’s interests. More precisely, is it worthwhile to have enough militants to prevent welfarist politicians from pandering, when it clearly might also reduce the accountability of ideologues? The next sub-subsection addresses this question.

**Effect on accountability and ex-ante expected voter welfare**

The overall effects of putschist factions on accountability and ex-ante expected voter welfare are in general ambiguous. However, one can get precise results when policy payoffs are never
revealed to the representative voter before the election is held (i.e., \( q = 0 \)). The threshold \( \hat{\mu} \) that eliminates pandering then reduces to:

\[
\hat{\mu} = \frac{E_2 + \omega e_2}{E_2 + e_2}
\]

This undeniably violates the previous assumption that \( \mu < 1/2 \) (i.e., to prevent any one faction from controlling the party on its own, through a weak majority rule for instance; however, it is only a crucial assumption for democratic means of coercion). Let us nevertheless consider how welfare behaves as \( \mu \) increases and nears this threshold.

Since welfare without pandering always exceeds welfare with pandering (see Appendix B.1 on page 248), the threshold value \( \mu = \hat{\mu} \) is at least a local maximum of ex-ante voter welfare, as it eliminates pandering.

**Proposition 4.23.** In the presence of pandering, and when payoffs from policy are never revealed before the election (i.e., \( q = 0 \)), the influence of putschist militants is strictly welfare-increasing for all \( \mu \in [0, 1] \), and particularly so for \( \mu > \hat{\mu} \), as pandering is then eliminated. This results in a jump in the ex-ante expected voter welfare function at that point. In contrast, the influence of putschist opportunists is strictly welfare-decreasing for all \( \omega \in [0, 1] \).

**Proof.** It is the case that since \( q = 0 \) and \( \partial \lambda'' / \partial \mu = 0 \):

\[
\frac{\partial E(W)}{\partial \mu} = \frac{1}{4} \delta \Psi \pi (1 - \pi) \left( -\frac{\partial \lambda''_{s_1=0}}{\partial \mu} + \frac{\partial \lambda''_{s_1=1}}{\partial \mu} \right) > 0
\]

as:

\[
\frac{\partial \lambda''_{s_1=0}}{\partial \mu} = -\frac{1}{2} \delta (E_2 + \bar{r} + e_2) f (\delta (1 - \mu) (E_2 + \bar{r}) + \delta (\omega - \mu) e_2) < 0
\]

and:

\[
\frac{\partial \lambda''_{s_1=1}}{\partial \mu} = \frac{1}{2} \delta (E_2 + \bar{r} + e_2) f (\delta (1 - \mu) (E_2 + \bar{r}) + \delta (\omega - \mu) e_2) > 0
\]

It is also that:

\[
\frac{\partial^2 E(W)}{\partial \mu^2} = \frac{1}{4} \delta \Psi \pi (1 - \pi) \left( -\frac{\partial^2 \lambda''_{s_1=0}}{\partial^2 \mu} + \frac{\partial^2 \lambda''_{s_1=1}}{\partial^2 \mu} \right) > 0 \quad (4.30)
\]
since $\partial^2 \lambda''_{s_1=0} / \partial \mu^2 < 0$, $\partial^2 \lambda''_{s_1=1} / \partial \mu^2 > 0$, whenever $F(\cdot)$ is strictly concave (for $F(\cdot)$ strictly convex, the sign of equation [4.30] above is simply reversed). The effect of the putschist militants for $F(\cdot)$ strictly concave can in turn be represented graphically by the figure below.

![Ex-ante expected voter welfare, $E(W)$](image)

Figure 4.2: The effect of the putschist faction of militants on ex-ante expected voter welfare, when $q = 0$ and for $F(\cdot)$ strictly concave

Conversely, the influence of putschist opportunists on welfare is detrimental, for when $q = 0$, $\partial \bar{\lambda}'' / \partial \omega = 0$ and:

$$
\frac{\partial E(W)}{\partial \omega} = \frac{1}{4} \delta \Psi \pi (1 - \pi) \left( - \frac{\partial \lambda''_{s_1=0}}{\partial \omega} + \frac{\partial \lambda''_{s_1=1}}{\partial \omega} \right) < 0
$$

as:

$$
\frac{\partial \lambda''_{s_1=0}}{\partial \omega} = \frac{1}{2} \delta e_2 f (\delta (1 - \mu) (E_2 + \bar{r}) + \delta (\omega - \mu) e_2) > 0
$$

and:

$$
\frac{\partial \lambda''_{s_1=1}}{\partial \omega} = -\frac{1}{2} \delta e_2 f (\delta (1 - \mu) (E_2 + \bar{r}) + \delta (\omega - \mu) e_2) < 0
$$
The proposition below summarizes Section 4.4’s findings.

**Proposition 4.24.** *In the presence of an additional distortion — welfarist politicians who pander to the representative voter’s beliefs to the end of remaining in office — party discipline on the politicians is now both accountability- and welfare-increasing. This results holds unconditionally in the case of democratic means of coercion, and conditionally on parameters and functions in the case of coercion by putschist factions. Additionally, the lower is the probability of payoffs being revealed, \( q \), the more welfare-increasing is the influence of the putschist faction of militants, while opportunists have the opposite effect.*

These results can be likened to a second-best argument: in the absence of any other distortions, the party’s coercive influence on the politician might weaken the accountability-inducing effects of the electoral mechanism (relative to the benchmark case, and especially for putschist factions), while in the presence of a pre-existing distortion (pandering politicians), the reverse is true.

### 4.5 The effect of information and far-sightedness on the effectiveness of the party’s discipline

In the previous two sections, party factions had an informational advantage over the representative voter, and were just as informed as the politician in office. While this is arguably a reasonable assumption (party members usually being more aware of policy debates, and of the prevailing conjuncture or state of the world, than the average member of the voting public), how do the results obtained above depend upon this assumption?

It was also assumed earlier that party factions vote retrospectively in an ex-post leadership review, which was key to the equivalence result with the choice of an ex-ante policy line, as well as being determinant for the effect of putschist factions. How crucially do the previous results depend on that assumption, and how are they affected when party factions are far-sighted instead?
In the current section, the assumption that party factions can observe the state of the world is relaxed, and results are assessed. This is followed by a similar analysis of the case where party factions are far-sighted.

4.5.1 Imperfect information with pandering welfarist politicians and party discipline

First consider the effect of imperfect information on party factions. To this end, recall the second-best benchmark developed earlier: as in Section 4.4, welfarist politicians are inclined to pander in $s_1 = 1$. This happens for all other parameter values if $\Psi$ falls below the threshold found in equation 4.26. Their payoffs are then generally described by the table on the next page.
\[
\begin{align*}
\text{Policy line} & \quad p_1 = 0 & \quad p_1 = 1 \\
\text{Opportunists, } \omega & \quad \frac{1}{2} (\pi + (1 - \pi) \lambda_{s_1 = 0}) + \frac{1}{2} \left( (\pi + (1 - \pi) (1 - \lambda_{s_1 = 1})) (1 - q) + \frac{1}{2} (1 - \pi) \lambda_{s_1 = 1} \right) & \quad \frac{1}{2} \pi + \frac{1}{2} q \\
\text{Militants, } \mu & \quad \frac{1}{2} r_1 (1 - \pi) (1 - \lambda_{s_1 = 0}) + \frac{1}{2} r_1 (1 - \pi) \lambda_{s_1 = 1} & \quad \frac{1}{2} r_1 (1 - \pi) + \frac{1}{2} r_1 \\
\text{Reformists, } \rho & \quad \frac{1}{2} \Psi (\pi + (1 - \pi) \lambda_{s_1 = 0}) + \frac{1}{2} \Psi (1 - \pi) \lambda_{s_1 = 1} & \quad \frac{1}{2} \Psi \pi + \frac{1}{2} \Psi
\end{align*}
\]

Table 4.7: Expected payoffs for factions with pandering, for each choice of a policy line, with the state being unknown, given rational expectations and full commitment, and assuming \( \Psi \geq \delta c_2 \).
The choice of an ex-ante policy line with full commitment

The preference rankings or both opportunists and militants, since they agree in both states of the world, carry through when their expected value (i.e., a convex combination of payoffs in each state) is considered. However, the reformists’ preference orderings are not state-invariant.

<table>
<thead>
<tr>
<th>Policy line</th>
<th>$p_1 = 0$</th>
<th>$p_1 = 1$</th>
<th>$N$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opportunists, $\omega$</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Militants, $\mu$</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Reformists, $\rho$</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
</tbody>
</table>

Table 4.8: Preference rankings for factions with pandering, for each choice of a policy line, with the state being unknown, given rational expectations and full commitment, and assuming $\Psi \geq \delta e_2$.

The preference ranking of reformists is generally indeterminate. Precisely:

$$\{p_1 = 0\} \succ \{p_1 = 1\} \iff \lambda_{s_1=0} + \lambda'_{s_1=0} \geq \frac{1}{1-\pi}$$

$$\{p_1 = N\} \succ \{p_1 = 0\} \iff \lambda_{s_1=0} + \lambda_{s_1=1} \geq \lambda'_{s_1=0} + \lambda'_{s_1=1}$$

Twelve (12) cases may hold, as summarized by the table below:

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Policy line</th>
<th>$p_1 = 0$</th>
<th>$p_1 = 1$</th>
<th>$N$</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\lambda_{s_1=0} + \lambda'<em>{s_1=1} \succ \lambda</em>{s_1=0} + \lambda_{s_1=1} \succ \frac{1}{1-\pi}$</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>$\lambda_{s_1=0} + \lambda'<em>{s_1=1} \succ \lambda</em>{s_1=0} + \lambda_{s_1=1} \succ \frac{1}{1-\pi}$</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>$\lambda_{s_1=0} + \lambda_{s_1=1} \succ \lambda_{s_1=0} + \lambda_{s_1=1} = \frac{1}{1-\pi}$</td>
<td>1</td>
<td>2*</td>
<td>2*</td>
<td></td>
</tr>
<tr>
<td>$\lambda_{s_1=0} + \lambda_{s_1=1} = \lambda_{s_1=0} + \lambda_{s_1=1} = \frac{1}{1-\pi}$</td>
<td>1*</td>
<td>3*</td>
<td>1*</td>
<td></td>
</tr>
<tr>
<td>$\lambda_{s_1=0} + \lambda_{s_1=1} &gt; \lambda_{s_1=0} + \lambda_{s_1=1} &gt; \frac{1}{1-\pi}$</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>$\lambda_{s_1=0} + \lambda_{s_1=1} &gt; \lambda_{s_1=0} + \lambda_{s_1=1} &gt; \frac{1}{1-\pi}$</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>$\lambda_{s_1=0} + \lambda_{s_1=1} &gt; \lambda_{s_1=0} + \lambda_{s_1=1} &gt; \lambda_{s_1=0} + \lambda'_{s_1=1}$</td>
<td>3</td>
<td>1*</td>
<td>1*</td>
<td></td>
</tr>
<tr>
<td>$\lambda_{s_1=0} + \lambda_{s_1=1} &gt; \lambda_{s_1=0} + \lambda_{s_1=1} &gt; \lambda_{s_1=0} + \lambda'_{s_1=1}$</td>
<td>2*</td>
<td>1</td>
<td>2*</td>
<td></td>
</tr>
<tr>
<td>$\lambda_{s_1=0} + \lambda_{s_1=1} &gt; \lambda_{s_1=0} + \lambda_{s_1=1} &gt; \lambda_{s_1=0} + \lambda'_{s_1=1}$</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>$\lambda_{s_1=0} + \lambda_{s_1=1} &gt; \lambda_{s_1=0} + \lambda_{s_1=1} &gt; \lambda_{s_1=0} + \lambda'_{s_1=1}$</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.9: Preference rankings for the reformist faction with pandering, for each choice of a policy line, with the state being unknown, given rational expectations and full commitment, and for different parameter values, assuming $\Psi \geq \delta e_2$. (A asterisk denotes an ex-æquo ranking.)
For a high-quality pool of politicians in both (or across) parties, that is whenever $\pi \geq 1/2$, the sum of accountability indices for both states cannot exceed the ratio $1/(1-\pi)$. Pandering is then the most troublesome problem across states. The reformist faction consequently prefers $p_1 = 1$ to be chosen as a policy line whenever the pool the politicians is of sufficiently high quality, and $p_1 = 0$ or $p_1 = N$ otherwise.

**Proposition 4.25.** Party discipline through an ex-ante policy line with full commitment, when factions are uninformed about the state of the world and in the presence of pandering, performs worse in terms of accountability and welfare than under full information. This is so as it weakens the accuracy of the coercive instrument, which must now be state-invariant. Poor information also weakens the determinacy of the reformists’ preferences: they may well hedge state uncertainty by choosing the status quo (i.e., $p_1 = N$), which would render coercion through an ex-ante policy line completely ineffective.

**An ex-post leadership review**

No additional information regarding the state of the world is revealed to party factions by the time an ex-post leadership review is held. While the opportunists seek to remove anyone not choosing $p_1 = 0$, and militants only support politicians choosing $p_1 = 1$, it is not so clear how reformists behave. Due to the timing of the game, and contrary to what happens for the choice of an ex-ante policy line, they do not account for the review’s effect on accountability when making their choice. It is thus that, if reading from the above table:

$$\lambda_{s_1=0} = \lambda'_{s_1=0}, \lambda_{s_1=1} = \lambda'_{s_1=1}$$

Two determinate cases are thus possible. Either:

$$\lambda_{s_1=0} + \lambda_{s_1=1} > \frac{1}{1-\pi}$$

and the party leader and incumbent politician is only supported if $p_1 = 0$ is chosen, or:

$$\lambda_{s_1=0} + \lambda_{s_1=1} < \frac{1}{1-\pi}$$
and a leader is only supported if she chose \( p_1 = 1 \). For a high enough quality of the pool of politicians, in particular when \( \pi \geq 1/2 \), the sum of accountability indices is always below the ratio \( 1/(1 - \pi) \), which means that a leader not choosing \( p_1 = 1 \) is removed by a coalition of reformists and militants. This is so since reformists perceive the chance of a new welfarist leader being chosen (as a result of the previous leader’s dismissal) as fairly high. Such a threat also has the effect of eliminating pandering, even if it is at the expense of the accountability of ideologues in \( s_1 = 0 \).

Finally, in the event where:

\[
\lambda_{s_1=0} + \lambda_{s_1=1} = \frac{1}{1 - \pi}
\]

then the preferences of reformists are indeterminate, meaning that no leader is ever removed. It is so for when reformists abstain, neither of the other factions satisfies majority rule \( Q \) on its own.

**Proposition 4.26.** When factions are uninformed about the state of the world, the equivalence between an ex-ante policy line and an ex-post leadership review may still hold. The effect of poor information on coercion through an ex-post leadership review is to reduce the effectiveness of party discipline on the leader: either by not discouraging pandering (i.e., when \( p_1 = 0 \) is favoured in all states), or by decreasing the accountability of ideologues in \( s_1 = 0 \) (i.e., when \( p_1 = 1 \) is favoured by the party in all states). It may also be that no coercion is possible, due to the preferences of the reformist faction being indeterminate.

**A putsch by one or more factions**

What does coercion by putschist factions imply when they are not informed about the state of the world, like the representative voter and contrary to the incumbent?

The opportunistic faction still maximizes the expected probability of re-election, here given by \((1/2)(2 - q)\) if \( p_1 = 0 \) is chosen, \( q/2 \) if \( p_1 = 1 \) is chosen, and \( 1/2 \) if the leader is successfully removed through a putsch. Opportunists therefore still favour \( p_1 = 0 \), and any leader choosing \( p_1 = 1 \) faces the threat of a putsch from that faction. Militants still favour \( p_1 = 1 \), the ideologically-identified policy, with a leader choosing \( p_1 = 0 \) also incurring the
threat of a putsch from that faction.

This leads to exactly the same problems for both types of politicians. Coercion by putschist factions thus leads to an increase in the accountability of ideological politicians relative to the no-coercion case in a way that mirrors exactly that in Subsection 4.4.4 on page 143. Furthermore, under imperfect information the coercion mechanism remains just as effective as under full information: there is therefore no change in accountability or voter welfare relative to the case of fully-informed putschist factions. This can be explained by the fact that neither of their preference orderings are state-dependent (unlike, say, the reformists’), and also because they can act unilaterally.

Let us summarize the results concerning the effects of imperfect information on both types of coercion mechanisms in the next proposition.

**Proposition 4.27.** When the second-best benchmark (where welfarist politicians are inclined to pander) is modified to account for party factions having imperfect information about the state of the world, the efficacy of democratic mechanisms in constraining the politician in office is reduced, while putschist factions are just as effective in coercing politicians to be held accountable.

### 4.5.2 Far-sighted factions: strategic interactions between parties and the decision to remove the leader

In weighing whether to remove the leader or not, if factions act by looking retrospectively only, then the outcomes outlined in Section 4.4 prevail. Yet what if they now look forward as well? Only the behaviour of militants and reformists is then changed, as opportunists still only care about the probability of re-election, which is left unchanged.

**The choice of an ex-ante policy line with full commitment**

When factions are far-sighted, i.e. vote prospectively in an ex-post leadership review, the equivalence between the disciplining effect of an ex-post leadership review and an ex-ante policy line with full commitment generally does not hold, as one might well then renege ex-post on a policy line chosen ex-ante.
Furthermore, difficulty in ranking outcomes implies that there does not necessarily exist a Condorcet winner in each state for the choice of a policy line (see Appendix B.3 on page 251). This ensures that there is no certainty that the equivalence between an ex-ante policy line (with full commitment to removing a leader who crosses it), and an ex-post leadership review, carries through with far-sighted factions.

**Proposition 4.28.** For the choice of an ex-ante policy line in the presence of far-sighted factions (assuming that they could commit to it regardless), the preference rankings of the opportunists and reformists fully agree in $s_1 = 0$ to favour $p_1 = 0$. However, the preference rankings for militants and reformists in $s_1 = 1$ are indeterminate, as they depend on rational expectations of the policy line’s effect on accountability and the nature of the distribution of ideological rents.

This means that in the presence of pandering welfarists, far-sightedness weakens party coercion through an ex-ante policy line, with detrimental effects for accountability and welfare, in comparison with coercion through factions voting retrospectively.

**An ex-post leadership review**

In an ex-post leadership review, far-sighted factions only effectively consider whether given the politician’s choice of policy, it is better to remove her or keep her in terms of lifetime benefits. The results are summarized by the proposition that follows, a full technical explanation for which is found in Appendix B.4 on page 256.

**Proposition 4.29.** An ex-post leadership review in the presence of far-sighted factions will remove any incumbent politician choosing $p_1 = 1$ in $s_1 = 0$ from the party’s helm. This happens through the unanimous assent of all party factions. A politician choosing $p_1 = 0$ in $s_1 = 0$ is never removed.

Meanwhile, in $s_1 = 1$, a leader choosing $p_1 = 0$ may or may not be removed. If the accountability index in state $s_1 = 1$ exceeds a certain threshold given by:

$$\lambda_{s_1=1} = \max \left\{ 1 - \frac{1 - \pi \left( \frac{3}{2} - q \right)}{2 (1 - q) (1 - \pi)}, 1 - \frac{1 - \pi (3 - 4q)}{2 (1 - q) (1 - \pi)} \right\}$$
then the militants and reformists jointly seek to remove such a leader. Furthermore, a leader choosing \( p_1 = 1 \) in \( s_1 = 1 \) is always unanimously removed from her post by the party.

This implies that the accountability of ideological incumbents increases in \( s_1 = 0 \), while it decreases in \( s_1 = 1 \). Also, pandering by welfarists in \( s_1 = 1 \) is not generally eliminated by party discipline. An ex-post leadership review with far-sighted factions performs generally less well than when they vote retrospectively.

Militants and reformists, by being far-sighted, align their preferences with the incumbent politician’s and recognize her re-election motives for choosing certain policies. This is why they choose to champion politicians choosing \( p_1 = 0 \) in all states, which fosters pandering on the part of welfarist politicians, as well as leading to an decrease in the accountability of ideologues in \( s_1 = 1 \), and an increase in \( s_1 = 0 \). Overall effects on welfare are thus ambiguous, but it is apparent that coercion performs less well than with retrospectively-voting factions, for it is less tailored to the state of the world.

It appears moreover that far-sighted militants in \( s_1 = 1 \) may turn out to be “refuseniks” by seeking to have any leader removed (i.e., regardless of the policy choice) if the accountability index for ideologues in \( s_1 = 1 \) is sufficiently high. This is so as they know that by removing a leader choosing \( p_1 = 0 \) in \( s_1 = 1 \), they are almost surely removing a welfarist, and replacing her with an ideologue with probability \( 1 - \pi \). All this, with only a limited impact on re-election probabilities (1/2 rather than \( 1 - q \)), which is more negligible the higher is \( q < 1/2 \).

It is however puzzling as to why reformists may also behave in the same way, unless it is seen as a means of punishing pandering welfarists.

A putsch by one or more factions

As stated earlier, the objective of the opportunists being strictly re-election, their decision-making process does not change when all factions are far-sighted.

The objective of militants is however modified: they have to weigh the benefits of having seen (or not having seen) \( p_1 = 1 \) with the prospect of seeing \( p_2 = 1 \). They thus need to consider expected utility in choosing policy optimally.
Putschist factions behave as opportunists and militants do in an ex-post leadership review (see the Appendix B.5 on page 259 for details), which results in the choices described by the next proposition.

**Proposition 4.30.** Coercion through far-sighted putschist factions causes opportunists to seek the removal of any incumbent who did not choose \( p_1 = 0 \forall s_1 \). Militants meanwhile seek to remove any incumbent who did not choose \( p_1 = 0 \forall s_1 \), and may even always seek to remove the politician in \( s_1 = 1 \) if the accountability index in that state exceeds a certain threshold.

The result is that while the accountability of ideological incumbents is improved in \( s_1 = 0 \), it is diminished in \( s_1 = 1 \), with ambiguous results overall. Furthermore, welfarist politicians continue to pander in \( s_1 = 1 \), which is welfare-decreasing relative to the second-best benchmark.

Proposition 4.31 summarizes the above results concerning the effect of far-sighted factions on accountability and welfare.

**Proposition 4.31.** When factions weigh future utility concerns as well as present ones in judging the incumbent leader’s current choice of policy (i.e., are far-sighted, as opposed to voting retrospectively), and in the presence of pandering welfarist politicians, party discipline through democratic means is weakened since the factions’ interests then become more aligned with the incumbent politician’s.

Meanwhile, party coercion through putschist factions is also adversely affected: incentives for pandering are increased, while the accountability of ideologues is increased in \( s_1 = 0 \), and decreased in \( s_1 = 1 \).

### 4.6 Conclusions and summary: The decline in political participation, and the decline in the relevance of parties

This chapter sought to model the coercion exerted by a politician’s party on her choice of policies while in office, and its resulting effect on political accountability and voter welfare. To this end, it used a model of political agency where the politician’s heterogeneous party,
composed of factions, could remove her through different means before the election was held, and after the policy choice had been made. It did so in an otherwise unbiased setting, with full information concerning policy and the state of the world being available to the politician in office and to party factions, and with the representative voter observing policy payoffs before the election – the benchmark case. It also considered a second-best setting where otherwise welfare-preoccupied politicians put electoral success ahead of policies conducive to the maximization of voter welfare, thus leading them to pander to the electorate’s misguided beliefs about optimal policy choice. Comparisons were made, and the following results were found.

