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Endogenous Credible Commitment and Party
Competition Over Redistribution Under Alternative
Electoral Institutions

[Short Running Title: Endogenous Commitment]

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Abstract

Political parties competing in elections for the power to set public policy face the problem of making credible their policy promises to voters. I argue that this commitment problem crucially shapes party competition over redistribution. The model I develop shows that under majoritarian electoral rules, parties' efforts to achieve endogenous commitment to policies preferred by the middle class lead to different behavior and outcomes than suggested by existing theories, which either assume commitment or rule out endogenous commitment. Thus, left parties can have incentives to respond to rising income inequality by moving to the right in majoritarian systems but not under proportional representation. The model also generates new insights about the anti-left electoral bias often attributed to majoritarian electoral rules, and the strategic use of parliamentary candidates as a commitment device. I find evidence for key implications of this logic using panel data on party positions in 16 parliamentary democracies.

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Democracies do not legally bind individual politicians or political parties to their policy promises (Manin, Przeworski and Stokes, 1999). Thus, parties aiming to win the power to control policy through elections face the problem of making credible their policy appeals to pivotal voters. Doing so is challenging for parties with strong ideological or organizational links to core voters or groups whose interests diverge from that of the pivotal voters. In the absence of exogenous enforcement politicians that care about policy, for intrinsic or instrumental reasons, face a time inconsistency problem (Alesina, 1988). To win elections they want to commit to promises that, if elected, they have incentives to break. This may make them unelectable in the eyes of pivotal voters. In this paper, I argue that the commitment problem affects party competition over redistribution in important ways. When and how do parties achieve endogenous commitment to policies preferred by pivotal voters? With what consequences for elections and redistribution? Do electoral systems influence parties' responses to the commitment problem? These questions are central to debates in the literature on inequality and redistribution in democracies as well as the theoretical and empirical literature on party competition. Despite significant advances, discussed below, existing research does not fully answer these questions. I begin to address this shortcoming by proposing a new model of endogenous commitment and by providing evidence on key observable implications of the model.

The problem of credible commitment in policymaking occupies a central place in modern political economy research. For instance, institutional reforms that introduce veto players as constraints on absolute rulers have been linked to good economic performance (North and Weingast, 1989; Stasavage, 2002). Scholars also argue that elites facing redistributive demands under the threat of revolution are limited in their ability to make credible policy concession but that the introduction of democracy can serve as a commitment device (Acemoglu and Robinson, 2006). Accounting for the absence of external enforcement of campaign promises in democracies, the innovative theory of Iversen and Soskice (2006) demonstrates

that lack of commitment in partisan conflict over redistribution can have profound consequences and explain why some democracies redistribute more than others. This is one of the enduring puzzles in the literature, as simple economic explanations fail to explain the large variation in redistributive policies across advanced industrialized democracies (e.g., Alesina and Glaeser, 2004; Lupu and Pontusson, 2011; Milanovic, 2000; Persson and Tabellini, 2003). The model of Iversen and Soskice (2006) compares the outcome of party competition over redistribution between majoritarian and proportional electoral systems when parties are unable to make binding promises. It considers a political economy with three groups (low-income, middle-income, high-income). Institutionally, proportional representation (PR) is characterized by coalition government between representative parties, and the majoritarian system is characterized by competition between two leadership parties. In this setting, the middle income group is pivotal. The resulting implications are clear-cut. If the left party wins the election in majoritarian systems it may renege on its promised moderate policy and instead impose a policy of high taxes and little benefits for everybody but the poor. Right parties may also renege, but this only means low taxes and no benefits. As a consequence, middle class voters in majoritarian systems tend to strategically support right parties, leading to relatively low levels of redistribution. This stands in contrast to PR where coalition government between a left and centrist party provides a credible mechanism due to mutual veto power that protects the middle class from being soaked. Therefore, elections tend to produce center-left coalitions, resulting in more redistribution. Thus, the model can explain the striking twin observation that governments are more left-leaning and redistribution is more pronounced under proportional than under majoritarian electoral institutions (Iversen and Soskice 2006; also see Döring and Manow, 2015; Funk and Gathmann, 2013; Persson and Tabellini 2003).¹

¹Iversen and Soskice (2010) apply this logic to explain real exchange rates and competitiveness and Iversen and Soskice (2009) discuss its implication for inequality. Several other