First, in the benchmark case – i.e., when welfarist politicians always behaved true-to-type by implementing the welfare-maximizing policy, and only ideologues needed to be forcibly made accountable to the representative voter’s interests – the party’s influence increased the accountability of politicians in office when discipline was expressed through democratic means. It however reduced the accountability of politicians in office, thereby also reducing ex-ante expected voter welfare, when discipline was expressed through the influence of putschist factions. Coercion by putschist factions made them less accountable: this was due to the influence of the militant faction, and contrary to that of the opportunistic faction, with the former influence prevailing.

The benchmark case was then modified, so as to allow for a different information structure and beliefs that enabled pandering by welfarist politicians (i.e., providing the representative voter with the policy he deems ex-ante to be in his interest, while he is imperfectly informed about its payoffs). It was found that coercion by the party through democratic means was now accountability- and welfare-increasing, relative to the case with pandering but without any party present, while results for putschist factions were mixed but nonetheless surprisingly highlighted the militant faction’s potentially beneficial influence. The party’s effect in this setting followed a second-best argument, where if there is a pre-existing distortion to the accountability-inducing mechanism of elections (i.e., the representative voter’s inability to always see payoffs before the election, and thus forming beliefs leading to pandering), then introducing another distortion (i.e., the party’s coercive effect on the politician which in a first-best setting was found to be welfare-decreasing) can
now be shown to unambiguously increase welfare.

Finally, with regard to questions of the imperfect information available to party factions and of the far-sightedness of these same factions, these two factors tend to reduce the effectiveness of party discipline in improving accountability and welfare in a second-best setting with pandering. Coercion through democratic means is adversely affected by both imperfect information and far-sighted behaviour. Coercion by means of putschist factions is in contrast unaffected by imperfect information, but similarly adversely affected by far-sightedness, for it then aligns the factions’ incentives with those of careerist politicians.

On the topic of the “responsible party” model, and whether it should be upheld in the light of its effects on politicians’ accountability and voter welfare, the answer to that question is a conditional “yes”.

As implied by the above summary of findings, a responsible party which consists of a cohesive organization with collectively-drafted and well-defined programs, strong and active supporters, and a permanent staff, will generally have a beneficial effect on accountability and welfare.

One would hope that such a party would be internally-democratic, in which event its effect is to unambiguously increase accountability and welfare, and particularly so in a second-best setting where welfarist politicians pander. The responsible party’s influence is in addition especially beneficial if information is readily accessible to party factions – making them as informed as the politician in office – and if they are near-sighted – in the sense that they vote retrospectively, just as the representative voter is assumed to be doing.

It can also further be argued that the decline in parties, due for instance to the declining participation of the electorate as a whole in political parties, may have dire consequences on political accountability and voter welfare. One effect of this decline in participation could for instance be a decrease in the quality of political candidates (captured in the model exogenously by \( \pi \), the quality of the pool of available politicians) vying for the party’s leadership. This would lead to ill-chosen policies and a consequent decrease in voter welfare. Furthermore, a decline in participation due to political alienation might for instance decrease the size of the militant faction, \( \mu \). While this might improve accountability and welfare when the electoral mechanism functions well, its effects in this chapter’s second-best framework
would instead be detrimental.

In sum, this chapter contributed to the literature on political agency by demonstrating how a party’s disciplining effect on its leader may have a beneficial impact on her accountability to the representative voter, even when the electoral mechanism is performing well. It also contributed to a theory of the political second-best by showing how a malfunctioning electoral mechanism, plagued by a distortion such as pandering welfarists, can be improved upon by the introduction of an additional distortion: putschist factions and particularly putschist militants. Finally, it provided evidence for upholding the normative idea of a responsible party.
Chapter 5

Normative Analysis and Societal Consensus

5.1 Introduction

This chapter seeks to investigate the importance of achieving a societal consensus surrounding questions of redistribution. This societal consensus is measured by the extent of co-operative behaviour in work participation decisions, and rests on social norms which induce work participation beyond the limits imposed by pure self-interested behaviour. This chapter precisely asks what the presence of such social norms concerning work participation entails for optimal redistributive income taxation, and how a social planner’s problem should be affected by the prevailing degree of societal cohesion.

It is shown here that the extent of the prevalent societal consensus (i.e., whether the economy is characterized by a low or a high work participation in equilibrium) matters for a social planner’s choice of redistributive taxes, its general effect being to constrain the progressivity of the selected income tax schedule. Reciprocally, this societal consensus can be fostered or hindered by the social planner’s choices of redistributive income tax schedules. In that spirit, an engineered shift from a low- to a high-participation equilibrium (i.e., increasing societal cohesion) can be Pareto-improving, but may run counter to the social planner’s aversion to inequality and consequent redistributive choices.

Motivating this inquiry is the importance for normative analysis of the social planner’s
choice of objective function and the constraints to which it is subjected. These need to
satisfy some basic characteristics so as to be representative of the individuals’ preferences,
and so as to give adequate policy advice. Some characteristics of social welfare functions
are innocuous and commonly assumed, for instance individualism (basing utilities on indi-
viduals’ true preferences), anonymity (treating individuals alike) and the Pareto principle.
Yet appropriate policy choices require much more, especially with regard to questions of
redistributive taxation, where interpersonal comparisons of utility and their aggregation
across individuals particularly matter. Such value judgements then need to conform with
the prevailing social consensus, shaped by the social norms and the redistributive policies
already in place. This societal consensus thus acts as a constraint on the social planner’s
(or party in power’s) choice of policies, but is not immovable for it can in turn be altered
by the implementation of certain policies and through other forms of social engineering.

Underpinning this chapter’s definition of societal consensus is co-operative behaviour,
which is induced by a social norm influencing work participation decisions. Seminal work
on social norms by Akerlof (1980) examined how they may drive the wage-setting process,
leading to a “fair” wage being chosen rather than the market-clearing wage, and to invol-
untary unemployment. Social norms have been shown to explain deviations from purely
rational and self-interested behaviour, for instance in the context of tax evasion (cf. Gordon,
1989; Bordignon, 1993; Myles and Naylor, 1996), and to reconcile theoretical results with
conflicting empirical evidence. They have also recently been shown (cf. Cervellati et al.,
2010) to matter in the context of the intensity of labour supply. They can then serve to ex-
plain certain politico-economic attitudes towards redistribution that standard models (e.g.,
Romer, 1975; Meltzer and Richard, 1981) cannot: for instance, how economies with similar
initial income distributions and social preferences may still differ in their chosen levels of re-
distribution and their degree of social cohesion, as measured by the individuals’ compliance
with the work hours norm. Such norms concerning the intensity of labour supply were also
applied to the context of optimal income taxation by Aronsson and Sjögren (2010).

In more closely-related work, other authors have invoked social norms to explain the
compounding of moral hazard effects caused by the welfare state’s social programs over
the long run (cf. Lindbeck, 1995; Lindbeck et al., 1999; Dufwenberg and Lindholm, 2001).
This analysis was done in the context of a reconsideration of the scope and organization of the welfare state in Europe, following persistently low levels of work participation, and correspondingly high levels of benefit claims. This state of affairs was deemed to result from a weakening of norms deterring non-participation through the stigma of receiving social assistance benefits. This followed strong adverse macroeconomic shocks having thrown many individuals onto social safety nets for prolonged periods of time.

The present chapter differs from previous approaches by examining the desirability of, and possibility for societal cohesion and how it interacts a social planner’s (or party in office’s) social objectives. This analysis is both positive and normative, and makes use of a broad range of income tax instruments, whereas the work of Lindbeck et al. (1999, 2003), for instance, is chiefly characterized by a positive analysis of welfare-state dynamics through median-voter processes and a linear income tax.

The analysis conducted in the course of this chapter yields the following results. First, it is found that the presence of a social norm, when included as an incitement to co-operate, reduces the scope of redistribution achieved through an optimal income tax relative to a case where such a norm is absent. A model of optimal income taxes and work participation decisions where there is no social norm corresponds to that of Saez (2002) (based on the contribution of Diamond 1980). This is attributable to how a change in the tax incentives to participate is compounded by the presence of the social norm, which makes participation more volatile, and amplifies the budgetary loss of increasing redistribution. This does not however necessarily hold when the social norm enters as a cost to non-participants. More redistribution may result than in the case without a social norm if the planner sufficiently cares about the welfare of non-participants, and the feedback effects of the social norm on participation and budgetary balance are relatively mild. (Note however that all these comparisons rely on the assumption that the elasticities of participation for all skill classes are equal both in the presence and in the absence of a social norm.)

It is also shown that the social norm can lead to the existence of multiple locally-stable equilibria in work participation. Transitions between high- and low-participation equilibria are shown to be the result of strong, adverse macroeconomic shocks to labour productivity and large changes in the incentive structure of income taxation, notably increases in
productivity that are not optimally chosen. Conditions for the Pareto-dominance of a high-participation equilibrium over its low-participation counterpart are also derived. They are shown to restrain the choices of a social planner engineering a transition from the latter to the former equilibrium by reducing the extent of redistribution compared with the unconstrained optimal tax problem.

The chapter is organized as follows. Section 5.2 first defines individual preferences, the nature of the social norm, and how they jointly determine individual work participation decisions. It also examines how the social norm may lead to a single equilibrium or multiple locally-stable equilibria in work participation. It then considers the optimal redistribution problem of a “naïve” social planner, that is one that does not explicitly take into consideration the amount of social cohesion induced by the social norm (i.e., the convergence to a high- or low-participation equilibrium) when solving for the optimal tax wedges. The next section (Section 5.3) generally considers the issue of the incentives provided by the welfare state through a redistributive income tax, their interaction with a social norm concerning work participation, and how they may lead to different levels of societal co-operation and equilibria in work participation. This section also contains a positive analysis of how these equilibria react to exogenous shocks in labour productivities and changes in the incentive structure of the income tax, for instance as a result of changes in the progressivity of the tax schedule. It finally considers, both from positive and normative perspectives, the question of transitions from low- to high-participation equilibria, and how socially engineering them may conflict (or not) with the social planner’s objective. Finally, Section 5.4 concludes this chapter with a summary and a discussion of results, as well an outline of future work on this topic.

5.2 Labour market participation, social norms, and optimal redistribution

We consider how social norms concerning work-force participation interact with the implementation of a certain redistributive taxation schedule. In effect, the compliance of the population with the endogenous social norm determines the extent of possible redistribution, and the need for taxation policy to trigger a shift in participation. To study this issue
more transparently, we adopt the pure extensive labour supply model of Diamond (1980) and Saez (2002). It is augmented with a social norm, in the form of an inducement to participate, which mitigates the extent to which a productive individual may choose to remain idle instead of working, out of self-interested behaviour.

Let there be a population, normalized to be of size 1, composed of \( I + 1 \) skill classes denoted by \( i = 0, 1, \ldots, I \), each of natural population (that is to say, the population endowed with a certain skill set) \( n_i \). This is to be contrasted with the effective population of each class, denoted by \( h_i \), and which results from the work participation decision of each individual. With each of these skill classes is associated an exogenous income \( w_i \), identical for all working members of a given skill, and preferences for leisure that are heterogeneous both within a skill class and between classes. The participation decision of an individual in any given class but class 0 (which is deemed to be fully inactive) therefore hinges jointly on preferences for leisure and the social norm, both of which will be explicitly described later. The number of non-participants, \( h_0 = 1 - \sum_{i \neq 0} h_i \), includes persons of all skill levels who choose not to participate.

The next subsections are as follows. First, the participation decision, and how the social norm enters it are explained at length. Second, the impact of the social norm on the work participation elasticity of each skill group is considered. Third, we investigate the existence and stability conditions for there to be an equilibrium (or many equilibria) in participation for a given tax schedule, distribution of preferences for leisure, and moral cost function. Finally, the social planning problem for a redistributive taxation schedule is solved, and the results are compared with the optimal taxation formula of Saez (2002) in the presence of an extensive margin of participation only.

### 5.2.1 The participation decision: preferences for leisure and the social norm

We first describe the participation decision, which will be useful for characterizing the optimal tax problem, and in so doing specify functional forms for utility and the social norm.
Characterizing preferences

Assume a certain distribution of leisure preferences in each skill class $i$, with utility being quasi-linear in consumption so as to abstract from income effects. Let $v_i$ be the utility of leisure for a person with skill level $i$, where $v_i$ is stochastic and follows the distribution $\Gamma_i(v_i)$. An individual in class $i$ with utility of leisure $v_i$ will participate in the labour force if:

$$c_i + x(h_0) \geq c_0 + v_i$$

where $x(h_0)$ is the co-operative incitement to participate, and depends on the total number of non-participants of all types. The function $x(h_0)$ is assumed to be the same for individuals and to satisfy:

$$x'(h_0) \leq 0 \forall h_0$$

The function’s argument is here the number of non-participating individuals, but it could very well be re-written as a function of participating individuals: $x(1 - \sum_{i\neq 0} h_i)$, where as mentioned $h_i$ is the effective level of participation in skill class $i$.

This function can be viewed, as in Lindbeck et al. (1999), in a negative light: a moral cost of non-participation, arising from the stigma attached to it. Accordingly, this could be the result of guilt coming from underperforming or transgressing moral values of societal cooperation, shame associated with transgressing the same moral values, or stigma associated with receiving transfers. The magnitude of this stigma falls the more non-participants there are. More interestingly, this can be viewed in a positive light as an inclination to uphold societal cohesion, to co-operate, by avoiding remaining idle when one is able to work. It is therefore conducive to a reduction in self-interested behaviour relative to a purely rational, self-interested individual. The inducement to participate on this account increases the more other participants there are. The distinction has social welfare relevance in the following sense. If $x(h_0)$ represents a stigma, it reduces the utility of non-participants, which may then be re-written as $c_0 + v_i - x(h_0)$. On the other hand, if it represents an inducement to co-operate, it can be taken to increase the utility of participants, which can be written as $c_i + x(h_0)$, as shown above. Either way, the above participation constraint applies. This
incitement could only be present for a certain range of \( h_0 \in [0, \overline{h}_0] \), where for all \( h_0 > \overline{h}_0 \), \( x(h_0) = 0 \), and purely self-interested behaviour once again prevails.

The cut-off individual in each skill class \( i \) is the person who is indifferent between working and being idle. Let \( \hat{v}_i \) be his preference for leisure, which satisfies:

\[
c_i + x(h_0) = c_0 + \hat{v}_i
\]

\[
\iff \hat{v}_i = c_i - c_0 + x(h_0)
\]

Thus, if the natural population of each skill class is given by \( n_i \), with \( \sum_{i=0}^{I} n_i = 1 \), \( h_i \), the effective population of class \( i \), is then:

\[
h_i(c_i - c_0 + x(h_0)) = n_i \Gamma_i(c_i - c_0 + x(h_0)) \forall i > 0
\]

\[
h_0 = n_0 + \sum_{i \neq 0} n_i (1 - \Gamma_i(c_i - c_0 + x(h_0)))
\]

\[
= 1 - \sum_{i \neq 0} n_i \Gamma_i(c_i - c_0 + x(h_0))
\]

Having thus fully characterized the participation decision of each class and the preferences underlying it, let us turn to how the social norm impacts the elasticity of participation of each skill class.

5.2.2 The impact of a social norm on the elasticity of participation

In the absence of a social norm determining the extent of societal co-operation, the number of participants of skill class \( i \) can be represented by: \( h_i(c_i - c_0) \), with \( h'_i(c_i - c_0) > 0 \), \( h_i > 0 \ \forall c_i - c_0 > 0 \), and \( h_i = 0 \ \forall c_i - c_0 \leq 0 \). The elasticity of participation is then \((c_i - c_0)h'_i/h_i\), which depends only on \( c_i - c_0 \).

In keeping with the previous section, let us augment this by making participation a function of \( h_0 \), the inactive portion of the population, so the number of type-\( i \) participants is \( h_i(c_i - c_0 + x(h_0)) \), where:

\[
\frac{\partial h_i}{\partial h_0} = h'_i(c_i - c_0 + x(h_0))x'(h_0) \quad < \quad 0 \forall i \neq 0
\]
Since total population is normalized to be 1, that means in turn:

\[ h_0 = 1 - h_i(c_i - c_0 + x(h_0)) - \sum_{j \neq 0, i} h_j(c_j - c_0 + x(h_0)) \]

which implies:

\[ \frac{dh_0}{dh_0} = \frac{\partial h_0}{\partial h_0} = - \sum_{i \neq 0} h'_i(c_i - c_0 + x(h_0))x'(h_0) \]

and:

\[ \frac{\partial^2 h_0}{\partial h_0^2} = - \left( \sum_{i \neq 0} h''_i(c_i - c_0 + x(h_0))x'(h_0) + \sum_{i \neq 0} h'_i(c_i - c_0 + x(h_0))x''(h_0) \right) \]

The elasticity of participation is now defined thus:

\[ \eta_i \equiv \frac{c_i - c_0}{h_i} \frac{dh_i}{d(c_i - c_0)} \]

Unlike in the case with no social norm, the elasticity of participation depends not only on the direct reward from participating \( c_i - c_0 \), but also on the total number of non-participants \( h_0 \). The total effect of a change in \( c_i - c_0 \) feeds back into \( h_0 \), first by the direct effect of a change in the participation of group \( i \), and second, by a change in the participation of all other groups, which in turn affects \( h_0 \), etc. That the system will be stable is by no means guaranteed: following a small disturbance, it could spiral up to (near) full participation for all members of all groups except of those of skill 0, or down to minimal participation. Putting these concerns aside for the moment (the next subsection considers them at length), the new elasticity measure can be written:

\[ \eta_i = \frac{c_i - c_0}{h_i} \frac{dh_i}{d(c_i - c_0)} = \frac{c_i - c_0}{h_i} \left( h'_i + h'_i x' \frac{dh_0}{d(c_i - c_0)} \right) \] (5.1)

by the chain rule. Note that since \( h_0 \) is a function of all \( h_j \) (including \( h_i \), which depends on
\[ \frac{dh_0}{d(c_i - c_0)} = -\frac{dh_i}{d(c_i - c_0)} - \sum_{j \neq 0, i} \frac{h_j' x'}{d(c_i - c_0)} \]

\[ \Leftrightarrow \frac{dh_0}{d(c_i - c_0)} = -\frac{dh_i}{d(c_i - c_0)} + \frac{1}{1 + \sum_{j \neq 0, i} h_j' x'} \equiv -\frac{dh_i}{d(c_i - c_0)} \frac{1}{1 + A_i} \] (5.2)

Since an increase in \( c_i - c_0 \) should increase \( h_i \) and decrease \( h_0 \) – thereby making the left-hand side of equation 5.2 negative, and first term of its right-hand side positive – the second term on the right-hand side, \((1 + A_i)^{-1}\), must be positive, which implies that \( A_i = \sum_{j \neq 0, i} h_j' x' > -1 \). Interestingly, (5.2) can be rewritten as:

\[ \frac{1}{1 + A_i} = -\frac{dh_0}{dh_i} \] (5.3)

Combining (5.2) with (5.1) yields:

\[ \frac{dh_i}{d(c_i - c_0)} = h_i' \left( \frac{1 + \sum_{j \neq 0, i} h_j' x'}{1 + \sum_{j=1}^{I} h_j' x'} \right) \] (5.4)

Since \( h_j' x' < 0 \forall j \neq 0 \) (the social norm being that less participation breeds less participation by reducing the inducement to co-operate), we have that:

\[ \frac{1 + \sum_{j \neq 0, i} h_j' x'}{1 + \sum_{j=1}^{I} h_j' x'} > 1 \quad \text{so} \quad \frac{dh_i}{d(c_i - c_0)} > h_i' = \frac{\partial h_i}{\partial(c_i - c_0)} \] (5.5)

This means that participation is more responsive following infinitesimal changes in consumption bundles with the addition of the social norm than without, where the total derivative would then be equal to the partial derivative. This is expected, due to feedback effects on participation.

What about the elasticity of participation, then? The effects of the social norm on the participation of each group are such that it increases the overall level of participation, relative to purely self-interested individuals who are not incited to co-operate. Yet, by the argument outlined above in mathematical terms, the responsiveness of the participation of each group following changes in relative consumption bundles also increases. Comparing elasticities of participation is therefore ambiguous, since for a given tax-and-transfer scheme
denoted by \( c_0 - c_i \forall i \neq 0 \), and for \( x(h_0) > 0 \):

\[
h_i(c_i - c_0 + x(h_0)) > h_i(c_i - c_0)
\]

while, by virtue of the above discussion, it was shown that:

\[
\frac{d h_i(c_i - c_0 + x(h_0))}{d(c_i - c_0)} > \frac{d h_i(c_i - c_0 + x(h_0))}{d(c_i - c_0)} = \frac{d h_i(c_i - c_0 + x(h_0))}{d(c_i - c_0)}
\]

which means that:

\[
\eta_i(c_i - c_0, h_0) = \frac{c_i - c_0}{h_i(c_i - c_0 + x(h_0))} \frac{d h_i(c_i - c_0 + x(h_0))}{d(c_i - c_0)} > \frac{c_i - c_0}{h_i(c_i - c_0)} \frac{d h_i(c_i - c_0)}{d(c_i - c_0)} = \eta_i(c_i - c_0)
\]

Let us now turn to the determination of (stable) equilibrium levels of participation induced by the social norm.

### 5.2.3 Equilibrium participation and the social norm

The equilibrium resulting from the social norm (i.e., \( h_0 \), the number of inactive individuals) is determined by the solution of the following fixed-point equation:

\[
h_0 = 1 - \sum_{i \neq 0} h_i(c_i - c_0 + x(h_0))
\]

This fixed-point equation may have no solutions, a single solution, or multiple solutions, each of which can be locally stable or not. The following therefore considers under what conditions such scenarios are foreseeable, and which of those may be particularly interesting for further consideration: namely, the cases where there can be (at least) two locally-stable equilibria, one characterized by low participation (a “bad” or “vicious” equilibrium), and another by high participation (a “good” or “virtuous” equilibrium).

Note first that the right-hand side of the above equation is an increasing function of \( h_0 \), and so is its left-hand side. Consider the case where \( h_0 = n_0 \), the number of type-0 persons, so all persons with skills \( i > 0 \) fully participate. It is therefore plain to see that
a stable equilibrium will exist provided that the right-hand-side, when evaluated at $n_0$, exceeds $n_0$, and that its slope is less than 1. More formally, the above equation represents a generally non-linear, first-order difference equation in $h_0$, which can be represented by a phase diagram. Re-write it as follows for added clarity:

$$h_0^+ = 1 - \sum_{i \neq 0} h_i(c_i - c_0 + x(h_0))$$

where the superscript “+” denotes the temporally subsequent value, when iterating. Local stability of a steady-state equilibrium $h^*_0$ requires that:

$$\left| \frac{dh^*_0(h^*_0)}{dh_0} \right| = \left| -\sum_{i \neq 0} h'_i(c_i - c_0 + x(h^*_0))x'(h^*_0) \right| < 1$$

$$\iff \sum_{i \neq 0} h'_i(c_i - c_0 + x(h^*_0))x'(h^*_0) > -1$$

since each $h'_i x'$ is non-positive for the whole range of $h_0$. Furthermore, given that $-\sum_{i \neq 0} h'_i x' > 0$, convergence towards a steady state will occur monotonically.

The following figures show, for various conjectured first-difference equations, and in a clock-wise manner starting from the top: a single, globally-stable equilibrium; a lack of interior equilibria, with a corner equilibrium at the upper bound, where no one works; an unstable and a stable equilibrium; likewise, with the order being reversed; and, finally, two stable equilibria and a locally-unstable equilibrium. In these figures, locally-stable equilibria are denoted by starred values, while locally-unstable equilibria are denoted by hats.
More à propos of this chapter’s concern with achieving income redistribution in conjunction with societal cohesion, the latter being proxied by the work norms and willingness of one to participate co-operatively, is how any of these possible cases could be obtained. Participation hinges on two parameters: preferences for leisure, and the social norm itself.
(more precisely, the socially-induced incentive to participate, captured by $x(h_0)$). Continue to assume in what follows that the natural population of each skill class is $n_i$, the moral benefit of participation is additively separable from the utility of consumption and leisure and decreasing in $h_0$, and the distribution of leisure preferences in each skill class is denoted by cumulative density function (c.d.f.) $\Gamma_i$. The number of participants of skill-type $i$, $i > 0$ is then given by $h_i = n_i \Gamma_i(c_i - c_0 + x(h_0))$, and the total number of non-participants is $h_0 = n_0 + \sum_{i \neq 0} n_i (1 - \Gamma_i(c_i - c_0 + x(h_0)))$. It is therefore the case that:

$$\frac{\partial h_i}{\partial h_0} = h_i' (\cdot) x'(h_0) = n_i \Gamma_i' (\cdot) x'(h_0) \forall i \neq 0$$

and:

$$\frac{\partial^2 h_i}{\partial h_0^2} = h_i'' (\cdot) x''(h_0) + h_i' (\cdot) x''(h_0) = n_i \Gamma_i'' (\cdot) x''(h_0) + n_i \Gamma_i' (\cdot) x''(h_0) \forall i \neq 0$$

The most interesting cases above are those which exhibit multiple equilibria. Some sort of logistic (S-shaped) function for $h_0$, for instance, could lead to this happening, as depicted in Figure 5.2. How can this arise from the social norm and the distribution of preferences for leisure? What follows is therefore concerned with the figure reproduced below.
Figure 5.2: A social norm conducive to multiple, locally-stable participation equilibria

Let us focus on the characteristics of the social norm by assuming a particular distribution of leisure preferences for each class: namely, that it is uniformly distributed with a certain mean and variance. Denote therefore the p.d.f. for class \( i \) as:

\[
\Gamma'_i(v_i) = \gamma_i(v_i) = \begin{cases} 
1/b_i - a_i & \forall v_i \in [a_i, b_i] \\
0 & \text{otherwise}
\end{cases}
\]

It follows that:

\[
\frac{\partial h_i}{\partial h_0} = h_i' x' = \frac{n_i}{b_i - a_i} x'(h_0) \forall i \neq 0 \quad \text{and} \quad \frac{\partial^2 h_i}{\partial h_0^2} = h_i'' x' + h_i' x'' = \frac{n_i}{b_i - a_i} x''(h_0) \forall i \neq 0
\]

The slope of equation \( h_0^+ = 1 - \sum_{i \neq 0} h_i(c_i - c_0 + x(h_0)) \), which is represented in the phase diagrams above, therefore becomes:

\[
\frac{dh_0^+}{dh_0} = \sum_{i \neq 0} \frac{n_i}{b_i - a_i} x'(h_0)
\]
while its second derivative is then:

\[
\frac{d^2 h_0^+}{dh_0^2} = \sum_{i \neq 0} \frac{n_i}{b_i - a_i} x''(h_0)
\]  

(5.6)

Thus, for this function to have two different segments leading to locally-stable equilibria, the second derivative in equation 5.6 must change signs. It must therefore be the case that \( x(h_0) \) is first decreasing at an increasing rate: its second derivative is negative, and the first-difference equation is therefore increasing and convex – both its first and second derivatives are positive. Then, past an inflection point \( \hat{h}_0 \), \( x(h_0) \) is decreasing at a decreasing rate: its second derivative is positive, and the first-difference equation in \( h_0 \) is therefore increasing and concave – its second derivative is negative, while its first derivative is positive. For \( \hat{h}_0 \) to be unstable, it must not be a saddle point, which means that \( x'(\hat{h}_0) < 0 \) as for all other \( h_0 \in [n_0, \bar{h}_0] \). As alluded to earlier, the function \( x(h_0) \) may have an upper bound on \( h_0 \in [0, \bar{h}_0] \) that differs from the natural population limit (normalized to be 1), such that the inducement to co-operate disappears completely at high levels of non-participation, and self-interested rational behaviour prevails once again: i.e., \( x(h_0) = 0 \forall h_0 > \bar{h}_0 \). Graphically, this function can be represented thus:
Intuitively, this means that initial increases in the number of inactive people have an accelerating effect on decreasing the incitement to co-operate associated with participating (or the moral costs of non-participation), up to a point, beyond which additional increases in $h_0$ still decrease this inducement, but at a decelerating pace. Such a social norm means that for high initial levels of non-participation, the economy gravitates towards a low-participation equilibrium, whereas for low initial values of $h_0$, it gravitates towards a high-participation equilibrium. A particular example of such a function is a “mirrored” logistic function: of negative slope and inverse concavity. It is written as:

$$x(h_0) = \frac{q}{1 + re^{sh_0}}$$

where $q, r, s > 0$ are chosen appropriately.

Having established the conditions necessary for a locally-stable equilibrium in labour force participation to exist, let us now turn to the determination of optimal redistributive taxation in the presence of such a social norm.
5.2.4 The social planning problem: optimal redistribution in the presence of a social norm

In characterizing the optimal redistributive tax-and-transfer scheme in the presence of a social norm, let us assume that the social planner not only takes into account the behavioural responses of individuals induced by the social norm and the benefit of participation associated with it, but also includes such benefits in social welfare. By accounting for the moral benefits of participation, the social planner both reflects the individuals’ preferences, and fully internalizes the societal effects of the norm on redistribution and welfare.

Let \( u(c_i + x(h_0)) \) and \( u(c_0 + v^m_i) \) be the social utilities of type-\( i \)'s when working and not working. The social utility functions are concave, and the degree of concavity reflects the planner’s aversion to inequality. The planner’s problem can be written, using \( j \) instead of \( i \) as a subscript in the sums:

\[
\max_{\{c_0, \ldots, c_I\}} \sum_{j > 0} h_j(c_j - c_0 + x(h_0)) u(c_j + x(h_0)) + \sum_{j \geq 0} \int_{v_j \geq \hat{v}_j} u(c_0 + v_j) d\Gamma_j(v_j)
\]

subject to

\[
\sum_{j > 0} h_j(c_j - c_0 + x(h_0))(w_j - c_j) - \left( 1 - \sum_{j > 0} h_j(c_j - c_0 + x(h_0)) \right) c_0 = H \quad (p)
\]

where \( h_0 \) satisfies (5.2).

The first-order conditions with respect to \( c_i \), \( \forall i > 0 \) and \( c_0 \) are (using the fact that there is no change in utility for those changing participation choices):

\[
h_i u'_i(c_i + x(h_0)) + \sum_{j > 0} h_j u'_j(c_j + x(h_0)) \frac{d}{dc_i} \frac{dh_0}{dh_i} + p \left( -h_i + (w_i - c_i + c_0) \frac{dh_i}{dc_i} + \sum_{j \neq 0, i} (w_j - c_j + c_0) \frac{dh_j}{dc_i} \right) = 0, \quad \forall i > 0
\]
\[
\sum_{j \geq 0} \int_{m \geq \hat{m}_j} u'(c_0 + v^m_j) d\Gamma_j + p \left( - \left( 1 - \sum_{j > 0} h_j (c_j - c_0 + x(h_0)) \right) + \sum_{j > 0} (w_i - c_i + c_0) \frac{dh_j}{dc_0} \right) = 0
\]

Adopt the following definitions of the social value of consumption of working type-\(i\)'s:

\[
g_i \equiv \frac{u'(c_i + x(h_0))}{p} \quad \forall i > 0, \quad g_0 \equiv \frac{1}{pph_0} \sum_{j \geq 0} \int_{m \geq \hat{m}_j} u'(c_0 + v^m_j) d\Gamma_j
\]

Then, using \(T_i = w_i - c_i\), the FOCs can be written as follows for all \(i > 0\):

\[
(g_i - 1)h_i + (T_i - T_0) \frac{dh_i}{dc_i} + \sum_{j > 0} h_j g_j x' \frac{dh_0}{dc_i} + \sum_{j \neq 0,i} (T_j - T_0) \frac{dh_j}{dc_i} = 0 \tag{5.7}
\]

and for \(i = 0\):

\[
(g_0 - 1)h_0 + \sum_{j > 0} (T_j - T_0) \frac{dh_j}{dc_0} = 0 \tag{5.8}
\]

The terms in (5.7) reflect the various effects of an increase in \(c_i\), (or reduction in \(T_i\)), both direct and indirect. The first two terms are analogous to those in Saez. The first term is the social benefit of an additional transfer to the working type-\(i\)'s: the benefit valued at \(g_i\) and the cost to government valued at unity. The second term is the increase in tax revenue from the type-\(i\)'s who now decide to work, obviously absent from the formula for \(i = 0\). The third term is the change in “social esteem” of all participants as a result of the change in \(h_0\) (again, conspicuously absent in the tax formula for class 0). Since (presumably) \(dh_0/dc_i < 0\) and \(x' < 0\), this term is positive overall. That is, the number of non-participants falls, and that makes existing participants better off: they feel better about participating. The last term is the change in tax revenue as a result of types of other than \(i\)'s choosing to participate in the labor market as an indirect result of changes in \(h_0\), an effect arising because of the addition of social norms. The terms in (5.8) have a similar interpretation.

The first-order conditions on \(c_i\), (5.7), can be further revised by using the following,
obtained from (5.2) holding \( c_0 \) constant:

\[
\frac{dh_0}{dc_i} = -\frac{dh_i}{dc_i} \frac{1}{1 + A_i} < 0, \quad \frac{dh_j}{dc_i} = \frac{\partial h_j}{\partial h_0} \frac{dh_0}{dc_i} = h_j'x' \frac{dh_0}{dc_i} > 0
\]

where by (5.3):

\[
\frac{1}{1 + A_i} = -\frac{dh_0}{dh_i}
\]

Using these, (5.7) becomes:

\[
(1 - g_i)h_i = \left( (T_i - T_0) - \frac{\sum_{j > 0} h_j g_j x'}{1 + A_i} - \frac{\sum_{j \neq 0, i} (T_j - T_0) h_j' x'}{1 + A_i} \right) \frac{dh_i}{dc_i}
\]

This can be rewritten using the definition of the total elasticity of participation \( \eta_i \) as:

\[
\frac{T_i - T_0}{c_i - c_0} = \frac{1 - g_i}{\eta_i} + \frac{x'}{c_i - c_0} \left( \frac{\sum_{j \neq 0, i} (T_j - T_0) h_j'}{1 + A_i} + \frac{\sum_{j > 0} h_j g_j}{1 + A_i} \right)
\]

In contrast, if the social norm is included as a cost to the non-participants rather than as an inducement, then \( u(c_i) \) and \( u(c_0 + v_m^m - x(h_0)) \) are the social utilities of type-\( i \)'s when working and not working. Defining:

\[
\tilde{g}_0 \equiv \frac{1}{ph_0} \sum_{j \geq 0, j \neq i} \int_{m \geq m_j} u_j'(c_0 + v_j^m - x(h_0)) d\Gamma_j
\]

to represent the new social weight put on the non-participating group, and following the preceding steps, we obtain then:

\[
\frac{T_i - T_0}{c_i - c_0} = \frac{1 - g_i}{\eta_i} + \frac{x'}{c_i - c_0} \left( \frac{\sum_{j \neq 0, i} (T_j - T_0) h_j'}{1 + A_i} - \frac{\tilde{g}_0 h_0}{1 + A_i} \right)
\]

Recall that the optimal tax-and-transfer scheme actually is determined by all \( I + 1 \) such first-order conditions, as a \( I + 1 \)-parameter solution of the system of equations. Nevertheless, the above formulation allows us to compare the optimal tax-and-transfer schedule in the presence of a social norm with that of Saez (2002), given by:

\[
\frac{T_i - T_0}{c_i - c_0} = \frac{1}{\eta_i} (1 - g_i)
\]
where the elasticity of participation $\eta_i$ depends only on $c_i - c_0$, since there is no feedback effect of $h_0$ through the social norm.

Let us now compare (5.9), (5.10) and (5.11) to determine the effects of the social norm regarding work participation on the social planner’s redistributive taxation schedule, and the degree of redistribution. The latter terms in (5.9) and (5.10) augment the Saez case found in (5.11), along with the fact that $\eta_i$ is now a total elasticity of participation for class $i$.

The additional terms within parentheses in both (5.9) and (5.10) are multiplied by $x'/ (c_i - c_0)$. Since $x' < 0$ and because it is expected that $c_i - c_0 > 0$ for all $i > 0$, this factor is negative. Recall that $1 + \lambda_i > 0$. Then, the first of the terms within parentheses is positive, since the numerator, which describes the change in government revenue triggered by a change in $c_i - c_0$ (or $T_i - T_0$, equivalently) is positive. This includes feedback through the social norm for all skill classes, as described above.

Where the two optimal tax formulæ with social norms, denoted by (5.9) and (5.10), differ is in the last of the two terms within parentheses. This difference hinges on whether the social norm is modelled (and included by the planner) as an inducement to co-operate or as a cost of non-participation.

In the former case, represented by (5.9), the social planner seeks to encourage co-operation by enticing work participation through the initial reduction of incentives to be idle. The feedback effects of the inducements to co-operate compound this change. This is seen in the second term within parentheses, which is the weighted sums of working populations of each skill class, and is positive. This therefore reduces the extent of redistribution in the planner’s optimum relative to the case without social norms, provided that elasticities be equal, since the whole additional term augmenting the Saez equation is then unambiguously negative.

In the case where the social norm enters as a cost to non-participants, the social planner instead seeks to compensate non-participants for their loss due to stigma. This may call for more redistribution relative to the case without social norms, with the additional term in the optimal tax formula then being positive, thus narrowing the difference $c_i - c_0 \forall i > 0$. This is due to the weighed non-working population appearing as the second term within
parentheses, and being preceded by a negative sign. As long as the negative feedback effects on government revenues of an increase in redistribution are benign (i.e., small) enough, then it makes sense from the planner’s viewpoint to compensate more the non-participants for their moral predicament.

Using the intuition presented above, the proposition below formalizes the conditions for which the social norm is conducive to more or less redistribution relative to the case where it is absent.

**Proposition 5.1. In the presence of a social norm influencing work participation, for identical social weights \( g_i \), and presuming that the elasticities of participation \( \eta_i \) are identical to the case where such a norm is absent:

(a) The optimal tax schedule prescribes less redistribution when the social norm enters as an inducement to co-operate.

(b) However, when this social norm enters as a cost to non-participants, the relative amount of redistribution is ambiguous. Thus, there is then more redistribution whenever:

\[
\sum_{j \neq 0,i} (T_j - T_0)\eta'_j - \tilde{g}_0 h_0 < 0
\]

That is to say, when the welfare loss incurred as a result of the moral stigma attached with idleness is sufficiently large and/or when there are relatively small feedback effects from the social norm, and thus redistribution can be done at a low budgetary cost.

The results outlined in the above proposition are crucially dependent on the assumption that elasticities of participation are the same in the cases where there is a social norm and where there is not. In general, the greater the elasticity of labour participation for group \( i \), the lesser would be the potential for redistribution. The volatility of participation is greater in the presence of a social norm than in its absence, but so can be overall participation because of the incitement to co-operate that benefits participants. This implies that the elasticities of participation may or may not be greater in the presence of a social norm than in its absence, which has ambiguous implications for redistribution, both on elasticity grounds alone, and in relation to the above proposition.
We thus have derived the optimal redistributive tax schedule in the presence of a social norm, and established in what circumstances it leads to more or less redistribution than in its absence. Yet while the above results illustrate what a naïve social planner might choose to implement, irrespective of the economy’s initial participation equilibrium in the *laissez-faire* or in the presence of another initial sub-optimal tax schedule, they do not fully describe the possibility for the existence of multiple participation equilibria, and their desirability. The positive and normative properties of participation equilibria are considered next, along with the implications of exogenous employment shocks and changes in taxation schedules for transitioning between equilibria. It is assumed throughout what follows that the tax system is *progressive*, although that is not a necessary implication of the optimal tax analysis above.\footnote{The optimal tax formula in the Saez model can be written as:}

5.3 The welfare state, redistribution, and social cohesion

Certain authors (e.g., Murray 1984, cited by Barr 2004, p. 357; or Skidelsky 1997) have suggested that redistribution programs linked to the welfare state lead to a “culture of poverty”. This culture is the product of overly generous benefits leading to heightened moral hazard, thus compounding the economic problem they were supposed to solve by increasing idleness and dependency. This argument is by no means universally accepted, nor is it new: similar arguments were heard as early as the dawn of the 19th century, for instance in Jeremy Bentham’s characterization of the 1834 Poor Laws as “causing moral degeneracy among recipients” (Barr 2004, p. 17). Yet it is one still sketched by critics of the welfare state, for instance as recently expressed by Robert Skidelsky (Skidelsky 1997).\footnote{The optimal tax formula in the Saez model can be written as:}

\[ \frac{T_i - T_0}{c_i - c_0} = \frac{(T_i - T_0)/w_i}{1 - (T_i - T_0)/w_i} = \frac{1 - g_i}{\eta_i} \]

Let $t_i \equiv (T_i - T_0)/w_i$ denote the participation tax rate. Suppose $\eta_i = \eta$ for all $i$. Then, comparing groups $i$ and $i - 1$:

\[ \frac{t_i}{1 - t_i} - \frac{t_{i-1}}{1 - t_{i-1}} = \frac{g_{i-1} - g_i}{\eta} > 0 \]

Therefore, $t_i > t_{i-1}$, or:

\[ \frac{T_i - T_0}{w_i} > \frac{T_{i-1} - T_0}{w_{i-1}} \Rightarrow \frac{T_i}{w_i} - \frac{T_{i-1}}{w_{i-1}} > T_0 \left( \frac{1}{w_i} - \frac{1}{w_{i-1}} \right) < 0 \]
The Welfare State creates all kinds of moral traps. The ‘poverty trap’ is the main example: William Beveridge once shocked his listeners by saying that it was rational for someone to claim the dole if he could get more from it than by working. But moral hazard analysis can be used to illuminate many other ‘welfare state’ situations. It may be a rational strategy to move house to a catchment area of a desirable maintained school in order to avoid school fees, or for a mother to withdraw from the labour market so as to bring the family income within the qualifying limits for an assisted place at an independent school [...]. Social life is riddled with moral hazard. Its potential cost is huge; it is destructive of morality; and it is the duty of wise legislation to minimize it. The central argument of this essay [...] is that the Welfare State, setting out to minimize moral hazard through social insurance, has made it endemic.

While the scope of policies identified in the quote above goes beyond this chapter’s consideration, the general idea contained therein is nevertheless pertinent, especially the claim that redistributive policies are “destructive of morality”. This phrase goes beyond the simple idea of increased moral hazard, implying instead that the very extent of societal cohesion – i.e., co-operation between individuals arising out of incitements to avoid self-interested behaviour – is imperiled by the welfare state and its redistributive programs. Rather than fostering social cohesion through social insurance, redistributive policies upon which the welfare state rests would, by this logic, instead lead to the very opposite: the payment of transfers to the (relatively many) unemployed being made by the (relatively few) working individuals. This would constrain the possible scope of redistribution, through the progressive reduction of the inducements to co-operate, or of the social stigma associated with receiving transfers that eventually come to be viewed as entitlements. In effect, this is a re-framing of the age-old equity-efficiency debate, with the additional feature that the behaviours of others matter in the making of one’s decision to either be an active member of society or to remain idle. Such more sophisticated views of the welfare state’s effect on social norms were first voiced by Lindbeck (1995), then modelled successively by Lindbeck et al. (1999), Dufwenberg and Lundholm (2001) and Lindbeck et al. (2003). Lindbeck (1996, p. 6) summarizes this line of thinking thus:

Strong macroeconomic shocks during the last two decades have also ‘thrown’
many citizens onto various safety nets, where they have remained for long periods of time in Western Europe. It is tempting to hypothesize that this has weakened previously dominating social norms against living off various welfare-state benefits. Long term negative effects on labor-force participation and aggregate unemployment are obvious consequences (Lindbeck, 1995).

Our framework allows for a positive analysis of such a conjecture, by including the possibility of multiple equilibria in participation and by thus characterizing the scope of redistributive policies compatible with high labour force participation. It also allows for an examination of the effects of an adverse employment shock to the system (e.g., an adverse productivity shock reducing certain incomes), and how supply-side considerations, often a second thought in the design of redistributive policies, matter. Finally, the last subsection considers the optimality of redistributive taxation in light of the possibility of multiple equilibria in participation. It particularly asks if it can be worthwhile (i.e., Pareto-improving) from a social welfare perspective to shock the system through a tax shift so as to engineer a shift in participation equilibria, even if this initial shift clashes with the planner’s (or party’s) objective function.

5.3.1 Positive analysis: Low- and high-participation equilibria, labour demand shocks, and room for redistribution

The purpose of this subsection is to perform a positive analysis of a case where both locally-stable low- and high-participation equilibria exist, and how such equilibria are affected by labour demand and the tax system. Finally, it seeks to determine how much redistribution is compatible with stability in a high-participation equilibrium.

The case we consider is that represented by Figure 5.2 on page 175. Recall that the social norm determines the equilibrium level of participation according to equation:

\[ h^+_0 = 1 - \sum_{i \neq 0} h_i \left( c_i - c_0 + x(h_0) \right) \]

It is apparent that this equation depends upon three characteristics of the system, that determine the shape and position of the \( h_i \) function: the shape of the c.d.f. of the preferences for leisure, \( \Gamma_i(v_i) \); the characteristics of the moral benefit function, \( x(h_0) \); and the tax
system, \( T_i \). In what follows, we sometimes simplify the distribution of preferences for leisure by choosing a particular uniform distribution, as in Subsection 5.2.3 on page 171. This allows us to focus on the role of the social norm.

**A shock to labour demand**

Suppose now that there is an adverse shock in labour demand for some skill class \( i \) (e.g., a shock to a given industry), starting in a high-participation equilibrium, \( h_i^* \). This can potentially have one of two effects: first, a new employment outcome prevails where everyone who wants to work still can, as in the manner of Saez (2002), albeit at a lower wage; second, the wage remains fixed, while some of those previously employed become involuntarily unemployed. We focus on the first effect, given that the model used is one of voluntary work participation, where markets for each skill class always clear: it is therefore ill-suited for considerations of involuntary unemployment. Nevertheless, the effects of involuntary unemployment, were they to be considered in this context, would be qualitatively similar to those of a fall in wages.

An adverse labour demand shock to skill type \( i \) can therefore here be expressed as a fall in \( w_i \), to \( w_i' \). This fall is accompanied by a fall in the tax burden faced by class \( i \), from \( T_i \) to \( T_i' \). What determines participation is the resulting consumption bundle of those who are employed, which shifts from \( c_i \) to \( c_i' \). Due to the assumed progressivity of the tax system, the tax burden should fall proportionately more than the fall in income, meaning that \(|c_i' - c_i| < |w_i' - w_i|\).

The initial effect of a shock to type-\( i \)s is captured by a shift in the participation curve and a possible change in its curvature:

\[
\frac{\partial h_i^+(c, h_0^*)}{\partial c_i}dc_i = -h_i'(c_i - c_0 + x(h_0^*))dc_i
\]

where \( dc_i \equiv c_i' - c_i \), and \( h_0^* \) denotes the assumed initial, high-participation equilibrium. Graphically, this means that the participation curve will shift upwards given \( dc_i < 0 \), implying a decrease in the participation of class \( i \) resulting from an adverse productivity shock. Moreover, shocks faced by other skill groups will have the same effect. The overall effect of
a shock affecting many skill classes will be the sum of the effects on each skill group. Once
the feedback effects of the social norm are felt and the new equilibrium $h_0''$ is achieved (cf.
Figure 5.4 below), it is characterized by an even lower level of labour force participation,
but a greater one that might have prevailed had there not been a progressive tax sched-
ule in place, and $dc_i$ had then been more negative. The progressivity of the tax system
therefore *mitigates* the effect of an adverse shock in wages on participation, and thus has a
counter-cyclical effect on labour force participation following changes in wages.