Given the high stakes of the redistribution game it is puzzling, however, that parties competing under majoritarian rules systematically fail to solve the commitment problem in equilibrium. Left parties in particular, who otherwise have to endure significant policy losses, have clear incentives to devise a credible commitment mechanism. If successful, endogenous commitment may substantively change the redistributive game. To capture the centripetal incentives of election competition, Iversen and Soskice (2006) assume that parties in majoritarian systems are leadership parties. As their analysis reveals, however, this is not sufficient to achieve commitment. This paper builds on Iversen and Soskice (2006) and extends further the idea that parties have incentives to achieve endogenous commitment. The main theoretical intuition is that under some conditions parties will make costly investments to credibly appeal to pivotal middle-class voters. More specifically, parties can achieve endogenous commitment if they do not only choose the party leader but also select candidates for the legislature, as is the case in nearly all developed democracies (Ranney, 1981). In line with a delegation view of parliamentary democracy, a party's elected candidates become parliamentarians that influence the selection of cabinet ministers with control over the legislative agenda and thus shape policy (Kam et al., 2010; Strøm, 2000). By selecting a sufficient number of candidates from their moderate wing, parties can therefore credibly tie their hands, at least probabilistically, in post-electoral policymaking. For the left, endogenous commitment can be good politics because centrist policy outcomes entail more redistribution to the poor than the policies pursued by a right government. Selecting moderates is costly, however, so whether candidate-based commitment is worthwhile depends on the behavior of competitors and features of the political economy. I develop a stylized game theoretical model to clarify

models analyze how electoral rules affect redistribution, though they do not aim to explain variation in government partisanship across institutions (e.g., see Persson and Tabellini 2000).

the logic of the argument and derive several novel observable implications, some of which are later confronted with data. The model considers a majoritarian electoral systems with multiple districts and parties that decide which type of candidate to select in each district. The analysis shows that parties' strategic decision whether to commit to a centrist redistributive platform is endogenous to political competition and varies with income inequality and costs of recruiting moderates.

Endogenous commitment implies that left parties in majoritarian electoral systems need not suffer from an observable electoral bias. Rather, the existence of an electoral disadvantage is conditional on context. In that sense, a main result of Iversen and Soskice (2006, Proposition 1) is a special case. Comparing redistribution in the majoritarian setting with PR also unbundles the anti-left bias of majoritarian systems discussed in the literature. It reveals that differences in redistribution and government partisanship can occur because left parties are (i) less likely to win election under majoritarian than PR electoral rules (as in Iversen and Soskice (2006)) or (ii) because left parties are credibly more centrist in majoritarian systems (endogenous commitment). Existing empirical studies do not distinguish these mechanisms (Döring and Manow, 2015; Funk and Gathmann, 2013; Iversen and Soskice, 2006).

Another novel implication is that rising top inequality may cause left parties to move to the right in majoritarian but not in PR systems. This does not follow from conventional pivotal voter or partisan theories of redistribution. This perhaps counter-intuitive prediction for majoritarian systems is driven by the left's response to the commitment problem. In particular, as the rich become richer relative to everyone else, middle-income voters will be more willing to support the left - but only if the left's commitment to protect their interests is credible. As higher top incomes imply more gains from redistribution for the poor, the left has more incentive to make costly investments in moderate candidates. Because coalition

government serves as a commitment devices under PR, the electoral incentives are different.² By the same logic, left parties should select different candidates under different electoral rules. The analysis also highlights that candidate selection in non-marginal districts matters in majoritarian settings. Parties may make costly investments in candidates beyond marginal districts, in contrast to existing theories (Galasso and Nannicini, 2011).

In the empirical part of paper, I provide evidence on several implications of the theory. A times-series cross-section analysis covering 16 affluent democracies between 1950 and 2010 finds that there is an institution-varying impact of income inequality on the position of the mainstream left party. Consistent with the theory, left parties in majoritarian systems move to the right in response to rising inequality whereas left parties in PR do not. This result also contributes to the large empirical literature on the determinants of party positions, especially recent work on the consequences of income inequality (Barth, Finseraas and Moene, 2015; McCarty, Poole and Rosenthal, 2006; Pontusson and Rueda, 2010; Tavits and Potter, 2015). The few existing studies do not consider the conditioning influence of electoral institutions and examine a smaller number of elections. I also discuss the findings of a complementary analysis focusing on institutional variation in Great Britain that provides some initial evidence on the candidate selection mechanism.