![Figure 5.4: An adverse shock in the wages of class $i$ in the presence of a progressive tax system](image)

It is evident that an adverse demand shock of a large-enough size could trigger a shift
from a high- to a low-participation equilibrium, through the mechanisms outlined by [Lindbeck 1995, 1996]. This would occur technically here through the disappearance of the
high-participation equilibrium, triggered by an upward shift or rotation of the curve for
$h_0^+(h_0)$, so that only the low-participation equilibrium subsists. For this to happen, the par-
ticipation curve would need to lie everywhere above the 45° line in the range where it once
included a high-participation equilibrium, while still crossing the latter past the inflection
point $\hat{h}_0$, as shown below.
Figure 5.5: The disappearance of the high-participation equilibrium as a result of an adverse shock to wages

The exact magnitude of the shock needed to trigger such a shift in equilibrium generally depends on its effects on both the curvature of the function $h_0^+(h_0)$ (i.e., its slope and concavity), and on its level in the $h_0 - h_0^+$ space. For illustrative purposes, let us focus on the case where the shock causes a parallel upward shift in the curve of $h_0^+(h_0)$, that is where the curvature of the function is left unchanged as a result of the shock. This corresponds to the case where preferences for leisure are uniformly distributed within each skill class, since in that case, $h'_i(c_i - c_0 + x(h_0))$ is, as we have seen, a constant.

Starting from $h_0^*$, the minimum magnitude of the shock is determined thus:

1. Find the range for which the curve needs to be completely over the 45° line (and is not initially), for only the low-participation equilibrium to subsist;

2. Find the point $\tilde{h}_0$ where $\tilde{h}_0 - h_0^+(\tilde{h}_0)$ is greatest, in that range;

3. Find the magnitude $\tilde{h}_0 - h_0^+(\tilde{h}_0) + \epsilon, \ \epsilon > 0$.

According to Figure 5.4 on the previous page, the range for which the function $h_0^+$ needs to be raised above the 45° line is $h_0 \in [h_0^*, \hat{h}_0]$, where $\hat{h}_0$ is the inflection point. Hence, at that
In the case of uniformly-distributed preferences for leisure, this reduces to:

\[ \hat{h}_0 = x'^{-1}(0) \]

thus pinning down more explicitly the range’s upper limit, its lower limit being one of the solutions of the equation \( h_0^+(0) = h_0 \). Second, the point where \( \hat{h}_0 - h_0^+(\tilde{h}) \) is greatest in that range corresponds to the point where the slope of the tangent to \( h_0^+ \) is equal to that of the 45° line. (This can also be found as the solution to the first-order condition of the maximization problem of \( \hat{h}_0 - h_0^+(\tilde{h}_0) \) with respect to \( \tilde{h}_0 \).) This yields:

\[
\frac{d h_0^+}{d h_0}(\hat{h}_0) = 1 \iff -\sum_{i \neq 0} h_i^i(\cdot) x'(\tilde{h}_0) = 1 \iff \hat{h}_0 = x'^{-1}\left(1 - \frac{1}{\sum_{i \neq 0} \frac{n_i}{b_i - a_i}}\right)
\]

since \( h_i^i(\cdot) = n_i / (b_i - a_i) \). Assuming for the sake of generality that a set of skill classes \( S \) is adversely affected by negative shocks of potentially different magnitudes, the aggregate effects of the shocks then need to satisfy:

\[
-\sum_{k \in S} h_k^i(c_k - c_0 + x(h_0^*)) dc_k = \hat{h}_0 - 1 + \sum_{i \neq 0} h_i(c_i - c_0 + x(\tilde{h}_0)) + \epsilon
\]

\[\iff \sum_{k \in S} h_k^i(c_k - c_0 + x(h_0^*)) dc_k = 1 - \sum_{i \neq 0} h_i(c_i - c_0 + x(\tilde{h}_0)) - \hat{h}_0 - \epsilon \]

\[\implies \sum_{k \in S} \frac{n_k}{b_k - a_k} \frac{c_k - c_0 + x(h_0^*) - a_k}{b_k - a_k} dc_k = 1 - \sum_{i \neq 0} n_i \frac{c_i - c_0 + x\left(x'^{-1}\left(1 - \frac{1}{\sum_{i \neq 0} \frac{n_i}{b_i - a_i}}\right)\right) - a_i}{b_i - a_i}
\]

\[= x'^{-1}\left(1 - \frac{1}{\sum_{i \neq 0} \frac{n_i}{b_i - a_i}}\right) - \epsilon \]

In the particular case where a single class \( i \) is affected, the shock required to move the
economy from a high- to a low-participation equilibrium can be isolated:

$$dc_i = \frac{h_0^+(\hat{h}_0) - \hat{h}_0 - \epsilon}{h_i'(c_i - c_0 + x(h_0^*))} < 0 \iff dw_i = \frac{h_0^+(\hat{h}_0) - \hat{h}_0 - \epsilon}{h_i'(c_i - c_0 + x(h_0^*))} + dT_i$$

It is therefore plain to see that in the absence of progressive taxation, shocks of any size would in general be more damaging for the work participation of individuals in the economy: the required magnitude of $-dw_i > 0$ needed to move the economy to a low-participation equilibrium would then be less. On the basis of such comparative statics exercises, it is possible to argue that social norms related to work participation further buttress the case that a progressive income tax schedule is a useful counter-cyclical policy tool.

**An increase in progressivity**

How does one make an income tax schedule more progressive? Obviously, the manners in which one could do so here, with such a flexible tax schedule, are nearly endless. In the optimal tax problem presented earlier, greater progressivity can be achieved in two particular ways: first, by increasing $-T_0$, a change funded by increasing $T_i$ for all $i \neq 0$ according to the optimal tax formula for $T_i$, given by (5.9); second, through a change in the social weights $g_i$. The latter case can be figuratively represented below:
Figure 5.6: A general, budget-balanced increase in the progressivity of a tax schedule

Note that the first case corresponds to a policy choice favoured by a maximin social planner. It would increase in the transfer to the worst-off as much as possible, while increasing the tax burden of all other classes as necessary. Here, the worst-off are the individuals in class 0 who cannot participate. However, the planner, being unable to discriminate between them and other non-participants, must increase the transfer to all non-participants. Meanwhile, the second case corresponds to an increase in the planner’s aversion to inequality, which alters social weights. Let us consider each of these in more detail.

**An increase in the transfer to non-participants** The effect of an increase in $-T_0$ is equivalent to increasing $c_0$, financed by decreasing all other $c_i$, $i > 0$ by increases in $T_i$’s found using the optimal tax rule. These therefore take feedback effects on participation into consideration, and ensure that budget balance holds when an equilibrium in participation is reached. Assuming still that the high-participation equilibrium $h_0^*$ initially prevails, this shifts the participation curve according to the following rule:

\[
\frac{\partial h_0^*(c, h_0^*)}{\partial c_0} dc_0 + \sum_{i \neq 0} \frac{\partial h_0^*(c, h_0^*)}{\partial c_i} dc_i = \sum_{i \neq 0} h'_i(c_i - c_0 + x(h_0^*)) (dc_0 - dc_i) > 0 \tag{5.12}
\]
where all \( dc_i = w_i - dT_i \) satisfy (5.9). It follows that there is an initial \textit{upwards} shift in the participation curve, thereby decreasing equilibrium participation. For modest increases in \( c_0 \), financed by equally modest decreases in \( c_i \)'s, this might correspond graphically to something not unlike Figure 5.4. For greater increases in \( c_0 \), it might trigger a shift from a high- to a low-participation equilibrium, as shown in Figure 5.5. The planner might therefore want to be careful not to increase the progressivity of the income tax schedule by too much. This question is examined at a greater length in what follows.

Turning to the special case of a maximin social planner, its social objective to maximize the welfare of the worst-off yields social weights \( g_i = 0 \ \forall i > 0 \). The optimal tax formula (5.9) for all \( T_i, i > 0 \), when the social norm enters as an inducement to co-operate, then becomes:

\[
\frac{T_i - T_0}{c_i - c_0} = \frac{1}{\eta_i} + \frac{x'}{c_i - c_0} \left( \sum_{j\neq0,i} \frac{(T_j - T_0)h_j'}{1 + A_i} \right) \tag{5.13}
\]

It follows that the maximin social planner would increase progressivity by increasing the transfer to the non-participants, \(-T_0\), financing it optimally by increasing the tax burden faced by all other skill classes according to equation 5.13. This equation is very close to the inverse elasticity rule that comes out of the derivation without social norms à la Saez (2002) for a maximin social objective. The difference lies in that to the inverse of the elasticity is added a second term, which is negative, and that captures the feedback effects of the social norm on participation. This limits the extent of socially-optimal redistribution, provided that elasticities of participation between the case with a social norm and that without are identical. However, these elasticities are likely not to be identical: participation is greater in the presence of the social norm, but so is its volatility, which makes overall comparisons between elasticities ambiguous (cf. Subsection 5.2.2 on page 168). As for the effect of such an increase in progressivity on the participation curve, it mirrors the effect found in (5.12).

**An increase in the planner’s aversion to inequality** While using the solution to the optimal tax problem, the planner or party in power may instead choose to change the social weights, \( g_i \), put on different skill classes. This can happen through changes in the social planner’s aversion to inequality, therefore altering the curvature of the social utility function. An increase in the aversion to inequality increases the rate at which \( u' \) falls as consumption
rises. Since \(g_i = u'/p\) and the weighted sum of the \(g_i\)'s is unity, the social weight \(g_i\) would decrease for higher-skill types and increase for lower-skill types. Increasing the planner’s overall aversion to inequality would increase the tax burden of some skill classes at the top (e.g., \(g_i\) decreases for all \(i > k, k \in (0, I + 1)\)), while decreasing that of others at the bottom of the skill distribution (e.g., \(g_i\) increases for all \(i \leq k\)). Done in an optimal manner, the feedback effects on participation are accounted for, and the budget should balance when the new participation equilibrium is reached. What might happen initially to the participation curve, then? Starting at \(h_0 = h_0^\ast\), the total effect of changing optimally all \(c_i\)'s (including \(c_0\)) is again:

\[
\frac{\partial h_i}{\partial c_0}(c, h_0^\ast)dc_0 + \sum_{i \neq 0} \frac{\partial h_i}{\partial c_i}(c, h_0^\ast)dc_i = \sum_{i \neq 0} h_i'(c_i - c_0 + x(h_0^\ast))(dc_0 - dc_i) \tag{5.14}
\]

The total effect on the level of the participation curve, and the resulting participation equilibrium, depends on the sign of \(dc_0 - dc_i\) for all \(i > 0\) (i.e., if class \(i\) is net beneficiary from the tax shift, or not), and most crucially on the sum of these differences weighed by the marginal effect on participation \(h_i' > 0, i \neq 0\).

In the case of a uniform distribution of leisure preferences among members of each skill class, the number of participants of any class \(i\) is given by:

\[
h_i(c_i - c_0 + x(h_0)) = n_i \frac{c_i - c_0 + x(h_0) - a_i}{b_i - a_i}
\]

and:

\[
\frac{\partial h_i}{\partial c_i} = h_i'(c_i - c_0 + x(h_0)) = \frac{n_i}{b_i - a_i}
\]

This means that equation 5.14 becomes:

\[
\frac{\partial h_i^+ (c, h_0^\ast)}{\partial c_0}dc_0 + \sum_{i \neq 0} \frac{\partial h_i^+ (c, h_0^\ast)}{\partial c_i}dc_i = \sum_{i \neq 0} \frac{n_i}{b_i - a_i}(dc_0 - dc_i)
\]

It appears therefore the exact possible range of \(dc_0 - dc_i\) will depend upon how responsive the participation of each class is to changes in \(c_i\), and how this translates for the budget
balance (here evaluated at new participation equilibrium $h_0$):

$$\sum_{i=0}^{I} h_i (c_i + dc_i - c_0 - dc_0 + h_0^*) (T_i + dT_i) \geq H$$

$$\iff \sum_{i=0}^{I} \frac{n_i (c_i + dc_i - c_0 - dc_0 + x(h_0^*) - a_i) (w_i - c_i - dc_i)}{b_i - a_i} \geq H$$

Interestingly, if one is to assume that more skilled classes have a lower elasticity of participation (see for instance Lehmann et al., 2011), this may allow more room for redistribution, and may actually allow modest increases in redistribution to have less of an adverse effect, if not a completely virtuous effect, on equilibrium work participation. However, for large-enough participation responses of all classes to changes in tax incentives, one would expect an increase in progressivity to generally cause participation to fall. This is especially so if, at the bottom of the skill distribution, the social weight put on class 0 increases sufficiently so that it limits increases in other social weights, and thus their participation. This is seen by examining 5.9 on page 180, the optimal tax affecting all participants of classes $i > 0$. Increasing $-T_0$ on the left-hand side (the effect of an increase in $g_0$) will have the effect of constraining any increases in $g_i$ on the right-hand side of the equation. For this reason, increases in progressivity are generally assumed to decrease overall participation in the sections that follow.

**The maximum increase in progressivity compatible with a high-participation equilibrium**

The extent of redistribution and the progressivity of the tax system are constrained by the extent of the participation of individuals in the labour force, as measured by the elasticity of participation of each skill class. However, a social planner (or party in power) may also particularly be concerned with large negative, spiralling feedback effects, and try to avoid a shift from a high- to a low-participation equilibrium. It may therefore seek to increase the progressivity of the income tax schedule up to a point, beyond which a participation “regime shift” occurs. At such a point, a regime-shift constraint is exactly binding: this happens where the lower part of the participation curve (below the inflection point) becomes tangent
to the 45° line. This assumes that the tax burden of enough skill classes increases, and is not offset by decreases in the burden of other classes, so that overall participation declines, but does not spiral uncontrollably upwards. Graphically, this yields:

Figure 5.7: The maximum increase in progressivity compatible with a high-participation equilibrium

Algebraically, this mirrors the effect of a negative productivity shock, and the required magnitude of this shock. It follows that the required jump to attain \( \tilde{h}_0 \) from \( h_0^* \), as a result of an increase in the progressivity of income taxation, is here given by:

\[
\sum_{i \neq 0} h_i'(c_i - c_0 + x(h_0))(dc_0 - dc_i) = \tilde{h}_0 - h^+(h_0)
\]

\[
\Rightarrow \sum_{i \neq 0} \frac{n_i}{b_i - a_i} (dc_i - dc_0) = 1 - \sum_{i \neq 0} n_i \left[ \frac{c_i - c_0 + x \left( x'^{-1} \left( \frac{1}{\sum_{i \neq 0} n_i} \right) \right) - a_i}{b_i - a_i} \right] - x'^{-1} \left( \frac{1}{\sum_{i \neq 0} n_i} \right)
\]

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\[ \iff \sum_{i \neq 0} \frac{n_i}{b_i - a_i} \left[ c_i + dc_i - c_0 - dc_0 + x \left( x'^{-1} \left( -\frac{1}{\sum_{i \neq 0} \frac{n_i}{b_i - a_i}} \right) \right) - a_i \right] = 1 \]

\[ \iff -x'^{-1} \left( -\frac{1}{\sum_{i \neq 0} \frac{n_i}{b_i - a_i}} \right) \]

This is always subject to the constraint that the budget be balanced at the new equilibrium:

\[ \left[ n_0 + \sum_{i \neq 0} n_i \left[ \frac{c_i + dc_i - c_0 - dc_0 + x \left( x'^{-1} \left( -\frac{1}{\sum_{i \neq 0} \frac{n_i}{b_i - a_i}} \right) \right) - a_i }{b_i - a_i} \right] \right] (c_0 + dc_0) \]

\[ + \sum_{i \neq 0} \frac{n_i}{b_i - a_i} \left[ c_i + dc_i - c_0 - dc_0 + x \left( x'^{-1} \left( -\frac{1}{\sum_{i \neq 0} \frac{n_i}{b_i - a_i}} \right) \right) - a_i \right] (w_i - c_i - dc_i) \geq H \]

Again seen from the perspective of a maximin social planner, this problem involves finding the maximum increase in \(-T_0\), financed by optimally increasing the tax burden on all other classes \(i > 0\) in the manner described in (??), so that participation does not drop dramatically.

**A shift from a low-participation to a high-participation equilibrium using the tax system**

The previous analysis can also serve to examine the transition from a low- to a high-participation equilibrium. As the comparative statics examples considered above made apparent, a marked downwards shift in the participation curve can most likely be achieved through an initial decrease in the progressivity of the tax schedule. What is consequently needed is a decrease in the tax burden of most skill classes with the exception of class 0, and especially the tax burden of those naturally more inclined to participate (i.e., those with the greatest elasticity of participation). This initial impulse will afterwards feed back through the social norm until a high-participation equilibrium is reached. Only once this high-participation equilibrium is reached can a return to a higher level of progressivity be considered. It may be that at a high-participation equilibrium, the increase in tax revenues induced by higher participation allows for more progressivity than before and, as the examples considered earlier went to show, at potentially little cost for participation.
To get a glimpse of what this implies from a social planning and political-economic point of view, suppose for instance that an adverse shock to productivity has corrupted moral incitements to co-operate, enough so for the economy to have shifted from a high-to a low-participation equilibrium. Preventing the long-term idleness of a greater portion of the population would therefore require an initial decrease in the progressivity of the tax system. This may have adverse (electoral, and other) consequences for the party in power, especially if that party is characterized by a strong ideological aversion to inequality. Voters may not be as far-sighted as the party in power, and the transition to a high-participation equilibrium may prove to be slow, therefore hindering a return to a higher level of income tax progressivity. Even from a social planner’s perspective, it is not clear that this solution is always desirable. The initial social costs of reducing progressivity may never be adequately compensated, also here because of the length of the transition or the near-sightedness of individuals. Finally, decreasing income tax progressivity following adverse economic shocks, in order to avoid getting trapped in a low-participation equilibrium, constitutes a form of pro-cyclical redistribution. Subsection 5.3.2 considers in more details the desirability of a shift from a low- to a high-participation equilibrium, while related politico-economic and macroeconomic issues are discussed in Section 5.4.

Returning to our characterization of the required impulse for there to be a transition, the figure below represents the minimal downwards shift in the participation curve necessary for a shift in participation equilibria:
The required magnitude of that shift can be characterized by following these few steps, which match the approach to the question of upwards shifts in the curve caused by changes in tax system or productivity shocks, considered earlier:

1. Find the range for which the curve needs to be completely under the 45° line, for there to be convergence;

2. Find the point $\hat{h}_0$ where $h_0^+(\hat{h}_0) - \hat{h}_0$ is greatest, in that range;

3. Find the magnitude $-(h_0^+(\hat{h}_0) - \hat{h}_0 + \epsilon)$, $\epsilon > 0$.

Let us proceed by answering these questions one by one. First, the range is defined by $h_0 \in [\hat{h}_0, h_0^{**}]$. Second, the highest point in that range is defined by the value of $h_0$ for which:

$$h_0^+(h_0) - h_0$$

is maximized. This is simply the point where the slope of the curve $h_0^+$ is parallel to that of the 45° line, a result which can be confirmed by finding the first-order necessary condition.
to the above problem. This entails that:

$$- \sum_{i \neq 0} h'_i (\cdot) x'(\tilde{h}_0) = 1$$

which yields, for uniformly-distributed preferences for leisure:

$$\tilde{h}_0 = x'^{-1} \left( \frac{1}{\sum_{i \neq 0} \frac{n_i}{b_i - a_i}} \right)$$

Lastly, this allows us to find the jump needed, which is:

$$-(h^+(\tilde{h}_0) - \tilde{h}_0 + \epsilon) = -\sum_{i \neq 0} h'_i (c_i - c_0 + x(h^*_0))d c_i$$

$$\iff \sum_{i \neq 0} \frac{n_i}{b_i - a_i} d c_i = 1 - \sum_{i \neq 0} n_i \left( \frac{c_i - c_0 + x \left( x'^{-1} \left( \frac{1}{\sum_{i \neq 0} \frac{n_i}{b_i - a_i}} \right) \right)}{b_i - a_i} \right) - a_i$$

$$- x'^{-1} \left( -\frac{1}{\sum_{i \neq 0} \frac{n_i}{b_i - a_i}} \right) + \epsilon$$

5.3.2 Normative analysis: redistribution, eliciting participation, and social welfare comparisons

The comparative statics in the preceding section beg the question of the desirability of certain participation equilibrium outcomes, and what can be done about achieving them. Should the social planner or party in office seek to trigger a shift from a low- to a high-participation equilibrium, even if this initial shift runs counter to certain ideological views, or an aversion to inequality?

If the social norm acts as an inducement to co-operate for the skilled workers, enticing them to participate in the labour market rather than remain idle, a move from a low- to a high-participation equilibrium can be Pareto-improving. Recall that the required initial productivity shock or change in taxation for a transition to occur is given by:

$$\sum_{i \neq 0} h'_i (c_i - c_0 + x(h^*_0))d c_i = h^+(\tilde{h}_0) - \tilde{h}_0 + \epsilon$$
where the left-hand side represents the actual total amplitude of the shock or change in taxation, and the right-hand size corresponds to its minimal required amplitude. Consider first the question of positive shocks to the productivity of one or many skill classes denoted by \( k > 0 \), for whom this translates in \( dc_k = dw_k - dT_k > 0 \), where both \( dw_k \), \( dT_k > 0 \). The productivity of all other classes is left unchanged. This is unambiguously Pareto-improving initially, during, and after the transition to the new equilibrium in participation. We have, for all previously-participating individuals of skill \( k \):

\[
c_k + dc_k + x(h^*_0) > c_k + x(h^{**}_0), \quad h^*_0 < h^{**}_0
\]

While for all other pre-existing participants of skill \( i \):

\[
c_i + x(h^*_0) > c_i + x(h^{**}_0)
\]

Those who initially were non-participants and who were induced to participate directly or indirectly are obviously also at least as well-off:

\[
c_k + dc_k + x(h^*_0) \geq c_0 + v_k
\]

\[
c_i + x(h^*_0) \geq c_0 + v_i
\]

For all remaining non-participants, there is no change in utility, given by \( c_0 + v_i \).

Consider next changes in taxes (or shocks) affecting many groups, with not all of these changes (or shocks) being positive (e.g., cuts affecting skill classes with the greatest marginal participation effect, \( h'_i \), but compensated for the purpose of balancing the budget or preserving to some extent the progressivity of the tax schedule by tax increases levied on certain other skill classes; or, in the case of shocks, a combination of negative and positive productivity shocks), but with their aggregate effect meeting the minimum shift for there to be convergence to a high-participation equilibrium. For the high-participation equilibrium to Pareto-dominate the low-participation equilibrium after the transition requires the
following. First, it must be that for all participants of a given skill class $i$:

$$c_i + dc_i + x(h_0^*) \geq c_i + x(h_0^{**})$$

which must hold with strict inequality for at least one $i$. This holds trivially for $dc_i > 0$, that is for the skill classes which incur a tax cut, $dT_i < 0$. All classes for which $dc_i < 0$ must therefore satisfy in addition:

$$x(h_0^*) - x(h_0^{**}) \geq -dc_i$$

This states that the gain in the inducement to co-operate obtained through the social norm must exceed the cost in terms of consumption. For all non-participants who end up participating, it trivially must be that:

$$c_i + dc_i + x(h_0^*) \geq c_0 + v_i$$

Across all classes $i > 0$, this needs to hold for there to be a decrease in $h_0$ (from $h_0^{**}$ to $h_0^*$). Provided that $c_0$ is left unchanged, the non-participants are no worse-off. This yields the following proposition.

**Proposition 5.2.** For a shift from a low- to a high-participation equilibrium to be Pareto-improving, this shift must satisfy the following conditions. First, the initial shift must be of a sufficient magnitude to trigger the transition, i.e.:

$$\sum_{i \neq 0} h_i'(c_i - c_0 + x(h_0^*))dc_i \geq h^+ (\bar{h}_0) - \bar{h}_0 + \epsilon$$

Second, it must be that:

$$x(h_0^*) - x(h_0^{**}) \geq \max \{-dc_i\}_{i>0}$$

Note that there is no easy way of determining whether this shift in equilibrium is also strictly Pareto-improving during the transition from one equilibrium to the other, since our model cannot establish what time the transition might take. The initial loss incurred by the
skill classes for whom $dc_i < 0$ might turn out to be, in terms of net present value, greater than the appropriately-discounted gains in $x(h_0)$ along the transition path.

It is also interesting to note that if the social norm is included as a cost to the non-participants, then no transition to a high-participation equilibrium from a low-participation equilibrium can be Pareto-improving if it involves some initial losers. It must therefore be solely engineered by tax cuts (hence reducing more sharply the progressivity of the income tax, and posing the question of budget balance) or only triggered by positive productivity shocks. Let us examine why. First, if $c_0$ is left unchanged, as shown above, then the non-participants are definitely worse off than before because $-x(h^*_0) < -x(h^*_0^*)$. Of course, they could possibly be compensated, and surely, some former non-participants who now choose to participate are at least as well off, regardless of the sign of $dc_i$. But the main difference lies in those participants who incur a loss $dc_i < 0$ and who choose to keep on working: the transition from $h^*_0^*$ to $h^*_0$ then does not benefit them in any possible way that would compensate for their loss in consumption. All it does is make their outside option less attractive (i.e., there is more stigma attached to non-participation).

How is the social planner or party in office then supposed to take this in stride, so as to engineer a shift in participation that matches as much as possible its social welfare objectives, while also being Pareto-improving? Let again $h^*_{0^*}$ be the initial (low-) participation equilibrium, and let there be some income tax schedule in place that is consistent with budget balance (but not necessarily with whatever the social objectives of the planner or party may be) at that level of participation. This income tax schedule translates as a series of consumption bundles $\{c_i\}_{i=0}^I$. The social planner seeks therefore to choose a change in taxes and transfers – equivalent to choosing a change in consumption bundles, $\{dc_i\}_{i=0}^I$ – that maximizes a social welfare function evaluated at the desired equilibrium in participation, $h^*_0$, and subject to certain constraints. Following the derivation in 5.2.4 on page 178, this problem is generally given by:

$$\max_{\{dc_0, \ldots, dc_I\}} \sum_{j>0} h_j(c_j + dc_j - c_0 - dc_0 + x(h_0^*))u(c_j + dc_j + x(h_0^*))$$

$$+ \sum_{j \geq 0} \int_{v_j \geq 0} u(c_0 + dc_0 + v_j)d\Gamma_j(v_j)$$

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s.t.

\[
\sum_{j>0} h_j'(c_j - c_0 + x(h_0^{**}))dc_j \geq h^+\left(\bar{h}_0\right) - \bar{h}_0 + \epsilon \quad (\lambda)
\]

\[
dc_j \geq -(x(h_0^*) - x(h_0^{**})) \quad \forall j > 0
\]

\[
dc_0 \geq 0
\]

\[
\sum_{j>0} h_j(c_j + dc_j - c_0 - dc_0 + x(h_0^*)) (w_j - c_j - dc_j)
\]

\[
- \left(1 - \sum_{j>0} h_j(c_j + dc_j - c_0 - dc_0 + x(h_0^*))\right) (c_0 + dc_0) = H \quad (p)
\]

The first constraint specifies the required magnitude of the shift, the second and third constraints ensure the Pareto-dominance of the resulting equilibrium, and the last constraint guarantees budget balance at the new participation equilibrium. The second series of constraints being positivity constraints on \((dc_j - x(h_0^{**}) + x(h_0^*))\) for all \(j > 0\), and the third constraint being a positivity constraint on \(dc_0\), they do not require Lagrange multipliers, only modified first-order conditions.

The first-order conditions to the problem with respect to \(dc_i\), \(\forall i > 0\) yield (using the fact that by the envelope theorem, at the new equilibrium in participation, the utility of those changing participation status does not change):

\[
(dc_i - x(h_0^{**}) + x(h_0^*)) [h_i u_i'(c_i + dc_i + x(h_0^*)) + \sum_{j>0} h_j u_j'(c_j + dc_j + x(h_0^*))x' \frac{dh_0^*}{dc_i} + \lambda h_i'(c_j - c_0 + x(h_0^{**}))]
\]

\[
+p \left(-h_i + (w_i - c_i - dc_i + c_0 + dc_0) \frac{dh_i^*}{dc_i} + \sum_{j \neq 0,i} (w_j - c_j - dc_j + c_0 + dc_0) \frac{dh_j^*}{dc_i}\right) = 0
\]
Similarly, the first-order condition with respect to \( dc_0 \) is given by:

\[
dc_0 \cdot \left[ \sum_{j \geq 0} \int_{m \geq m_j} u'(c_0 + dc_0 + v^m_j) d\Gamma_j \right] + p \left( - \left( 1 - \sum_{j > 0} h_j(c_j + dc_j - c_0 - dc_0 + x(h_0^*)) \right) + \sum_{j > 0} (w_i - c_i - dc_i + c_0 + dc_0) \frac{dh_j^*}{dc_0} \right) \right] = 0
\]

Simplifying these equations in a manner identical to that pursued in the context of the optimal tax problem yields, for all \( i > 0 \):

\[
\frac{T_i - T_0 + dT_i - dT_0}{c_i - c_0 + dc_i - dc_0} \leq \frac{1 - g_i}{\eta_i} - \frac{\lambda}{\eta_i} h_i'(c_j - c_0 + x(h_0^{**})) + \frac{x'}{c_i - c_0 + dc_i - dc_0} \left( \frac{\sum_{j > 0} h_j g_j}{1 + A_i} + \frac{\sum_{j \neq 0, i} (T_j - T_0 + dT_i - dT_0) h_j'}{1 + A_i} \right)
\]

and

\[
dc_i - x(h_0^{**}) + x(h_0^*) \geq 0
\]

where \( g_i = u'(c_i + dc_i + x(h_0^*)) / p \), and \( h_i' = h_j'(c_j + dc_j + x(h_0^*)) \) when no argument is given for the function’s derivative. As for \( i = 0 \), it becomes:

\[
h_0 (g_0 - 1) + \sum_{j > 0} (T_i + dT_i - T_0 - dT_0) \frac{dh_i^*}{dc_0} \leq 0
\]

and

\[
dc_0 \geq 0
\]

Careful readers will observe that this is nearly identical to the optimal tax solution in the presence of social norms, as derived in Subsection 5.2.4. To see this more clearly, let us compare them explicitly. If we denote \( T_i' \equiv T_i + dT_i \) and \( c_i' \equiv c_i + dc_i \), then the optimal tax
solution can be written as:

\[
\frac{T'_i - T'_0}{c'_i - c'_0} = \frac{1 - g_i}{\eta_i} + \frac{x'}{c'_i - c'_0} \left( \frac{\sum_{j>0} h_j g_j}{1 + A_i} + \frac{\sum_{j\neq0,i} (T'_j - T'_0) h'_j}{1 + A_i} \right)
\]

In contrast, rewriting equation 5.15 using the same definitions yields (in the case where it binds):

\[
\frac{T'_i - T'_0}{c'_i - c'_0} = \frac{1 - g_i}{\eta_i} - \frac{\lambda}{p\eta_i} h'_i (c_j - c_0 + x(h_0^{**})) + \frac{x'}{c'_i - c'_0} \left( \frac{\sum_{j>0} h_j g_j}{1 + A_i} + \frac{\sum_{j\neq0,i} (T'_j - T'_0) h'_j}{1 + A_i} \right)
\]

The term by which the latter equation differs from the one immediately above it is given by:

\[-\frac{\lambda}{p\eta_i} h'_i (c_j - c_0 + x(h_0^{**})) < 0\]

This term reduces the extent of possible redistribution compared with the initial optimal tax problem. It reflects the constraint that the social planner needs to achieve at least the required initial shift in participation, which must likely pass through an overall decrease in redistribution. The greater is the required shift, the more binding is the constraint and the greater is the multiplier \(\lambda > 0\) associated with it. Hence, redistribution is then also further constrained. The effect of the requirement that the shift between equilibria be Pareto-improving also has the effect of restricting redistribution, whenever the solution for at least some \(i > 0\) is given by:

\[
\frac{T'_i - T'_0}{c'_i - c'_0} < \frac{1 - g_i}{\eta_i} - \frac{\lambda}{p\eta_i} h'_i (c_j - c_0 + x(h_0^{**})) + \frac{x'}{c'_i - c'_0} \left( \frac{\sum_{j>0} h_j g_j}{1 + A_i} + \frac{\sum_{j\neq0,i} (T'_j - T'_0) h'_j}{1 + A_i} \right)
\]

and

\[dc_i - x(h_0^{**}) + x(h_0^*) = 0\]

That is, when the decrease in \(c_i\) is just compensated by the increase in the inducement to co-operate that results from the shift in equilibria.
A special case: a maximin social planner

As in Subsection 5.3.1, let us turn to the special case of a maximin social planner to shed more light on the changes in redistribution required to induce a Pareto-improving shift in participation equilibria, from a low- to a high-participation equilibrium, and that are most compatible with the planner’s objective. In such a case, the planner puts no social weight on the utility of the working individuals of skill classes $i > 0$, so that $g_i = 0 \forall i > 0$. Equation 5.15 therefore becomes:

\[
\frac{T_i' - T_0'}{c_i' - c_0'} = \frac{1}{\eta_i} - \frac{\lambda}{p\eta_i} h_i'(c_j - c_0 + x(h_0^{**})) + \frac{x'}{c_i' - c_0'} \left( \sum_{j \neq 0, i} (T_j' - T_0') h_j' \right) \frac{1}{1 + A_i}
\]

(5.17)

Compared with the choice of an unconstrained maximin planner, given by (5.13), this limits the possible extent of redistribution by reducing the right-hand side of the equation by:

\[-\frac{\lambda}{p\eta_i} h_i'(c_j - c_0 + x(h_0^{**})) < 0\]

5.4 Discussion and Conclusions

This chapter sought to establish the importance of societal consensus for questions of optimal redistribution, with this consensus being induced by social norms that reduce the extent of self-interested behaviour in relation to work participation decisions. It first particularly examined the implications of a social norm concerning work participation – included as either an inducement to co-operate through a moral benefit to participants, or as a moral cost of stigma to non-participants – for optimal income taxation and the extent of redistribution, in the case of a na"ïve social planner abstracting from the risks of a dramatic breakdown in societal cohesion. This breakdown was characterized by a sharp reduction in work participation numbers and the overall transition from a high- to a low-participation equilibrium, by way of an initial decrease in participation compounded by the social norm through successive decreases in the inducements to co-operate. The nature of the initial shock in participation required to trigger a shift in participation equilibria was thereafter characterized, both in the form of exogenous shocks to labour income, and through changes in the progressivity of
the optimal income tax schedule. The Pareto-desirability of a shift going from a low- to a high-participation equilibrium was also considered, and a set of conditions guaranteeing the required magnitude and the Pareto-improving nature of the shift were derived. Lastly, it was studied how such a shift may optimally be implemented by a social planner (or party in power) with a certain welfare objective function, for instance including a particular aversion to inequality.

It was first found that in the presence of a social norm acting as an incitement to co-operate, the optimal scope for redistribution as chosen by a social planner in the manner of Saez (2002) (based on the contribution of Diamond, 1980) is reduced compared with the case where it is absent. This was explained by the feedback effects of a decrease in participation, which lower the incitements to sustain societal co-operation, thus increasing the budgetary costs of redistribution. The planner therefore sought to foster participation to a greater extent than in the absence of a social norm. This result was not as stark when the social norm was included as a cost to non-participants, rather than as a benefit to participants: provided that the incentive to compensate the non-participants for the moral costs incurred was stronger than the negative feedback effects on work participation of doing so, the optimal scope for redistribution was then greater in the presence of a social norm than in its absence. These results importantly hinge on the elasticities of participation being identical between the cases with and without social norms.

When the social norm was such that it exhibited multiple, locally-stable equilibria in participation, it was found that adverse productivity shocks of a sufficient magnitude could lead to a shift from a high- to a low-participation equilibrium. The effects of such shocks on participation were however mitigated by the presence of a progressive income tax, which effectively serves as a counter-cyclical policy tool. Likewise, a sufficient increase in the progressivity of the tax system could lead to a shift in participation regimes from a high- to a low-participation equilibrium. Conversely, it generally took a decrease in the progressivity of the income tax to trigger the opposite shift, from a low- to a high-participation equilibrium. In between-equilibria welfare comparisons (i.e., abstracting from the transition dynamics), such a shift was found to be Pareto-improving when the social norm was modelled as a benefit to participants, and when the increase in this benefit between equilibria at least
compensated those incurring an initial loss in consumption. The shift in the tax system that fit best with a social planner’s objective function was thereafter found to further constrain the possible extent of redistribution.

This last result is most interesting, and informs the discussion that follows as well as future work on this topic. It appears that in order to engineer a shift in participation equilibria, from a low- to a high-participation equilibrium, a social planner or party in office that is averse to inequality must somewhat compromise with this objective by decreasing the scope of redistribution, that is to say the progressivity of the tax system, compared with what it would normally choose if it were unconstrained. Why would any planner or party ever choose such a course of action, then? Done optimally, this decrease in progressivity can be minimal, especially if the initial required shock to participation is of a small magnitude. Furthermore, at a high-participation equilibrium, the scope for redistribution is thereafter potentially greater, due to greater tax revenues and the small effects of subsequent (modest) increases in progressivity on participation.

But engineering such a shift nonetheless poses a serious political economy conundrum. To freely adopt such a policy, the party in power must foresee few electoral costs in so doing and have a low aversion to inequality. On the contrary, a party whose social objective function includes a strong aversion to inequality will need to convince voters (at the very least its party base, if not more) that such a transformation, despite being contrary to principle and leading to at least some groups losing in the short term, is in everyone’s interest in the longer run. Claiming that this is possible supposes that the party in power is far-sighted (that is to say, both its leadership and members-at-large see eye-to-eye on this policy’s desirability, and the influence of opportunists and careerists is limited so as to allow its implementation), and that the electorate shares this clear view of the future. Even in the presence of such far-seeing individuals, such an engineered shift may be compromised by too slow a transition between equilibria leading to impatient voters, instability in government, and possibly contradictory policies. It may even be necessary to elect a party without any particular aversion to inequality so as to engineer such a shift, and revert to electing more inequality-averse parties only when participation is at a high equilibrium once again. This narrative would appear to fit the examples of 1980s Britain and 1990s Sweden, for instance.
Another apparent implication of this engineered shift in participation equilibria, especially following an adverse productivity shock having brought upon the low-participation equilibrium, is that the scope of the welfare state and the progressivity of the income tax should be pro-cyclical. This line of thinking is to be strongly discouraged, however, for several reasons. First, it is not true that adverse productivity shocks immediately and surely corrupt social mores concerning work participation and societal co-operation in general. As explained by Lindbeck (1995, p. 483), social norms and habits tend to create inertia in the short and medium run, which lessens the effects of most adverse macroeconomic shocks that result in heightened disincentives for work participation. Second, as is well-known and was shown early in this chapter’s analysis, the very presence of a progressive income tax system is a useful counter-cyclical policy tool, for it cushions the fall in net labour incomes resulting from adverse productivity shocks. Conditioning redistributive policies to be pro-cyclical would therefore run counter to most of the underpinnings of the modern social welfare state, and the lauded benefits of the social safety net as a macroeconomic stabilization tool. Instead, the lesson that should be remembered is that changes in social norms, triggered by strong adverse macroeconomic shocks that cause individuals to become dependent for long periods of time on the social safety net’s benefits, may compromise the long-term viability of the welfare state and its redistributive system. It is only periodically, when indicators show high rates of idleness (e.g., large inactive portions of the work force, long-term unemployment), that such a revamping of the welfare state (e.g., by reducing income tax progressivity to induce an increase in work participation and social cohesion) may be warranted, if only to guarantee its survival. This mirrors the thinking of Lindbeck (1995, p. 487), who calls this state of affairs a “welfare-state paradox”:

The welfare state has largely been motivated as a way of shielding the individual from the consequences of macroeconomic shocks and related market risks. It is possible, however, that exactly such shocks may undermine the welfare state itself by pushing large fractions of the labor force onto various safety nets for prolonged periods, and by undermining the financial position of the government. More generally, while a generous welfare state presupposes a national economy with a high productivity and a large fraction of the population at work in the market system, forces may emerge in advanced welfare states that undermine both of these prerequisites – either endogenously or as a result of exogenous shocks, or a combination of both.
Future work on this topic will build upon the present chapter to look at the interaction of social norms concerning work, the aversion to inequality of voters, and electoral competition. It will precisely seek to determine how a societal consensus on redistribution may be achieved through co-operative behaviour concerning work, in spite of different ideologies, and as fostered (or hindered) by competition political parties and other institutions. The question of the political economy underlying the transition between a low- and a high-participation equilibrium, discussed above, is also worth investigating further.
Chapter 6

Conclusion

This thesis sought firstly to advance the current understanding of how party organization and intra-party dynamics affect policy choices and economic outcomes. In so doing, it stressed the necessity of “inquiring within”, and acquiring thus a more precise understanding of the inner workings of political institutions, such as political parties. This mirrored the emphasis put in other areas of economics on understanding how the objectives of collective organizations, such as firms, are shaped by the motives, behaviours, and clouts of its constituent actors. Chapter 3 pushed this understanding by showing how political parties’ reliance on contributions from both activists and special-interest groups for waging electioneering activities resulted in electoral policy choices being a compromise between the interests of the party’s office-seeking leadership and its issue-motivated base. In addition, Chapter 4 delved deeper within the party’s organization by investigating how party members, organized in factions sharing common interests, could influence the policy choices made by the politician in office. This was made possible by the power of factions to remove the incumbent politician from the post of party leader, either through democratic or non-democratic means, thus effectively preventing her from running for re-election.

Secondly, this thesis sought to stress the importance of moral considerations in economics, notably in relation with both normative public economics and political economy. This thesis’ inclusion of ethical and moral behaviours constituted forays beyond the well-defined boundaries of rational self-interested behaviour. Such behaviour, as portrayed by the ever more clichéd *homo economicus*, is particularly ill-suited to analyses of normative
economics and politics, where moral considerations matter more than in most market transactions. Ethical considerations were included in Chapter 3, where they appeared in the motives underlying the participation decision of activists. They allowed sidestepping well-known paradoxes of collective action that normally result from the assumption of rational self-interested behaviour. Meanwhile, Chapter 5’s emphasis on basing normative analysis upon a societal consensus, especially in the context of redistributive taxation, echoed the arguments made by Atkinson (2011) and Shiller and Shiller (2011) for a renewal of welfare economics, and economics as a moral science. These emphasized the need to rely on welfare criteria that use widely-accepted value judgements, not just those narrowly deemed acceptable by economists. Chapter 5 also highlighted the use of moral considerations in normative economics, through the definition of a societal consensus resulting from a social norm that increased co-operation.

The paragraphs that follow summarize in turn the precise objectives and research questions of the core chapters of this thesis, along with their principal results and conclusions.

The purpose of Chapter 3 was to establish the implications for policy and voter welfare of political parties relying on both monetary contributions from special interests, and volunteer labour contributions from activists. Such contributions serve parties to wage electioneering activities, in an attempt to persuade voters. This chapter also sought to examine the effects of a documented decline in activism on the influence of special interests on policy and voter welfare.

To achieve such ends, this chapter built and solved a model of electoral competition. In this model, parties relied on contributors to wage electioneering activities, in an attempt to convince uninformed voters of casting a ballot in their favour. Informed voters cast their ballots on the basis of the policy platforms of parties and of their own single-peaked policy preferences (also shared, but not acted on because of a lack of information concerning party platforms, by uninformed voters). The parties were modelled as single agents who were office-oriented only, and who sought to maximize the proportion of votes cast in their favour. They had a relationship of agency with their contributors, where the parties were principals and also Stackelberg leaders. The single special-interest group present had single-peaked policy preferences, and thus a policy bliss point, similarly to voters. It could donate to one
or both parties if it so desired. Finally, activists were informed voters drawn to volunteer their time to a single party of their choice. They were motivated to do so by the instrumental benefits of influencing the policy outcome of the election (updated to include ethical motives for participation), and also by the selective incentives provided by parties, such as process incentives (e.g., the benefits of social interaction and networking with like-minded people).

The game was played in the following order: first, parties simultaneously announced policy platforms; second, on the basis of such announcements, contributors simultaneously chose how much to donate of their time or money to parties; third, the election was held, with voters casting a ballot on the basis of policy platforms (informed voters) or the parties’ electioneering activities (uninformed voters); and fourth, the winner of the election implemented the chosen policy platform, with full commitment being assumed.

Chapter 3 came to the conclusion that the presence of activists induced parties to offer differentiated electoral policy platforms, even when in the presence of a special-interest group whose monetary contributions were perfectly substitutable for the volunteer labour of activists. The presence of a special interest, meanwhile, led to both parties’ policy platforms being biased towards its policy preference. A decline in activism due to both a reduced demand for, and supply of activist labour was shown to increase the influence of the special interest on policy. In contrast, a strictly demand- or supply-led decline exhibited ambiguous results as to the influence of the special-interest group on policy. Such an increase in special-interest influence on policy was determined to have negative effects for voter welfare whenever the special interest created a greater distortion on electoral policy platforms, biasing the result of the election further away from the median voter’s bliss point than the presence of activists alone. In this spirit, recommendations were made for the design of laws limiting campaign spending by parties, and contributions made to them by groups or individuals. The issue of the public financing of political parties was also discussed.

The analysis conducted in Chapter 4 sought to establish how political parties, through their influence on the politician in office (usually a high-ranking party official, if not the party leader himself), affect her choice of policies and thus her accountability to voters. Higher accountability of politicians to voters, or how closely the politicians’ choices agree with what voters want, meant in this context higher voter welfare.
The analysis used a model of political agency where moral hazard and adverse selection were present, where the politician in office was the agent, and the representative voter was the principal. The incumbent politician could be of two types, either a welfarist concerned with maximizing voter welfare, or an ideologue concerned with the choice of a policy conforming with her principles. The representative voter, meanwhile, voted retrospectively on the basis of the payoffs from the policies enacted by the incumbent politician during her term in office. These payoffs served as a signal of the politician’s type, which updated the voter’s prior belief following Bayes rule, and informed her decision to re-elect or not the politician. The aim of the representative voter was to not re-elect incumbents believed to be ideologues.