²Barth, Finseraas and Moene (2015) probably provide the first model predicting that inequality can lead left parties to move to the right. My argument differs in important ways, including the commitment mechanism. There are two crucial differences regarding the predicted effect of inequality on parties. First, the impact of inequality varies by political institutions. Second, even a rise in inequality that increases the tax base can induce the left to commit to a less generous platform.

A Solution of the Commitment Problem

The political economy literature spells out the importance of credibility in political competition, but it has paid relatively little attention to what makes policy promises by political parties credible. Most theoretical accounts either simply assume that parties' policy promises are binding or that policy promises are not binding and parties can take no action to endogenously increase their credibility (Persson and Tabellini, 2000, ch. 3-5). One may argue that parties easily achieve commitment merely based on re-election incentives. Modeling party competition as an infinitely repeated game demonstrates that there can be an equilibrium with endogenous commitment to the median voter's ideal point by policy-motivated parties purely based on reputation. But the seminal analysis of Alesina (1988) also shows that the existence of this type of equilibrium depends on many factors, such as voters and politicians having long time horizons and using particular punishment strategies, that need not be present.³ The perfect commitment implied by the long-run view is also difficult to reconcile with evidence on partisan effects (Lee, Moretti and Butler, 2004) and cross-national variation in government partisanship across countries (Iversen and Soskice, 2006). Thus, scholars have started to analyze additional commitment mechanisms.

Candidate selection is a commitment device available to parties even when time horizons are limited. This is illustrated clearly by the British Labour Party. The creation of 'new' Labour was to a significant part about solving the commitment problem that lies at the heart of the paper and candidate selection was an important part of the solution. After four successive electoral defeats to the Conservative Party between 1979 and 1992, commitment

³Taking a different approach, Harrington (1993) analyzes the impact of re-election pressures on the link between promises and policy in a model with uncertainty and divergent priors about the mapping from policies to outcomes.

to middle-class friendly tax policy was perceived as a real problem by the party. Surveys and focus groups indicated that pivotal groups of voters did not trust the moderation of the parties' redistributive program. In this context, reforming the candidate selection process to reduce the influence of labor unions was a deliberate strategy to back up the moderation of the redistributive platform with more moderate candidates and thus an important step on the way to 'new' Labour and three successive electoral victories (Russell, 2005).

Why would parliamentary candidates serve as a credible commitment device? While party leaders in parliamentary democracies are sometimes depicted as being all-powerful relative to the party's legislators, a delegation perspective on parliamentary government clarifies the relevance of candidates as prospective parliamentarians for commitment (Strøm, 2000). Importantly, the focus on candidates in the chain of delegation from voters to policymakers is consistent with recent evidence of the strong influence of backbenchers' collective preferences on the selection of cabinet-level positions in Westminster systems (Kam et al., 2010).⁴ Furthermore, a systematic analysis of leadership changes in 49 parliamentary democracies also shows that parties "regularly remove their own prime ministers between elections" (Samuels and Shugart, 2010, 94). In short, the literature provides solid empirical foundations for the candidate-based commitment mechanism. To be clear, this is not to say that leaders are not important. As government leaders, for instance, they usually have control over the legislative agenda (Döring, 1995). But this has to be placed in the context of the larger chain of delegation within parties. The theoretical model elaborated below captures and elucidates

⁴Using the uncovered set to measure the collective preferences of backbenchers in the British House of Commons, Kam et al. (2010) find that cabinet-level appointments by the Labour and Conservative parties are more responsive to each party's backbenchers than its party leadership.

the importance of candidate selection as an endogenous commitment device.⁵

Theoretical Model

In this section, I propose a stylized model to analyze when and with what consequences parties competing under majoritarian electoral rules make costly investments in moderate parliamentary candidates to achieve endogenous commitment. Building on Iversen and Soskice (2006), the model considers a political economy with three economic groups, low-income (L), middle-income (M), and high-income (H), of equal size and indexed by J (also see Acemoglu and Robinson, 2006; Persson and Tabellini, 2000). Each group cares about its disposable income and political conflict is over the choice of a possibly group-specific tax rate and transfer payment.⁶

⁵This approach is related to the citizen-candidate framework pioneered by Besley and Coate (1997) and Osborne and Slivinski (1996). The common analytical ground concerns the importance of strategic delegation. The model departs from the citizen-candidate framework in important ways. Among others, it focuses on the selection of candidates within parties rather than entry decisions by individual candidates. Examples of other commitment devices discussed in the literature include patronage (Keefer and Vlaicu, 2008) or party formation (Levy, 2004; Morelli, 2004).