This model was then updated by the inclusion of the incumbent politician’s party. The politician was tied to her party by another relationship of agency, with the politician and party leader being again the agent, and the party being the principal. This party was not homogenous, but instead consisted of three factions, characterized by different objectives and clouts: the militants, whose objective was to favour a policy conforming to their ideological principles; the reformists, whose objective was to favour the policy maximizing voter welfare; and the opportunists, whose objective was to favour the policy maximizing the probability of re-election.

In its most general form, the game was played in the following order: first, the incumbent politician chose a policy; second, the party decided whether to keep its leader or to replace her, either by the democratic choice of factions representing a majority of party members, or by way of a “bloodless coup” initiated by at least one faction; third, the incumbent (or her successor) faced another party’s challenger, in a bid for re-election (or election); fourth, the representative voter cast a ballot either for the incumbent, her replacement, or the other party’s challenger; fifth and last, the incumbent, her replacement, or the other party’s challenger was elected to office for the next term. The game ended after the second term, meaning that any challengers elected were “lame-duck” politicians.

The conclusions of Chapter 4’s analysis were that whenever the electoral mechanism was effective in keeping politicians accountable, then the presence of the incumbent politician’s party was at best either accountability-improving in one state while being ineffectual in
the other (in the case of democratic means of leadership review), and at worst a distortion which reduced the accountability of politicians to the representative voter (in the case of non-democratic means of removing party leaders). However, in the presence of other distortions diminishing the effectiveness of the electoral mechanism, such as the misguided beliefs of the representative voter, it was shown that the party’s presence could be accountability- and welfare-enhancing. This also led to the surprising result that even non-democratic means of changing party leaders could then be accountability- and welfare-enhancing, thus contributing to a certain theory of the political second-best.

The penultimate chapter of this thesis, Chapter 5, contained an investigation of normative analysis concerning (optimal) redistributive income taxation and the implications of the extent of societal consensus for the design of such policies. This societal consensus was defined by the extent of co-operative behaviour concerning work participation, which was fostered by a social norm.

The normative model of redistributive income taxation considered was based on the model of Saez (2002), itself drawing from the founding contribution of Diamond (1980). In this model, individuals differ in skill and thus exogenous levels of income, as well as in leisure preferences. Individuals of each skill class may choose to work or to remain idle. This prevents the planner from accurately knowing each individual’s skill and tax them on this basis, and it must instead resort to second-best taxation: taxing those earning a certain income in a way that both largely satisfies social objectives and is incentive-compatible with work participation. This model was augmented with a social norm, which was either modelled as a benefit to participants leading to increased co-operative behaviour, or as a cost to non-participants representing the stigma of being idle and receiving transfers. Optimal income taxation was then derived in the presence of this social norm concerning work participation, and the results were compared with the standard case where it is absent. A closer examination of the social norm’s implications for the existence of multiple locally-stable equilibria in work participation was conducted next. Results were found with regard to the positive properties of such norms and their behaviour following shocks to labour income productivity, and changes in the progressivity of the income tax schedule. Of particular interest was the transition from one locally-stable equilibrium to another, for instance as
a result of shocks of a sufficient magnitude. These results were then put to use so as to characterize the desirability of fostering societal cohesion, for instance represented by a transition from a low- to a high-participation equilibrium, and of conditioning the scope of redistributive taxation on such an objective.

It was first found that the presence of the social norm, when modelled as a benefit to participants, reduced a “naïve” social planner’s optimally-chosen degree of redistribution relative to the case where such a social norm was absent. Such a social planner was deemed naïve for it did not consider the extent of societal consensus brought upon by work participation. This first result was due to the planner favouring work participation over idleness, and because of the feedback effects of the social norm on participation, which increased the budgetary costs of redistribution. In contrast, when the social norm was modelled as a cost to non-participants, the degree of optimally-chosen redistribution could be greater in the presence of a social norm than without, provided that the social weight put on the utility of participants was large enough, and the feedback effects of the social norm induced relatively low budgetary costs. This was notably attributable to the social planner’s desire to compensate non-participants for their loss from the stigma of being idle and receiving transfers. These results held under the important assumptions of identical social weights put on different skill classes, and identical elasticities of participation for each skill class between the case with a social norm and that without.

The positive analysis of a social norm exhibiting multiple equilibria in participation then went to show that exogenous negative shocks to labour income of a sufficient magnitude could trigger a shift from a high- to a low-participation equilibrium. The effect of such shocks was however mitigated by the presence of a progressive income tax schedule, which acted as a counter-cyclical policy tool. Such a shift in participation equilibria could also result from changes in the incentive structure of the income tax schedule, such as a sufficient increase in its progressivity.

The normative analysis of such low- and high-participation equilibria went to show that the transition from the former to the latter could be Pareto-improving. Assuming that it was engineered through a change in the taxation schedule, this required inducing an initial increase in participation of a sufficient magnitude through an overall decrease in income tax
progressivity. If this tax shift included some initial losers, those experiencing an increase in their tax burden due to the planner’s (or party in power’s) objectives needed to be adequately compensated by an increase in the benefits from participation, that is in the inducement to co-operate stemming from the social norm. It was also shown that an inequality-averse social planner (or political party) that accounted for societal consensus (included as a shift from a low- to a high-participation equilibrium) when optimally choosing a taxation schedule, would then effectively need to limit the degree of redistribution compared with a naïve social planner. The new, high-participation equilibrium could thereafter allow for more room for redistribution, a finding which poses interesting political economy questions.

It goes without saying that no thesis is ever fully comprehensive, and the treatment of its subject matter never without limitations. This thesis is no exception. Its limitations nonetheless form the basis of possible extensions to the analyses contained therein. Chapter 3’s analysis assumes the full turnout of voters in elections, so as to focus primarily on the persuasion effects of electioneering activities. Yet the effects of activism on turnout are well-recognized, and it is not a little ironic in light of decreased activist participation that election turnout be assumed to remain constant. These concerns, as well as giving more consideration to the prevalent forms of electioneering technology and their impact for persuasion and turnout, should be present in future work on this topic.

Chapter 4, meanwhile, is particularly constrained by the simplicity of its election mechanism and the presence of a single, representative voter. Introducing more heterogeneity in the electorate’s preferences, and generally making the outcome of the election less predictable, would complicate the balancing act of politicians between their party and the voters. The game-theoretic implications of having another true heterogeneous challenger party, therefore making each party’s strategic decisions regarding the fate of their leader conditional on the other’s expected or realized behaviour, would also considerably enrich the analysis.

Lastly, Chapter 5’s analysis is limited by its current lack of consideration of political mechanisms and the social preferences of voters, for instance their aversion to inequality. These aspects would serve the study of the political economy of transitions between low- and high-participation equilibria, as well as for making further advances in the conditioning
of the social planner’s preferences on a societal consensus.


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Appendix A

The Influence of Special Interests
and Party Activists on Electoral Competition

A.1 Further explanations

A.1.1 Explicit weighting of the special interest’s utility in the utilitarian social welfare function

When the social planner explicitly weighs the special interest’s welfare relative to voters’, the normalization on $V$, the mass of voters, must be relaxed. Aggregate welfare is then given by:

$$W(x) = V \cdot \int_{0}^{1} \left( 1 - (x - v_i)^2 \right) dv_i + \left( 1 - (x - s)^2 \right)$$

Aggregate welfare (which is still globally concave) must be maximized by finding its derivative with respect to $x$, so as to find the social optimum in this case:

$$W'_{SO}(x_{SO}) = V \cdot \int_{0}^{1} \left( -2 \left( x_{SO} - v_i \right) (1) \right) dv_i - 2 \left( x_{SO} - s \right) (1) = 0$$

$$\iff x_{SO} = \frac{1}{2} \left( \frac{V}{V+1} + \frac{2s}{V+1} \right)$$
The utilitarian social planner is rather undiscerning: it weighs proportionately the welfare of all voters (of mass $V$), and that of the special interest (of mass 1). Even with this weak criterion, it is plain to see that $x^{SO} = s$ if and only if $V = 0$: that is, there are no voters at all to care about. Conversely, the greater is the mass of voters relative to the special interest (i.e., the greater is $V$), then the closer is the socially optimal policy to the median voter’s choice, with $x^{SO} \to 1/2$ as $V \to \infty$. This is so as:

$$\lim_{V \to \infty} \frac{V}{V + 1} = \lim_{V \to \infty} \frac{1}{1 + \frac{1}{V}} = 1$$

The figure below shows how aggregate welfare (with explicit weighing of the special interest relative to voters) under the social planner exceeds the electoral equilibrium for $V = 1$ and for all $s \neq 1/2$.

![Figure A.1: Aggregate welfare under the electoral equilibrium, and under the social planner’s solution, for $V = 1$ and for all possible values of $s \in [0, 1]$.](image-url)
A.1.2 Formal comparison of ex-ante voter welfare between the cases of perfect complements and perfect substitutes, for a symmetric equilibrium with $s = 1/2$

In the case of perfect complements, ex-ante expected voter welfare is given by:

$$W_{PC} = \frac{7}{6} - \frac{1}{2} \left( \left( \frac{1}{2} - \frac{tK\phi^* - 2t}{16h^2(1-\iota)^2 + 4tK\phi^*} \right)^2 + \left( \frac{1}{2} + \frac{tK\phi^* - 2t}{16h^2(1-\iota)^2 + 4tK\phi^*} \right)^2 \right)$$

while in the case of perfect substitutes, it can be expressed as:

$$W_{PS} = \frac{7}{6} - \frac{1}{2} \left( \left( \frac{1}{2} - \frac{hK(1-\iota) - 2t}{16h^2(1-\iota)^2 + 4hK(1-\iota)} \right)^2 + \left( \frac{1}{2} + \frac{hK(1-\iota) - 2t}{16h^2(1-\iota)^2 + 4hK(1-\iota)} \right)^2 \right)$$

Hence:

$$W_{PC} \gtrless W_{PS} \iff \left( \frac{1}{2} - \frac{hK(1-\iota) - 2t}{16h^2(1-\iota)^2 + 4hK(1-\iota)} \right)^2 + \left( \frac{1}{2} + \frac{hK(1-\iota) - 2t}{16h^2(1-\iota)^2 + 4hK(1-\iota)} \right)^2 \gtrless \left( \frac{1}{2} - \frac{tK\phi^* - 2t}{16h^2(1-\iota)^2 + 4tK\phi^*} \right)^2 + \left( \frac{1}{2} + \frac{tK\phi^* - 2t}{16h^2(1-\iota)^2 + 4tK\phi^*} \right)^2$$

A.2 Proofs

A.2.1 Proof of Proposition 3.2 on page 55

Proof. The proportion of votes received by either party is:

$$\Pi_L = t \left( \frac{x_L + x_R}{2} \right) + (1 - \iota) \left( \frac{1}{2} \right)$$

$$\Pi_R = 1 - \Pi_L$$

At the equilibrium platforms, each party receives one half of the total vote: $\Pi_L^* = t(1/2) + (1 - \iota)(1/2) = 1/2$. Suppose that platform $x'_L$ is a profitable deviation on the part of party $L$ from $x_L^* = 1/2$. Let us restrict $x'_L < x_L^*$ (the other case is symmetric) and the proof for

\footnote{With the exception that it requires an inversion of voting functions, since when $x_L > x_R$, $(x_L + x_R)/2$ is now the proportion of informed votes received by party $R$.}
it is therefore redundant). Hence, the proportion of votes received by party $L$ is:

$$\Pi'_L = \iota \left( \frac{x'_L}{2} + \frac{1}{2} \right) + (1 - \iota) \frac{1}{2}$$

Yet $x'_L < x^*_L = 1/2$. Hence, it must be that $\Pi'_L < \Pi^*_L = 1/2$. This yields a contradiction with the original statement: $x'_L$ cannot be a profitable deviation from $x^*_L$. By symmetry, this must in turn mean that $\{x^*_L, x^*_R\} = \{1/2, 1/2\}$ is a Nash equilibrium of this game. \qed

### A.2.2 Proof of Proposition 3.12 on page 79

**Proof.** Suppose not, that is suppose that there exists a symmetric equilibrium for a value of $s \neq 1/2$. Evaluating equation 3.31 at $x^*_L = 1 - x^*_R$ yields that:

$$0 = 4h^2 (1 - \iota)^2 (x^*_R + s - 1) + h \kappa (1 - \iota) \left( x^*_R - \frac{3}{4} \right) + \frac{1}{2} \iota$$

Yet evaluating equation 3.32 also at $x^*_L = 1 - x^*_R$ gives that:

$$0 = 4h^2 (1 - \iota)^2 (x^*_R - s) + h \kappa (1 - \iota) \left( x^*_R - \frac{3}{4} \right) + \frac{1}{2} \iota$$

Both equations do not yield the same value for $x^*_R$ unless $s = 1/2$, which yields a contradiction with the initial assumption. This shows that there does not exist a symmetric equilibrium with perfectly substitutable inputs unless $s = 1/2$. \qed

### A.2.3 Proof of Proposition 3.18 on page 87

**Proof.** First consider the case where $s > 1/2$. It must therefore be that only party $R$ potentially receives contributions from the special interest as it is indubitably closer to its preferred policy than party $L$, due to the symmetric nature of the equilibrium. This means that $C^*_R > 0$. Evaluating equations 3.37 and 3.38 at $x^*_L = 1 - x^*_R$, and solving for $x^*_R$, $\phi^*_L$,
and $\phi^*_R$, yields that:

\[
\begin{align*}
    x^*_L &= 1 - s \\
    x^*_R &= s \\
    \phi^*_R &= \frac{\iota}{2\kappa \left( \frac{3}{4} - s \right)}
\end{align*}
\]

Yet this must imply $s < 3/4$, for $\phi^*_R \geq 0$ to hold. The equilibrium is therefore only plausible for $s < 3/4$, which yields the following full solution:

\[
\begin{align*}
    x^*_L &= 1 - s \\
    x^*_R &= s \\
    C^*_L &= 0 \iff \theta^*_L = \frac{\phi^*_L}{2h(1 - \iota)} + 4(s - \frac{1}{2})^2 > 0 \\
    C^*_R &= 4h(1 - \iota)(s - \frac{1}{2})^2 - \phi^*_R > 0 \\
    \theta^*_R &= 0 \\
    A^*_L &= \frac{1}{2}\kappa \left( s - \frac{1}{2} \right) \\
    A^*_R &= \frac{1}{2}\kappa \left( s - \frac{1}{2} \right) \\
    \beta^*_L &= \frac{1}{2}\kappa \left( s - \frac{1}{2} \right) > 0 \\
    \beta^*_R &= \frac{1}{2}\kappa \left( s - \frac{1}{2} \right) - 4h(1 - \iota)(s - \frac{1}{2})^2 + \phi^*_R > 0 \\
    \Pi^*_L &= \frac{1}{2} \\
    \Pi^*_R &= \frac{1}{2} \\
    \phi^*_R &= \frac{1}{2\kappa \left( \frac{3}{4} - s \right)} \\
    \phi^*_L &= \left( \frac{\iota\kappa \left( \frac{3}{4} - s \right)}{\iota\kappa \left( \frac{3}{4} - s \right) + 4h(1 - \iota)(s - \frac{1}{2})} \right) \left( \frac{2h(1 - \iota)(s - \frac{1}{2}) \left( 1 + 4h\kappa(1 - \iota)(\frac{3}{4} - s) \right)}{\iota\kappa^2 \left( \frac{3}{4} - s \right)^2} \right) \\
    &\quad + \frac{1}{2\kappa \left( \frac{3}{4} - s \right)}
\end{align*}
\]
As stated above, this is an equilibrium provided that \( s \in \left( \frac{1}{2}, \frac{3}{4} \right) \), with \( h \) lying in the open interval:

\[
h \in \left( \frac{\phi_R^*}{4(1 - \iota)(s - \frac{1}{2})^2}, \frac{\phi_R^*}{4(1 - \iota)(s - \frac{1}{2})^2} + \frac{\iota \kappa}{8(1 - \iota)(s - \frac{1}{2})} \right)
\]

for \( C_R^* > 0 \) and \( \beta_R > 0 \) to simultaneously hold.

Now, for the case where \( s < \frac{1}{2} \), by an analogous reasoning, one obtains, by evaluating equations 3.37 and 3.38 at \( x_L^* = 1 - x_R^* \), and solving for \( x_R^*, \phi_L^*, \) and \( \phi_R^* \), that:

\[
x_L^* = s \\
x_R^* = 1 - s \\
\phi_L^* = \frac{\ell}{2\iota \kappa (s - \frac{1}{4})}
\]

Here, \( s > \frac{1}{4} \) for \( \phi_L^* \geq 0 \). The full equilibrium is given by:

\[
x_L^* = s \\
x_R^* = 1 - s \\
C_L^* = 4h(1 - \iota) \left( \frac{1}{2} - s \right)^2 - \phi_L^* > 0 \\
\theta_L^* = 0 \\
C_R^* = 0 \iff \theta_R^* = \frac{\phi_R^*}{2h(1 - \iota)} + 4 \left( s - \frac{1}{2} \right)^2 > 0 \\
A_L^* = \frac{1}{2} \iota \kappa \left( \frac{1}{2} - s \right) \\
A_R^* = \frac{1}{2} \iota \kappa \left( \frac{1}{2} - s \right) \\
\beta_L = \frac{1}{2} \iota \kappa \left( \frac{1}{2} - s \right) - 4h(1 - \iota) \left( \frac{1}{2} - s \right)^2 + \phi_L^* > 0 \\
\beta_R = \frac{1}{2} \iota \kappa \left( \frac{1}{2} - s \right) > 0 \\
\Pi_L = \frac{1}{2} \\
\Pi_R = \frac{1}{2}
\]

As well as by:
\[
\phi^*_L = \frac{1}{2\kappa(s - \frac{1}{4})} \\
\phi^*_R = \left(\frac{\kappa s (s - \frac{1}{4})}{\kappa s (s - \frac{1}{4}) + 4h(1 - \iota) \left(s - \frac{1}{4}\right)}\right) \left(\frac{2h(1 - \iota) \left(s - \frac{1}{4}\right)}{\kappa^2 \left(s - \frac{1}{4}\right)^2} \left(1 + 4h\kappa(1 - \iota) \left(s - \frac{1}{4}\right)\right)\right) + \frac{1}{2\kappa(s - \frac{1}{4})}
\]

Similarly, this case is plausible for all \(s \in (1/4, 1/2)\), with \(h\) lying within the following interval:

\[
h \in \left(\frac{\phi^*_L}{4(1 - \iota) \left(s - \frac{1}{2}\right)^2}, \frac{\phi^*_R}{4(1 - \iota) \left(s - \frac{1}{2}\right)^2} + \frac{\kappa}{8(1 - \iota) \left(s - \frac{1}{2}\right)}\right)
\]

for \(C^*_L > 0\) and \(\beta_L > 0\) to simultaneously hold.

Finally, the case where \(s = 1/2\) is solved by evaluating equations 3.37 and 3.38 at \(x^*_L = 1 - x^*_R\), and \(\phi^*_L = \phi^*_R = \phi^* \geq 0\) (this being possible due to the symmetric nature of the equilibrium and the fact that parties are then equidistant from the special interest’s position), and solving for \(x^*_R\) and \(\phi^*\), which yields:

\[
\begin{align*}
x^*_L &= \frac{1}{2} - \frac{\iota \kappa \phi^* - 2\iota}{16h^2 (1 - \iota)^2 + 4\iota \kappa \phi^*} \\
x^*_R &= \frac{1}{2} + \frac{\iota \kappa \phi^* - 2\iota}{16h^2 (1 - \iota)^2 + 4\iota \kappa \phi^*} \\
C^*_L &= 0 \\
C^*_R &= 0 \\
A^*_L &= \iota \kappa \left(\frac{1}{2}\right)^2 \left(\frac{\iota \kappa \phi^* - 2\iota}{8h(1 - \iota)^2 + 4\iota \kappa \phi^*}\right) \\
A^*_R &= \iota \kappa \left(\frac{1}{2}\right)^2 \left(\frac{\iota \kappa \phi^* - 2\iota}{8h(1 - \iota)^2 + 4\iota \kappa \phi^*}\right) \\
\beta_L = \beta_R &= \iota \kappa \left(\frac{1}{2}\right)^2 \left(\frac{\iota \kappa \phi^* - 2\iota}{8h(1 - \iota)^2 + 4\iota \kappa \phi^*}\right) \\
\Pi_L &= \frac{1}{2} \\
\Pi_R &= \frac{1}{2} \\
\phi^* &\geq 0
\end{align*}
\]
 Yet \( x_R^* \geq x_L^* \) and \( x_L^* = 1 - x_R^* \) jointly imply that:

\[
x_R^* \geq \frac{1}{2}
\]

which holds if and only if:

\[
\kappa \phi^* - 2 \iota \geq 0
\]

or equivalently, \( \phi^* \geq 2/\kappa \) for all \( \iota > 0 \). \( \square \)

### A.2.4 Proof of Proposition 3.22 on page 90

**Proof.** From equation (3.37), the partial derivative of \( x_L^* \) with respect to \( x_R \) is given by:

\[
\frac{\partial x_L^*}{\partial x_R} = \frac{\kappa \phi_L^* (x_R - x_L^*)}{\kappa \phi_L^* (3x_L^* + x_R) + 8h^2 (1 - \iota)^2 - 4h(1 - \iota) (\phi_L^* - \phi_R^*)} > 0
\]

which holds if and only if:

\[
(\phi_L^* - \phi_R^*) < 2h (1 - \iota) + \frac{\phi_L^*}{h (1 - \iota)} \left( \frac{1}{4} \kappa (3x_L^* + x_R) \right)
\] (A.1)

The analogous result for party \( R \), using (3.38) instead, is:

\[
\frac{\partial x_R^*}{\partial x_L} = \frac{\kappa \phi_R^* (x_R^* - x_L)}{\kappa \phi_R^* (4 - (3x_R^* + x_L)) + 8h^2 (1 - \iota)^2 - 4h(1 - \iota) (\phi_R^* - \phi_L^*)} > 0
\]

which holds if and only if:

\[
(\phi_L^* - \phi_R^*) > 2h (1 - \iota) + \frac{\phi_R^*}{h (1 - \iota)} \left( 1 - \frac{1}{4} (3x_R^* + x_L) \right)
\] (A.2)

The first case above is obtained when (A.2) is reversed while inequality (A.1) is maintained. The inequalities given by (A.1) and (A.2) together imply the second case. Finally, when the inequality (A.1) is reversed while the other one still holds, one gets the third case. A fourth case, where both inequalities are reversed, yields a contradiction as it is then that:

\[
(\phi_L^* - \phi_R^*) > 2h (1 - \iota) + \frac{\phi_L^*}{h (1 - \iota)} \left( 1 - \frac{1}{4} (3x_L^* + x_R) \right) > 0
\]
and

\[
(\phi_L^* - \phi_R^*) < - \left(2h(1 - \iota) + \frac{\phi_R^*}{h(1 - \iota)} \iota \kappa \left(1 - \frac{1}{4} (3x_R^* + x_L)\right)\right) < 0
\]

hold simultaneously. Altogether, this yields:

\[
\begin{cases}
\frac{\partial x_L^*}{\partial x_R} > 0, \frac{\partial x_R^*}{\partial x_L} < 0 & \forall (\phi_L^* - \phi_R^*) < - \left(2h(1 - \iota) + \frac{\phi_R^*}{h(1 - \iota)} \iota \kappa \left(1 - \frac{1}{4} (3x_R^* + x_L)\right)\right), \\
\frac{\partial x_L^*}{\partial x_R} > 0, \frac{\partial x_R^*}{\partial x_L} > 0 & \forall (\phi_L^* - \phi_R^*) \in \left(- \left(2h(1 - \iota) + \frac{\phi_R^*}{h(1 - \iota)} \iota \kappa \left(1 - \frac{1}{4} (3x_R^* + x_L)\right)\right), 2h(1 - \iota) + \frac{\phi_L^*}{h(1 - \iota)} \left(\frac{1}{4} \iota \kappa (3x_L^* + x_R)\right)\right), \\
\frac{\partial x_L^*}{\partial x_R} < 0, \frac{\partial x_R^*}{\partial x_L} > 0 & \forall (\phi_L^* - \phi_R^*) > 2h(1 - \iota) + \frac{\phi_L^*}{h(1 - \iota)} \left(\frac{1}{4} \iota \kappa (3x_L^* + x_R)\right)
\end{cases}
\]

(A.3)

Let us restrict ourselves to the case where multipliers take intermediate values, such that each party reacts in the same way to the other party’s out-of-equilibrium move:

\[
\begin{cases}
\frac{\partial x_L^*}{\partial x_R} > 0, \frac{\partial x_R^*}{\partial x_L} > 0 & \forall (\phi_L^* - \phi_R^*) \in \left(- \left(2h(1 - \iota) + \frac{\phi_R^*}{h(1 - \iota)} \iota \kappa \left(1 - \frac{1}{4} (3x_R^* + x_L)\right)\right), 2h(1 - \iota) + \frac{\phi_L^*}{h(1 - \iota)} \left(\frac{1}{4} \iota \kappa (3x_L^* + x_R)\right)\right),
\end{cases}
\]

This interval can also be re-written by expressing \(\phi_L^*\) as a function of \(\phi_R^*\):

\[
\begin{cases}
\frac{\partial x_L^*}{\partial x_R} > 0, \frac{\partial x_R^*}{\partial x_L} > 0 & \forall \phi_L^* \in \left(-2h(1 - \iota) + \phi_R^* \left(1 - \frac{\iota \kappa}{h(1 - \iota)} \left(1 - \frac{1}{4} (3x_R^* + x_L)\right)\right), \frac{2h(1 - \iota) + \phi_R^*}{1 - \frac{\iota \kappa}{4h(1 - \iota)} (3x_L^* + x_R)}\right),
\end{cases}
\]

with the restriction that:

\[
h > \max \left\{ \frac{\iota \kappa}{(1 - \iota)} \left(1 - \frac{1}{4} (3x_R^* + x_L)\right), \frac{\iota \kappa}{4(1 - \iota)} (3x_L^* + x_R)\right\}
\]

for \(\phi_L^*, \phi_R^* \geq 0\) to hold.

\[\square\]
A.2.5 Proof of Proposition 3.23 on page 90

Proof. From equation (3.37), the partial derivative of $x^*_L$ with respect to $s$ is given by:

$$\frac{\partial x^*_L}{\partial s} = \frac{8h(1-\iota)\left(h(1-\iota) - \frac{1}{2}(\phi^*_L - \phi^*_R)\right)}{\iota \kappa \phi^*_L (3x^*_L + x^*_R) + 8h^2 (1-\iota)^2 - 4h(1-\iota)(\phi^*_L - \phi^*_R)}$$

There are three possible cases determining its sign:

$$\begin{align*}
&\frac{\partial x^*_L}{\partial s} > 0 \quad \forall \ (\phi^*_L - \phi^*_R) < 2h(1-\iota) \\
&\frac{\partial x^*_L}{\partial s} > 0 \quad \forall \ (\phi^*_L - \phi^*_R) > 2h(1-\iota) + \frac{\phi^*_L}{\iota(1-\iota)} \left(\frac{1}{4} \iota \kappa \ (3x^*_L + x^*_R)\right) \\
&\frac{\partial x^*_L}{\partial s} < 0 \quad \forall \ (\phi^*_L - \phi^*_R) \in \left(2h(1-\iota), 2h(1-\iota) + \frac{\phi^*_L}{\iota(1-\iota)} \left(\frac{1}{4} \iota \kappa \ (3x^*_L + x^*_R)\right)\right)
\end{align*}$$

as well as:

$$\frac{\partial x^*_L}{\partial s} = 0 \iff (\phi^*_L - \phi^*_R) = 2h(1-\iota)$$

The results for party $R$’s reaction function are analogous, with equation (3.38) yielding:

$$\frac{\partial x^*_R}{\partial s} = \frac{8h(1-\iota)\left(h(1-\iota) - \frac{1}{2}(\phi^*_R - \phi^*_L)\right)}{\iota \kappa \phi^*_R (4 - (3x^*_R + x^*_L)) + 8h^2 (1-\iota)^2 - 4h(1-\iota)(\phi^*_R - \phi^*_L)}$$

There are also three possible cases determining its sign:

$$\begin{align*}
&\frac{\partial x^*_R}{\partial s} > 0 \quad \forall \ (\phi^*_L - \phi^*_R) < -\left(2h(1-\iota) + \frac{\phi^*_R}{\iota(1-\iota)} \iota \kappa \left(1 - \frac{1}{4} \iota \kappa (3x^*_R + x^*_L)\right)\right) \\
&\frac{\partial x^*_R}{\partial s} > 0 \quad \forall \ (\phi^*_L - \phi^*_R) > -2h(1-\iota) \\
&\frac{\partial x^*_R}{\partial s} < 0 \quad \forall \ (\phi^*_L - \phi^*_R) \in \left(-\left(2h(1-\iota) + \frac{\phi^*_R}{\iota(1-\iota)} \iota \kappa \left(1 - \frac{1}{4} \iota \kappa (3x^*_R + x^*_L)\right)\right), -2h(1-\iota)\right)
\end{align*}$$

as well as:

$$\frac{\partial x^*_R}{\partial s} = 0 \iff (\phi^*_L - \phi^*_R) = -2h(1-\iota) \quad (A.4)$$
Together, these imply the following:

\[
\left\{ \begin{array}{l}
\frac{\partial x_L}{\partial s} > 0, \frac{\partial x_R}{\partial s} > 0 \\
\frac{\partial x_L}{\partial s} > 0, \frac{\partial x_R}{\partial s} < 0 \\
\frac{\partial x_L}{\partial s} > 0, \frac{\partial x_R}{\partial s} = 0 \\
\frac{\partial x_L}{\partial s} < 0, \frac{\partial x_R}{\partial s} > 0 \\
\frac{\partial x_L}{\partial s} < 0, \frac{\partial x_R}{\partial s} < 0
\end{array} \right. \quad \forall \ (\phi_L^* - \phi_R^*) < - \left( 2h (1 - \iota) + \frac{\phi_R^*}{\kappa (1 - \iota)} \right), -2h (1 - \iota)
\]

as all other combinations yields contradictions over the possible domains. By the same symmetry argument as before (cf. Proof A.2.4 above), this reduces to:

\[
\left\{ \begin{array}{l}
\frac{\partial x_L}{\partial s} > 0, \frac{\partial x_R}{\partial s} < 0 \\
\frac{\partial x_L}{\partial s} > 0, \frac{\partial x_R}{\partial s} = 0 \\
\frac{\partial x_L}{\partial s} < 0, \frac{\partial x_R}{\partial s} > 0
\end{array} \right. \quad \forall \ (\phi_L^* - \phi_R^*) \in \left( - \left( 2h (1 - \iota) + \frac{\phi_R^*}{\kappa (1 - \iota)} \right), -2h (1 - \iota) \right)
\]
These intervals can in turn be re-written by expressing $\phi^*_L$ as a function of $\phi^*_R$, which enables a graphical representation in the $\{\phi^*_R, \phi^*_L\}$ space:

\[
\begin{align*}
\begin{cases} 
\frac{\partial x^*_L}{\partial s} > 0, \frac{\partial x^*_R}{\partial s} < 0 \\
\frac{\partial x^*_L}{\partial s} > 0, \frac{\partial x^*_R}{\partial s} = 0 \\
\frac{\partial x^*_L}{\partial s} > 0, \frac{\partial x^*_R}{\partial s} > 0 \\
\frac{\partial x^*_L}{\partial s} = 0, \frac{\partial x^*_R}{\partial s} > 0 \\
\frac{\partial x^*_L}{\partial s} < 0, \frac{\partial x^*_R}{\partial s} > 0 
\end{cases} \quad \forall \phi^*_L \in \\
\left(-2h(1-\iota) + \phi^*_R \left(1 - \frac{\iota\kappa}{h(1-\iota)} \left(1 - \frac{1}{3} (3x^*_R + x^*_L)\right)\right), -2h(1-\iota) + \phi^*_R \right) \\
\left(-2h(1-\iota) + \phi^*_R, 2h(1-\iota) + \phi^*_R \right) \quad \iff \quad \phi^*_L = -2h(1-\iota) + \phi^*_R \\
\left(2h(1-\iota) + \phi^*_R, 2h(1-\iota) + \phi^*_R \right) \quad \iff \quad \phi^*_L = 2h(1-\iota) + \phi^*_R \\
\left(2h(1-\iota) + \phi^*_R, \frac{2h(1-\iota) + \phi^*_R}{1 - \frac{\iota\kappa}{4h(1-\iota)} (3x^*_L + x^*_R)} \right) \quad \forall \phi^*_L \in \\
\quad \left(2h(1-\iota) + \phi^*_R, \frac{2h(1-\iota) + \phi^*_R}{1 - \frac{\iota\kappa}{4h(1-\iota)} (3x^*_L + x^*_R)} \right) \\
\end{align*}
\]

with the obvious restriction that

\[
h > \max \left\{ \frac{\iota\kappa}{(1-\iota)} \left(1 - \frac{1}{4} (3x^*_R + x^*_L)\right), \frac{\iota\kappa}{4h(1-\iota)} ((3x^*_L + x^*_R)) \right\}
\]

for $\phi^*_L, \phi^*_R \geq 0$ to hold.

\section*{A.2.6 Proof of Proposition 3.25 on page 98}

\textit{Proof.} The cross-partial derivatives of $x^*_L$ and $x^*_R$ with respect to $s$ and $\iota$ are given by:

\[
\begin{align*}
\frac{\partial}{\partial \iota} \left( \frac{\partial x^*_L}{\partial s} \right) &= -24h\kappa \left( \iota (1-\iota) \frac{\partial x^*_L}{\partial \iota} + \frac{1}{3} (3x^*_L + x^*_R) \right) \\
&\quad \left(\kappa\iota \left(3x^*_L + x^*_R\right) + 8h(1-\iota) \right)^2 \\
\frac{\partial}{\partial \iota} \left( \frac{\partial x^*_R}{\partial s} \right) &= -24h\kappa \left( -\iota (1-\iota) \frac{\partial x^*_R}{\partial \iota} + \frac{1}{3} (4 - (3x^*_R + x^*_L)) \right) \\
&\quad \left(\iota\kappa \left(4 - (3x^*_R + x^*_L)\right) + 8h(1-\iota) \right)^2 
\end{align*}
\]

These derivatives are both negative (resp. positive) whenever:

\[
\begin{align*}
\iota (1-\iota) \frac{\partial x^*_L}{\partial \iota} + \frac{1}{3} (3x^*_L + x^*_R) &> 0 \quad \text{(A.5)} \\
-\iota (1-\iota) \frac{\partial x^*_R}{\partial \iota} + \frac{1}{3} (4 - (3x^*_R + x^*_L)) &> 0 \quad \text{(A.6)}
\end{align*}
\]
where the partial derivatives of \( x^* \) and \( x^* \) with respect to \( \iota \) are given by:

\[
\frac{\partial x^*_L}{\partial \iota} = \frac{h \kappa \left( \iota - \frac{1}{2} \right)(3x^*_L - x^*_R)(x^*_L + x^*_R) + 16h^2(1 - \iota)(x^*_L - s) + 1}{h(1 - \iota)(\kappa \left( 3x^*_L + x^*_R \right) + 8h(1 - \iota))} < 0
\]

\[
\frac{\partial x^*_R}{\partial \iota} = \frac{h \kappa \left( \iota - \frac{1}{2} \right)(8x^*_R - 4 - (3x^*_R - x^*_L)(x^*_R + x^*_L)) + 16h^2(1 - \iota)(x^*_R - s) - 1}{h(1 - \iota)(\kappa(4 - (3x^*_R + x^*_L)) + 8h(1 - \iota))} \geq 0
\]

the sign of both being ambiguous. It it therefore the case that whenever:

\[
\frac{\partial x^*_L}{\partial \iota} = - \frac{\partial x^*_R}{\partial \iota} \geq 0
\]

equations A.5 and A.6 are then unambiguously positive, making the cross-partial derivatives unambiguously negative. Otherwise, the results are ambiguous.

\[\square\]

A.2.7 Proof of Proposition 3.26 on page 98

Proof. The cross-partial derivatives of \( x^*_L \) and \( x^*_R \) with respect to \( s \) and \( \kappa \) are given by:

\[
\frac{\partial}{\partial \kappa} \left( \frac{\partial x^*_L}{\partial s} \right) = \frac{-4h \kappa (1 - \iota)}{(\kappa \left( 3x^*_L + x^*_R \right) + 8h(1 - \iota))} \left[ \kappa \left( (3x^*_L + x^*_R)^2 + 4(x^*_R)^2 \right) \right] < 0
\]

\[
\frac{\partial}{\partial \kappa} \left( \frac{\partial x^*_R}{\partial s} \right) = \frac{-4h \kappa (1 - \iota)}{(\kappa(4 - (3x^*_R + x^*_L)) + 8h(1 - \iota))} \left[ \kappa \left( (4 - (3x^*_L + x^*_R))^2 \right) \right] + 4\kappa (1 - x^*_L)^2 + 16h(1 - \iota)(4 - (3x^*_R + x^*_L)) \] < 0

which are both unambiguously negative. 

\[\square\]
A.2.8 Proof of Proposition 3.27 on page 99

Proof. The cross-partial derivatives of \( x_L^* \) and \( x_R^* \) with respect to \( s \) and \( t \) are given by:

\[
\frac{\partial}{\partial t} \left( \frac{\partial x_L^*}{\partial s} \right) = \frac{-24h \kappa \phi_L^* \left( t (1 - t) (h (1 - t) - \frac{1}{2} (\phi_L^* - \phi_R^*)) \right)}{(\kappa \phi_L^* (3x_L^* + x_R^*) + 8h^2 (1 - t)^2 - 4h (1 - t) (\phi_L^* - \phi_R^*))^2} \left( \frac{\partial x_L^*}{\partial t} \right) \\
\frac{\partial}{\partial t} \left( \frac{\partial x_R^*}{\partial s} \right) = \frac{-24h \kappa \phi_R^* \left( -t (1 - t) (h (1 - t) + \frac{1}{2} (\phi_L^* - \phi_R^*)) \right)}{(\kappa \phi_R^* (4 - (3x_R^* + x_L^*)) + 8h^2 (1 - t)^2 - 4h (1 - t) (\phi_R^* - \phi_L^*))^2} \left( \frac{\partial x_R^*}{\partial t} \right)
\]

The cross-partial derivatives are both respectively unambiguously negative whenever:

\[
\begin{align*}
\left\{ (1 - t) \left( h (1 - t) - \frac{1}{2} (\phi_L^* - \phi_R^*) \right) \frac{\partial x_L^*}{\partial t}, h (1 - t)^2 - \frac{1}{2} (\phi_L^* - \phi_R^*) \right\} & \geq 0 \\
\left\{ -t (1 - t) \left( h (1 - t) + \frac{1}{2} (\phi_L^* - \phi_R^*) \right) \frac{\partial x_R^*}{\partial t}, h (1 - t)^2 + \frac{1}{2} (\phi_L^* - \phi_R^*) \right\} & \geq 0
\end{align*}
\]

with at least one of the two terms being strictly positive for both parties. These conditions both hold provided that:

\[
\begin{align*}
(\phi_L^* - \phi_R^*) & \leq 2h (1 - t), \quad \frac{\partial x_L^*}{\partial s} \geq 0 \\
(\phi_R^* - \phi_L^*) & \geq -2h (1 - t), \quad \frac{\partial x_R^*}{\partial s} \leq 0
\end{align*}
\]

with at least of the two inequalities being strict in the case of both parties. Otherwise, given that:

\[
\begin{align*}
\frac{\partial x_L^*}{\partial t} &= \frac{- \kappa \phi_L^* (3x_L^* - x_R^*) (x_L^* + x_R^*) + 8h (4h (1 - t) - (\phi_L^* - \phi_R^*)) (x_L^* - s) - 2 \kappa \phi_L^* (3x_L^* + x_R^*) + 8h^2 (1 - t)^2 - 4h (1 - t) (\phi_L^* - \phi_R^*)}{2 (\kappa \phi_L^* (3x_L^* + x_R^*) + 8h^2 (1 - t)^2 - 4h (1 - t) (\phi_L^* - \phi_R^*))} \geq 0 \\
\frac{\partial x_R^*}{\partial t} &= \frac{- \kappa \phi_R^* (-8x_R^* + 4 + (3x_R^* - x_L^*) (x_R^* + x_L^*))}{2 (\kappa \phi_R^* (4 - (3x_R^* + x_L^*)) + 8h^2 (1 - t)^2 - 4h (1 - t) (\phi_R^* - \phi_L^*))} + \frac{8h (4h (1 - t) + (\phi_L^* - \phi_R^*)) (x_R^* - s) - 2 \kappa \phi_R^* (3x_R^* + x_L^*) + 8h^2 (1 - t)^2 - 4h (1 - t) (\phi_R^* - \phi_L^*)}{2 (\kappa \phi_R^* (4 - (3x_R^* + x_L^*)) + 8h^2 (1 - t)^2 - 4h (1 - t) (\phi_R^* - \phi_L^*))} \vee 0
\end{align*}
\]

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it follows that the sign of the cross-partial derivatives is ambiguous.

A.2.9 Proof of Proposition 3.28 on page 100

Proof. The cross-partial derivatives of $x_L^*$ and $x_R^*$ with respect to $s$ and $κ$ are given by:

$$\frac{\partial}{\partial κ} \left( \frac{\partial x_L^*}{\partial s} \right) = \frac{-2h(1-ι)φ_L^* (h(1-ι) - \frac{1}{2}(φ_L^* - φ_R^*))}{(ικφ_L^* (3x_L^* + x_R^*) + 8h^2 (1-ι)^2 - 4h(1-ι)(φ_L^* - φ_R^*)^3}
\cdot \left[ (ικφ_L^* (3x_L^* + x_R^*)^2 + 4(x_R^*)^2) + 16(3x_L^* + x_R^*)h(1-ι) \left( h(1-ι) - \frac{1}{2}(φ_L^* - φ_R^*) \right) \right]
$$

$$\frac{\partial}{\partial κ} \left( \frac{\partial x_R^*}{\partial s} \right) = \frac{-2h(1-ι)φ_R^* (h(1-ι) + \frac{1}{2}(φ_L^* - φ_R^*))}{(ικφ_R^* (4 - (3x_L^* + x_R^*)) + 8h^2 (1-ι)^2 - 4h(1-ι)(φ_R^* - φ_L^*)^3}
\cdot \left[ (ικφ_R^* (4 - (3x_L^* + x_R^*))^2 + 4(1-x_L^*)^2) + 16(4 - (3x_R^* + x_L^*))h(1-ι) \left( h(1-ι) + \frac{1}{2}(φ_L^* - φ_R^*) \right) \right]
$$

It follows that both of these are strictly negative whenever, the conditions for each respective derivative simultaneously hold. That is, when:

$$\begin{cases}
(φ_L^* - φ_R^*) < 2h(1-ι) \\
(φ_L^* - φ_R^*) > -2h(1-ι)
\end{cases}$$

hold. This means that it happens whenever:

$$(φ_L^* - φ_R^*) ∈ (-2h(1-ι), 2h(1-ι))$$

Otherwise, the signs of both cross-partial derivatives are ambiguous. □
Appendix B

The Effect of Party Discipline on the Electoral Accountability of Politicians

B.1 Pandering reduces ex-ante voter welfare relative to the no-pandering, second-best benchmark: A simple proof

Consider the difference between ex-ante expected voter welfare with and without pandering.

Ex-ante expected voter welfare with pandering is given by:

$$E[W(\lambda_{s_1=0}, \lambda_{s_1=1})] = \Pr(s_1 = 0)[\pi + (1 - \pi) \lambda_{s_1=0}] \Psi + \Pr(s_1 = 1)[0 + (1 - \pi) \lambda_{s_1=1}] \Psi$$

$$+ \delta \Psi \pi + \delta \Psi \Pr(s_2 = 0) \Pr(s_1 = 0)[\pi (1 - \pi)(1 - \lambda_{s_1=0})]$$

$$+ \delta \Psi \Pr(s_2 = 1) \Pr(s_1 = 0)(1 - \pi)$$

$$+ \delta \Psi \Pr(s_2 = 0) \Pr(s_1 = 1)(\pi (1 - \pi)(q (1 - \lambda_{s_1=1}) + (1 - q) \lambda_{s_1=1}))$$

$$+ \delta \Psi \Pr(s_2 = 1) \Pr(s_1 = 1)(1 - \pi)$$

Ex-ante expected voter welfare in the absence of pandering is given by:
\[ E[W(\lambda_{s_1=0}, \lambda_{s_1=1})] = \Pr(s_1 = 0)[\pi + (1 - \pi)\lambda_{s_1=0}] \Psi + \Pr(s_1 = 1)[\pi + (1 - \pi)\lambda_{s_1=1}] \Psi + \delta \Psi \Pr(s_2 = 0)\Pr(s_1 = 1)\pi^2 + \delta \Psi \Pr(s_1 = 0)\pi + \delta \Psi \Pr(s_2 = 1)\Pr(s_1 = 1)\pi + \delta \Psi \Pr(s_2 = 0)\Pr(s_1 = 0)[(1 - \pi)] \delta \Psi \Pr(s_2 = 0)\Pr(s_1 = 1)(1 - \pi)(q(1 - \lambda_{s_1=1}) + (1 - q)\lambda_{s_1=1}) + \delta \Psi \Pr(s_2 = 1)\Pr(s_1 = 1)(1 - \pi) \]

Ex-ante expected voter welfare is diminished by pandering if and only if:

\[
\frac{1}{2} \Psi \pi + \frac{1}{2} \delta \Psi \left(\frac{1}{2} \pi^2 + \frac{3}{2} \pi\right) > \delta \Psi \pi \\
\iff \frac{1}{2} + \frac{1}{4} \delta (\pi + 3) > \delta \\
\delta < \frac{2}{1 + \pi}
\]

This always holds since by assumption \( \delta < 1 \).

\[ \ Boxed {B.2 \ \textbf {Proof of Proposition 4.21 on page 144}} \]

If one compares it with the previous pandering threshold, given by

\[ \Psi < \frac{\delta (1 - 2q)E_2}{1 - \delta (1 - 2q)}, q < 1/2 \]

then it appears plainly that as long as \( \mu > \omega \), that is the faction of militants being larger than that of opportunists, then the incidence of pandering by welfarist politicians is \textit{reduced} in the presence of coercion from putschist factions, for any given \( \Psi \). Formally, the (weaker) condition is that:

\[ \mu \ > \ \frac{qE_2 + e_2}{(1 - q)E_2 + e_2}\omega \]

where since \( q < 1/2 \),

\[ \frac{qE_2 + e_2}{(1 - q)E_2 + e_2} < 1 \]
But can party coercion from putschist factions eliminate pandering \( \forall \Psi > 0 \), as was the case for a policy line chosen democratically? This would require:

\[
\frac{\delta ((1 - 2q) E_2 - (\mu (1 - q) - \omega q) E_2 - (\mu - \omega) e_2)}{1 - \delta ((1 - 2q) - (\mu (1 - q) - \omega q))} < 0 \tag{B.1}
\]

which holds if and only if:

\[
\begin{cases}
1 - \delta ((1 - 2q) - (\mu (1 - q) - \omega q)) \geq 0 \\
(1 - 2q) E_2 - (\mu (1 - q) - \omega q) E_2 - (\mu - \omega) e_2 \leq 0
\end{cases}
\]

simultaneously hold. Solving for \( \mu \) yields:

\[
\begin{cases}
\mu \geq 1 - \frac{1}{\delta (1 - q)} - \frac{q}{1 - q} (1 - \omega) \\
\mu \geq \frac{(1 - 2q) E_2}{(1 - q) E_2 + e_2} + \omega \left( \frac{q E_2 + e_2}{(1 - q) E_2 + e_2} \right)
\end{cases}
\]

The first inequality in that system is inconsequential as \( \omega < 1, \delta < 1, q < 1/2, \) and \( \mu > 0 \) by assumption: it amounts to nothing more than imposing \( \mu > 0 \). Meanwhile, the second inequality amounts to a threshold on \( \mu \) for no longer only reducing the possibility (conditional on parameters) of pandering, but rather eliminating its occurrence. Should the militant faction’s relative size be above this threshold, denoted by \( \hat{\mu} \), it coerces absolutely the pandering welfarists, for all possible parameter values. The above system is then reduced to:

\[
1 > \mu > \frac{(1 - 2q) E_2}{(1 - q) E_2 + e_2} + \omega \left( \frac{q E_2 + e_2}{(1 - q) E_2 + e_2} \right) > 0 \tag{B.2}
\]

which, assuming that party leadership ego rents are small enough (i.e., setting \( e_2 = 0 \)), further simplifies to be:

\[
\mu > 1 - \frac{q}{1 - q} (1 - \omega) \tag{B.3}
\]

the right-hand side being indeed less than 1 and greater than 0 for all \( \omega \in (0, 1) \) and \( q < 1/2 \). ■
B.3 Ranking the preferences of far-sighted factions in the choice of an ex-ante policy line

In $s_1 = 0$:

The rationale behind such expected payoffs for the reformist faction being that it does matter to them who is in power when choosing the welfare-maximizing policy. If they were purely benevolent, their expected lifetime benefits associated with policy line $p_1 = 0$ would for instance then be (notice the different probability, highlighted in red):

$$
\Psi \left( \pi + (1 - \pi) \lambda_{s_1=0} + \delta \left( \frac{1}{2} (1 - \pi) \lambda_{s_1=0} + \pi + 1 (1 - \pi) (1 - \lambda_{s_1=0}) \left( \pi + \frac{1}{2} (1 - \pi) \right) \right) \right)
$$

and in $p_1 = 0$:

$$
\Psi \pi + 1 \pi \delta \Psi \left( \pi + \frac{1}{2} (1 - \pi) \right)
$$

while those for policy line $p_1 = N$ would be the same as for $p_1 = 0$.