⁶Assuming equal group size is without loss of generality. What matters is that no group constitutes a majority.

Preferences and Redistributive Policy

J 's indirect utility function is $V^J(p^J) = y^J + p^J$, where y^J is the exogenous gross income and p^J is the net government transfer received by J . Each group has a maximum taxable capacity \bar{T}^J that is less than its exogenous income, capturing incentive effects of taxation. Hence the net transfer to a group is constrained below: $p^J \geq -\bar{T}^J$. Taxable capacity increases in exogenous income, $0 = \bar{T}^L < \bar{T}^M < \bar{T}^H$, where the taxable capacity of the low-income group is normalized to zero. The total revenue available for redistribution is $\bar{T} \equiv \bar{T}^M + \bar{T}^H$. The budget is balanced, $\sum_J p^J = 0$. The final assumption is that net transfers are non-regressive, $p^L \geq p^M \geq p^H$. The policy setup is more general than the more common assumption of a linear income tax and a general lump sum payment. Given these assumption the most preferred transfer policies for group J , denoted by the vector $\hat{\mathbf{p}}^J = (p^L, p^M, p^H)$, are as follows:

$$\begin{aligned}\hat{\mathbf{p}}^L &= (\bar{T}, -\bar{T}^M, -\bar{T}^H) \\ \hat{\mathbf{p}}^M &= \left(\frac{\bar{T}^H}{2}, \frac{\bar{T}^H}{2}, -\bar{T}^H\right) \\ \hat{\mathbf{p}}^H &= (0, 0, 0)\end{aligned}\tag{1}$$

Accordingly, low-income citizens would most prefer to tax the middle- and high-income group at their full capacity and receive all the transfers. Middle-income citizens would tax the high-income group at their full capacity and keep as much to themselves as allowed by non-regressivity. High-income citizens prefer no income redistribution.

Parties, Candidates, and Institutions

Redistributive policy is determined in a multimember legislature by politicians elected under plurality rule (first-past-the-post) in single-member districts. Politicians are policy moti-

vated. They care about the well-being of a particular group. Corresponding to the three types of voters, there are three types of politicians (L, M, H). Two political parties compete by selecting a candidate for each district. Policy promises made before the election are not binding. But as we will see, the degree of credible commitment to the policy preferred by the pivotal middle-income voter is endogenous to candidate selection. After the election, the agenda setter is selected from the majority party's legislators and makes a proposal that becomes policy only if it is supported by a majority of all legislators. This setting can be interpreted as a Westminster-style parliamentary democracy, which is characterized by majoritarian electoral rules and a fusion of executive-legislative relations.

Suppose there are two dominant parties $P \in \{\mathbf{LM}, \mathbf{MH}\}$ that have a chance of winning the election, a center-left party, \mathbf{LM} , and a center-right party, \mathbf{MH} . This assumption captures Duverger's Law, according to which majoritarian electoral rules lead to the emergence of a two-party system (Cox, 1997; Duverger, 1954). \mathbf{LM} consists of a majority faction of L politicians and a minority faction of M politicians. \mathbf{MH} consists of a majority faction of H politicians and a minority faction of M politicians. The key departure from Iversen and Soskice (2006) is that there are multiple districts and parties select candidates for each district. Specifically, consider three heterogeneous districts (e.g., see Persson and Tabellini, 2000, ch. 8). In the marginal district, middle-income voters M are pivotal. There also is a district where L and H voters, respectively, are in the majority. I will refer to the latter as safe districts for \mathbf{LM} and \mathbf{MH} because their candidate wins for sure.