- Opportunists:

$${p_1 = 0} \succ {p_1 = 1} \iff \pi + \frac{1}{2} (1 - \pi) (1 + \lambda'_{s_1=0}) \geq \frac{1}{2} \pi$$

$${p_1 = 0} \succ {p_1 = N} \iff \pi + \frac{1}{2} (1 - \pi) (1 + \lambda'_{s_1=0}) \geq \pi + \frac{1}{2} \pi$$

$${p_1 = N} \succ {p_1 = 1} \iff \pi + \frac{1}{2} (1 - \pi) (1 + \lambda_{s_1=0}) \geq \frac{1}{2} \pi$$

It is therefore easy to rank the opportunists’ preferences, to the extent that $\lambda'_{s_1=0} > \lambda_{s_1=0}$:

$$
{p_1 = 0} \succ {p_1 = N} \succ {p_1 = 1}
$$
Table B.1: Expected payoffs for factions with pandering, for each choice of a policy line, in $s_1 = 0$, given rational expectations, full commitment and far-sightedness, and assuming $\Psi \geq \delta e_2$. 

<table>
<thead>
<tr>
<th>Policy line</th>
<th>$p_1 = 0$</th>
<th>$p_1 = 1$</th>
<th>$N$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opportunists, $\omega$</td>
<td>$\pi + \frac{1}{2} (1 - \pi) (1 + \lambda'_{s_1 = 0})$</td>
<td>$\frac{1}{2} \pi$</td>
<td>$\pi + \frac{1}{2} (1 - \pi) (1 + \lambda_{s_1 = 0})$</td>
</tr>
<tr>
<td>Militants, $\mu$</td>
<td>$v_m (1 - \pi) (1 - \lambda'<em>{s_1 = 0}) + \delta v_m ((1 - \pi) X</em>{s_1 = 0} + \frac{1}{2} \pi + \frac{1}{2} (1 - \pi) (1 - \lambda'_{s_1 = 0}) (\frac{1}{2} \pi + (1 - \pi)))$</td>
<td>$v_m (1 - \pi) + \frac{1}{2} \pi \delta v_m (\frac{1}{2} \pi + (1 - \pi))$</td>
<td>$v_m (1 - \pi) (1 - \lambda_{s_1 = 0}) + \delta v_m ((1 - \pi) \lambda_{s_1 = 0} + \frac{1}{2} \pi)$</td>
</tr>
<tr>
<td>Reformists, $\rho$</td>
<td>$\Psi (\pi + (1 - \pi) X_{s_1 = 0} + \pi + \frac{1}{2} (1 - \pi) (1 - \lambda'_{s_1 = 0}) (\pi + \frac{1}{2} (1 - \pi)))$</td>
<td>$\Psi (\pi + (1 - \pi) \lambda_{s_1 = 0} + \delta (\frac{1}{2} (1 - \pi) \lambda_{s_1 = 0} + \pi))$</td>
<td>$\Psi (\pi + (1 - \pi) \lambda_{s_1 = 0} + \delta (\frac{1}{2} (1 - \pi) \lambda_{s_1 = 0} + \pi))$</td>
</tr>
</tbody>
</table>
Militants:

\[
\{ p_1 = 0 \} \succsim \{ p_1 = 1 \} \iff \lambda'_{s_1=0} \leq 1 - \frac{(1 - \delta) - \pi (1 - \frac{1}{4} \delta \pi)}{(1 - \pi) (1 - \frac{1}{2} \delta (1 + \frac{\pi}{2}))}
\]

\[
\{ p_1 = 0 \} \succsim \{ p_1 = N \} \iff \frac{1}{2} \delta (1 - \lambda'_{s_1=0}) \left(1 - \frac{\pi}{2}\right) \geq (1 - \delta) \left(\lambda'_{s_1=0} - \lambda_{s_1=0}\right)
\]

\[
\{ p_1 = N \} \succsim \{ p_1 = 1 \} \iff \lambda_{s_1=0} \leq \frac{\frac{1}{4} \delta \pi^2}{(1 - \delta) (1 - \pi)}
\]

- In the first case, choosing policy line \( p_1 = 0 \) is preferred to \( p_1 = 1 \) only if the accountability index for state \( s_1 = 0 \) falls below a certain threshold. The underlying intuition is that current benefits from the ideological policy choice are more likely to occur the lower is \( \lambda'_{s_1=0} \), thus approaching the current benefits of policy line \( p_1 = 1 \) in this respect. One would in turn expect that a low accountability index would cause future payoffs to be lower: it is however so that the loss in terms of future payoffs to having a lower accountability index far outweighs the current benefit.

- In the second case, policy line \( p_1 = 0 \) is preferred to the absence thereof if the marginal future benefit from imposing such a policy line outweighs the marginal cost in present payoffs.

- Finally, no policy line is preferred to \( p_1 = 1 \) if the current payoffs from the status quo are high enough, relative to future payoffs: that is, if the accountability index is low enough. This follows the intuition of the first choice, above. In conclusion, there is no obvious way of ranking the above preferences without specifying a particular distribution of ideological rents.
Reformists:

\[
\{ p_1 = 0 \} \succ \{ p_1 = 1 \} \\
\iff (1 - \pi) \left( 1 + \frac{1}{4} (1 - \pi) \right) \lambda'_{s_1=0} \\
+ \delta \left( \frac{3}{4} + \frac{1}{4} \pi (1 - 2\pi) \right) \geq 0
\]

\[
\{ p_1 = 0 \} \succ \{ p_1 = N \} \\
\iff (1 - \pi) \left( \lambda'_{s_1=0} - \lambda_{s_1=0} \right) + \delta \frac{1}{2} (1 - \pi) \left( \lambda'_{s_1=0} - \lambda_{s_1=0} \right) \\
+ \delta \frac{1}{2} (1 - \pi) \left( 1 - \lambda'_{s_1=0} \right) \left( \pi + \frac{1}{2} (1 - \pi) \right) \geq 0
\]

\[
\{ p_1 = N \} \succ \{ p_1 = 1 \} \\
\iff (1 - \pi) \left( 1 + \frac{1}{2} \delta \right) \lambda_{s_1=0} \\
+ \frac{1}{2} \pi \delta \left( \pi + \frac{1}{2} (1 - \pi) \right) \geq 0
\]

It therefore follows that:

\[
\{ p_1 = 0 \} \succ \{ p_1 = N \} \succ \{ p_1 = 1 \}
\]

when reformists are far-sighted, preferences that perfectly agree with those of the opportunists.

In \( s_1 = 1 \):

• Opportunists:

\[
\{ p_1 = 0 \} \succ \{ p_1 = 1 \} \iff \left( \frac{1}{2} - q \right) (2 - (1 - \pi) \lambda'_{s_1=1}) \geq 0
\]

\[
\{ p_1 = 0 \} \succ \{ p_1 = N \} \iff \left( \frac{1}{2} - q \right) (2\lambda_{s_1=1} - \lambda'_{s_1=1}) (1 - \pi) \geq 0
\]

\[
\{ p_1 = N \} \succ \{ p_1 = 1 \} \iff 2 \left( \frac{1}{2} - q \right) (1 - (1 - \pi) \lambda_{s_1=1}) \geq 0
\]

The opportunists’ preference ranking is therefore unchanged:

\[
\{ p_1 = 0 \} \succ \{ p_1 = N \} \succ \{ p_1 = 1 \}
\]
\[
\begin{array}{ccc}
\text{Policy line} & p_1 = 0 & \\
\text{Opportunists, } \omega & \pi (1 - \pi) \lambda' s_{1=1} (1 - q) + \frac{1}{2} (1 - \pi) \lambda' s_{1=1} & \\
\text{Militants, } \mu & v_m (1 - \pi) \lambda' s_{1=1} + \delta v_m (1 - q) (1 - \pi) (1 - \lambda' s_{1=1}) + \frac{1}{2} \pi + \frac{1}{2} (1 - \pi) (\lambda' s_{1=1}) (\frac{1}{2} \pi + (1 - \pi)) & \\
\text{Reformists, } \rho & \Psi (1 - \pi) \lambda' s_{1=1} + \delta (1 - q) (\frac{1}{2} (1 - \pi) (1 - \lambda' s_{1=1}) + \pi) + \frac{1}{2} (1 - \pi) (\lambda' s_{1=1}) (\pi + \frac{1}{2} (1 - \pi))) & \\
\end{array}
\]

\[
\begin{array}{ccc}
\text{Policy line} & p_1 = 1 & \\
\text{Opportunists, } \omega & \pi (1 - \pi) \lambda' s_{1=1} (1 - q) + q (1 - \pi) \lambda' s_{1=1} & \\
\text{Militants, } \mu & v_m + \delta v_m (\frac{1}{2} \pi + (1 - \pi)) & \\
\text{Reformists, } \rho & \Psi + \delta \Psi (\pi + \frac{1}{2} (1 - \pi)) & \\
\end{array}
\]

Table B.2: Expected payoffs for factions with pandering, for each choice of a policy line, in \(s_1 = 1\), given rational expectations, full commitment and far-sightedness, and assuming \(\Psi \geq \delta e_2\).
• Militants:

\[
\{p_1 = 0\} \succeq \{p_1 = 1\} \iff 1 \geq \lambda'_{s_1=1} \geq \frac{1 - \frac{1}{2} \delta (2 - \pi) (1 - q)}{(1 - \pi) (1 - \frac{1}{4} \delta (\pi + (1 - 2q)))}
\]

\[
\{p_1 = 0\} \succeq \{p_1 = N\}
\]

\[
\iff (1 - \pi) \left( \lambda'_{s_1=1} - \lambda_{s_1=1} \right) + \frac{1}{2} (1 - \pi) \delta \left( (1 - 2q) \left( 2\lambda_{s_1=1} - \lambda'_{s_1=1} \right) + \pi \left( q\lambda_{s_1=1} - \frac{1}{2} \lambda'_{s_1=1} \right) \right) \geq 0
\]

\[
\{p_1 = N\} \succeq \{p_1 = 1\} \iff 1 \geq \lambda_{s_1=1} \geq \frac{1 - \frac{1}{2} \delta (2 - \pi) (1 - q)}{(1 - \pi) (1 - \frac{1}{4} \delta (\pi + (1 - 2q)))}
\]

This entails that the preference ranking of militants is generally indeterminate in \(s_1 = 1\), since it dependent on the probability distributions chosen.

• Reformists:

\[
\{p_1 = 0\} \succeq \{p_1 = 1\} \iff 1 \geq \lambda'_{s_1=1} \geq \frac{1 - \frac{1}{2} \delta (1 + \pi) (1 - 2q)}{(1 - \pi) (1 + \frac{1}{4} \delta (\pi - (1 - 2q)))}
\]

\[
\{p_1 = 0\} \succeq \{p_1 = N\}
\]

\[
\iff (1 - \pi) \left( \lambda'_{s_1=1} - \lambda_{s_1=1} \right) + \frac{1}{2} (1 - \pi) \delta \left( \left( \frac{1}{2} - q \right) \left( 2\lambda_{s_1=1} - \lambda'_{s_1=1} \right) + \pi \left( \frac{1}{2} \lambda'_{s_1=1} - q\lambda_{s_1=1} \right) \right) \geq 0
\]

\[
\{p_1 = N\} \succeq \{p_1 = 1\} \iff 1 \geq \lambda_{s_1=1} \geq \frac{1 - \frac{1}{2} \delta (1 + \pi) (1 - 2q)}{(1 - \pi) (1 + \frac{1}{4} \delta (q\pi - (1 - 2q)))}
\]

This entails that the preference ranking of reformists is generally indeterminate in \(s_1 = 1\), since it dependent on the probability distributions chosen.

**B.4 Ranking the preferences of far-sighted factions in an ex-post leadership review**

In \(s_1 = 0\), the opportunists will seek to have any politician not choosing \(p_1 = 0\) removed, simply because the future probability of election with a new leader (i.e., \(1/2\)) exceeds that of keeping a leader having implemented \(p_1 = 1\) (i.e., \(0\)). In \(s_1 = 1\), the outcome is the same,
since \( p_1 = 0 \) guarantees re-election with probability \( 1 - q > 1/2 \), while \( p_1 = 1 \) does so only with probability \( q < 1/2 \), less than the performance of a new leader.

In the case of the militant faction in \( s_1 = 0 \), it must compare on the left-hand side (LHS) the expected lifetime benefits of keeping a leader who chose \( p_1 = 0 \), with the expected benefits from removing her from the party’s helm (on the right-hand side, RHS):

\[
0 + \delta v_m \left( (1 - \pi) \lambda_{s_1=0} + \frac{1}{2}\pi \right) \geq 0 + \frac{1}{2} \delta v_m \left( (1 - \pi) + \frac{1}{2}\pi \right)
\]

\[
\iff 2 (1 - \pi) \lambda_{s_1=0} + \pi \geq (1 - \pi) + \frac{1}{2}\pi
\]

\[
\iff 2 (1 - \pi) \lambda_{s_1=0} \geq 1 - \frac{3}{2}\pi
\]

\[
\iff \lambda_{s_1=0} \geq 1 - \frac{\pi}{2 (1 - \pi)}
\]

Whenever \( \pi/(1 - \pi) > 1/2 \), or equivalently that \( \pi > 1/3 \), the RHS is negative, which entails that it is always best to keep the leader at the party’s helm.

As to a leader choosing \( p_1 = 1 = 1 - s_1 \), it leads to the following comparison:

\[
v_m + 0 \geq v_m + \frac{1}{2} \delta v_m \left( (1 - \pi) + \frac{1}{2}\pi \right)
\]

Any leader choosing \( p_1 = 1 \) in \( s_1 = 0 \) is thus wanted out by the militant faction.

In \( s_1 = 1 \), similar logic is applied. If \( p_1 = 0 \) is then chosen, it yields, supposing that the pandering politicians continue to pander and factions know it:

\[
0 + (1 - q) \delta v_m \left( (1 - \pi) (1 - \lambda_{s_1=1}) + \frac{1}{2}\pi \right) \geq 0 + \frac{1}{2} \delta v_m \left( (1 - \pi) + \frac{1}{2}\pi \right)
\]

\[
(1 - q) (1 - \pi) (1 - \lambda_{s_1=1}) + (1 - q) \frac{1}{2}\pi \geq \frac{1}{2} (1 - \pi) + \frac{1}{4}\pi
\]

\[
(1 - q) (1 - \pi) (1 - \lambda_{s_1=1}) \geq \frac{1}{2} (1 - \pi) + \frac{1}{2} \left( q - \frac{1}{2}\right) \pi
\]

\[
1 - \frac{1 - \pi (\frac{3}{2} - q)}{2 (1 - q) (1 - \pi)} \geq \lambda_{s_1=1}
\]

This therefore may or may not lead to the politician’s removal ex-post, if the militants have their way.
If \( p_1 = 1 \) is chosen, there is however no difficulty in assessing that:

\[
v_m + q \delta v_m \left( (1 - \pi) \lambda_{s_1=1} \right) \geq v_m + \frac{1}{2} \delta v_m \left( (1 - \pi) + \frac{1}{2} \pi \right)
\]

\[\iff \lambda_{s_1=1} \geq \frac{(1 - \pi) + \frac{1}{2} \pi}{2q (1 - \pi)}\]

Since \( q < 1/2 \), it it always the case that the militant faction will seek to remove a politician choosing \( p_1 = s_1 = 1 \).

Performing the same exercise for the reformist faction, one finds that in \( s_1 = 0 \), a politician choosing \( p_1 = 0 \) is supported if and only if:

\[
\Psi \delta \left( \frac{1}{2} (1 - \pi) \lambda_{s_1=0} + \pi \right) > \frac{1}{2} \Psi \delta \left( \frac{1}{2} (1 - \pi) + \pi \right)
\]

\[\iff \lambda_{s_1=0} > \frac{1}{2} - \frac{\pi}{(1 - \pi)}\]

which agrees with the choice of the militant faction whenever \( \pi/(1 - \pi) > 1/2 \). Meanwhile, if \( p_1 = 1 = 1 - s_1 \) is chosen, the politician is supported if and only if:

\[
0 > \frac{1}{2} \Psi \delta \left( \frac{1}{2} (1 - \pi) + \pi \right)
\]

which is never the case.

In \( s_1 = 1 \) and if \( p_1 = 0 \), a politician is supported by the reformist faction if and only if:

\[
\Psi \delta (1 - q) \left( \frac{1}{2} (1 - \pi) (1 - \lambda_{s_1=1}) + \pi \right) > \frac{1}{2} \Psi \delta \left( \pi + \frac{1}{2} (1 - \pi) \right)
\]

\[\iff 1 - \frac{1 - \pi (3 - 4q)}{2 (1 - q) (1 - \pi)} > \lambda_{s_1=1}\]

which may or may not agree with the militant faction’s preferences. In \( s_1 = 1 \) and with \( p_1 = 1 \), support is granted if and only if:

\[
q \Psi \delta \left( \frac{1}{2} (1 - \pi) \lambda_{s_1=1} \right) > \frac{1}{2} \Psi \delta \left( \frac{1}{2} (1 - \pi) + \pi \right)
\]

\[\iff \lambda_{s_1=1} > \frac{(1 - \pi) + 2\pi}{2q (1 - \pi)}\]
Again, the preferences of the reformists agree with that of militants, and support can never be granted since \( q < \frac{1}{2} \) and \( \lambda_{s=1} \leq 1 \).

**B.5 The preferences of far-sighted putschist factions, and the politicians’ problems**

**Problem B.1.** Welfarist politicians in \( s_1 = 0 \) face the following choice:

\[
E [U_W(0, 0)] = E_1 + e_1 + \Psi + \delta (E_2 + \Psi + e_2)
\]

\[
E [U_W(1, 0)] = E_1 + e_1 + 0 + \delta (1 - \mu - \omega) e_2
\]

While in \( s_1 = 1 \):

\[
E [U_W(0, 1)] = E_1 + e_1 + 0 + \delta ((1 - q) (E_2 + \Psi) + e_2)
\]

\[
E [U_W(1, 1)] = E_1 + e_1 + \Psi + \delta (1 - \mu - \omega) (q (E_2 + \Psi) + e_2)
\]

Welfarists choose \( p_1 = s_1 = 1 \) if and only if:

\[
\Psi \geq \frac{\delta (((1 - q) - (1 - \mu - \omega) q) E_2 + (\mu + \omega) e_2)}{1 + \delta (q - (1 - \mu - \omega) (1 - q))}
\]

or equivalently, they pander if and only if:

\[
\Psi < \frac{\delta (((1 - q) - (1 - \mu - \omega) q) E_2 + (\mu + \omega) e_2)}{1 + \delta (q - (1 - \mu - \omega) (1 - q))}
\]

This therefore means that compared with the previous pandering threshold, given by equation [4.27] it is *more likely to be satisfied*, thus meaning that party discipline is detrimental and reinforces incentives for pandering.

Meanwhile, for ideologues, this entails:

**Problem B.2.** In \( s_1 = 0 \):
\[
E [U_I(0, 0)] = E_1 + e_1 + 0 + \delta (E_2 + \bar{r} + e_2)
\]
\[
E [U_I(1, 0)] = E_1 + e_1 + r_1 + \delta (1 - \mu - \omega) e_2
\]

While in \( s_1 = 1:\)
\[
E [U_I(0, 1)] = E_1 + e_1 + 0 + \delta [(1 - q) (E_2 + \bar{r}) + e_2]
\]
\[
E [U_I(1, 1)] = E_1 + e_1 + r_1 + \delta (1 - \mu - \omega) [q (E_2 + \bar{r}) + e_2]
\]

The accountability index in \( s_1 = 0 \) is now \( \lambda''_{s_1=0} = F (\delta (E_2 + \bar{r} + (\mu + \omega) e_2)) \). Compared with the case of near-sighted factions, where the similar index was given by:
\[
F (\delta (1 - \alpha) (E_2 + \bar{r}) + \delta (\omega - \mu) e_2)
\]
(see equation 4.28 on page 144), it represents an improvement in the accountability of ideologues in \( s_1 = 0 \).

However, in \( s_1 = 1 \), the accountability index is now given by:
\[
\lambda''_{s_1=1} = 1 - F (\delta ((1 - 2q) + (\mu + \omega)) (E_2 + \bar{r}) + \delta (\mu + \omega) e_2)
\]

This is lower than:
\[
1 - F [\delta ((1 - 2q) - \mu (1 - q) - \omega q) (E_2 + \bar{r}) + \delta (\omega - \mu) e_2]
\]

which is the accountability index in \( s_1 = 1 \) when factions are near-sighted and judging the politician purely retrospectively (see equation 4.29 on page 145), since the second term is unambiguous larger in the former case. The accountability of ideologues in \( s_1 = 1 \) is correspondingly reduced when factions are far-sighted, in comparison with the case where they are near-sighted.