In terms of party organization, the model captures that candidate selection in established democracies, with the notable exception of open primaries in several U.S. states, usually takes place within political parties and successful parliamentary candidates need to be supported by a majority of members in national or local party bodies. While parties' internal rules on candidate selection vary, the party leadership typically does not have the formal power to unilaterally select candidates (Ranney, 1981). Thus, the model assumes that the majority

faction in the party selects the candidates: the L -majority select candidates in party **LM** and the H -majority select candidates in party **MH**.⁷

The pool of candidates contains politicians with different exogenously given reputations, mirroring the two factions of each party: candidates that have a reputation to be a moderate type (M) and candidates that have a reputation to be a type representing the party's core constituency (L in party **LM** and H in party **MH**). The reputation of candidates is an informative but imperfect predictor of their true type. For a given reputation, in other words, there remains uncertainty about a candidate's true type. This informational structure captures that imperfect information about prospective policymakers' preferences is an important problem that parties face when selecting candidates (Samuels and Shugart, 2010, 63; Strøm, 2000). As a consequence, commitment based on candidate selection is probabilistic rather than deterministic.⁸ Formally, the informational value of a candidate's reputation is denoted by $\pi \in (1/2, 1)$. Thus, π is the probability that a candidate with a reputation of being a M -type actually is a M -type. With the smaller complementary probability of $1 - \pi$, the candidate's true type deviates from her reputation but corresponds to her party's

⁷While the logic of endogenous commitment clearly also applies if the party leadership controls candidate selection, the model emphasizes that commitment does not require that the party leadership has this power as long as members of the majority faction can coordinate on their welfare-maximizing candidate selection strategy. Consistent with this view, the empirical analysis in Appendix S2 shows that controlling for candidate selection procedures does not affect the predicted relationship between top inequality and party positions.

⁸This also preserves the asymmetry of the Iversen-Soskice model. Given non-regressivity, equilibrium behavior shares some similarities with valence models of party competition.

core constituency (L in **LM**, H in **HM**). Conversely, given the reputation of being a L -type (H -type), π is the probability that the reputation is correct and $1 - \pi$ is the probability that the candidate actually is a M -type.

For simplicity, assume that in the electoral stage the majority faction in each party chooses between full moderation ($x_P = 1$), which entails nominating a candidate with the reputation of being a M -type in both the marginal and the party's safe district, and partial moderation ($x_P = 0$), which entails nominating a candidate with the reputation of being moderate in the marginal but not their safe district. Partial moderation is consistent with the majoritarian model of Iversen and Soskice (2006). As parties may use mixed strategies, let σ_P denote the probability that party P chooses full moderation. Full moderation entails an exogenous commitment cost $c_P > 0$ for the majority faction. This is a reduced form to capture motivations other than policy outcomes. A natural interpretation is that each type of party member is also ideologically committed to a particular policy (Roemer, 1999). Full moderation means diluting the party's traditional ideology. Thus, members do not like to select moderates unless they are moderates themselves.⁹

After parties' candidates have been chosen and revealed to the public, an election is held and voters decide which candidate to support in their district. The middle-income group M in the marginal district decides which party wins a majority of seats. The simple post-electoral bargaining protocol captures that the majority party controls the legislative agenda and there are no exogenous restrictions on legislative voting. The agenda setter, which one can think of as the chief executive or responsible cabinet minister, is chosen by majority voting among the elected members of the majority party.¹⁰ A range of factors go

⁹Another interpretation is that incumbents in safe districts have office motivations to resist replacement by candidates with a more centrist reputation.

¹⁰This is consistent with the findings of Kam et al. (2010) discussed before.

into this vote, but it is assumed that the probability that a moderate will emerge victorious is proportional to the share of moderates among the party's legislators (which is equivalent to assuming that the setter is randomly drawn from the pool of party legislators). The agenda setter makes a take-it-or-leave-it policy proposal. The policy passes if supported by a majority, otherwise there is no redistribution.¹¹

To summarize, the sequence of events is as follows:

1. The majority factions in parties **LM** and **MH** simultaneously choose their candidate selection strategies, σ_{LM} and σ_{MH} , consisting of the probability of pursuing full moderation.
2. The realized values of σ_{LM} and σ_{MH} are observed and a general election is held. In each district, the candidate with a plurality of votes wins.
3. The agenda setter is selected at random from the legislators of the majority party and the types (L , M , or H) of the elected legislators are revealed.
4. The agenda setter proposes a net transfer policy, $\mathbf{b} = (p^L, p^M, p^H)$, subject to the economic feasibility constraints.
5. If a majority of legislators supports \mathbf{b} , it becomes policy; otherwise there is no redistribution.

The equilibrium concept is subgame perfect Nash equilibrium. As usual, equilibria where individuals use weakly dominated strategies are excluded.

¹¹The assumption about the reversion policy is common in the literature (Persson and Tabellini, 2000). Alternative assumptions alter specific cut-points but recover the same qualitative features of the equilibrium.

Equilibrium and Implications for Redistributive Politics

As illustrated by Figure 1, equilibrium outcomes of partisan competition over redistribution vary by top income inequality and parties' cost of commitment. A formal statement and proof are in online Appendix S1 (Proposition 1). First, suppose the difference in taxable income between middle-income and high-income citizens is relatively small or the cost of commitment is sufficiently high for both parties (region I in Figure 1). This means that either middle-income voters prefer party **MH** even when party **LM** makes more efforts to moderate (because commitment is only probabilistic and the structure of inequality makes the perils of left government more pronounced) or **LM**'s cost of commitment is simply too high. As a consequence, neither party has an incentive to pursue a costly commitment strategy. Hence, **LM** suffers from an observable electoral disadvantage and the policy outcome entails little redistribution to the poor in expectation. Second, a different political equilibrium emerges if the income difference between the middle and the top are sufficiently large and there are asymmetric cost with sufficiently low cost only for **LM** (region II in Figure 1). In this scenario, **LM** makes a greater effort to commit by recruiting moderates (including some safe districts) than **MH** and, as a consequence, has better electoral prospects. Redistribution is higher than in the previous case without costly commitment. The center-left party does not suffer from an electoral disadvantage as it has credibly moved to the center while its competitor has not. Thus, there is a positional but not an electoral anti-left bias of partisan competition. Third, consider the scenario where income differences between the middle and the high-income groups are sufficiently large and cost are sufficiently low for both parties (region III in Figure 1). In this situation, the equilibrium is in mixed strategies where both parties choose a moderate candidate selection strategy with positive probability (but strictly less than one). Electoral outcomes are uncertain ex ante and there is no generic electoral disadvantage for **LM**. Expected redistribution is higher than in the case without costly commitment but lower than in the case with asymmetric commitment only by the left.

[Figure 1 about here.]

Effects of Endogenous Commitment

The theory has several novel implications. First, endogenous commitment implies that center-left parties need not suffer from an observable electoral disadvantage in majoritarian electoral systems. Several prominent theories in the literature maintain that majoritarian institutions entail an electoral bias against the left. This means that even if there is a balanced distribution of voter preferences, the electoral system induces electoral outcomes that favor the right. As discussed before, the model of Iversen and Soskice (2006, Proposition 1) implies that, given the absence of commitment, strategic voting by the middle class favors the right: On average, center-left parties lose elections to their center-right rivals.¹² Iversen and Soskice (2006, p. 170) point out that their analysis suggests that parties may have incentives to find a commitment device. My model captures and further explores that intuition. It shows that endogenous commitment using parliamentary candidates implies that center-left parties can escape their electoral dilemma. Furthermore, the existence of an electoral disadvantage in equilibrium is conditional on context. When income inequality between the middle and the top is sufficiently high and parties' commitment cost are sufficiently low, center-left parties will have incentives to pursue a strategy of endogenous commitment. As a consequence, they tend to be electorally competitive. When income inequality between the middle and the top is low or parties' cost are sufficiently high, costly commitment is not an equilibrium strategy and center-left parties will systematically lose elections. This logic can account for why center-left parties in majoritarian systems may exhibit relatively long spells of electoral success as well as long spells in opposition, which does not follow straightforwardly from the

¹²A related theory developed by Rodden (2012) is centered on political geography.

theories discussed above or Downsian' models of party competition that assume commitment and imply (near-)convergence.

Second, an increase in the taxable income of the rich relative to the middle class increases the probability that the center-left party in majoritarian systems moves toward the center.¹³ The moderation effect seems counterintuitive as partisan and Downsian' models assuming commitment suggest the opposite. The standard partisan approach (Hibbs, 1977) suggests that left parties will respond to rising inequality by moving toward the left, re-emphasizing egalitarian policies favored by their core constituencies. If middle class voters would benefit from higher taxes on the rich, then canonical models of party competition that assume commitment also suggest that all parties should respond to higher top inequality by moving to the left, without necessarily converging to the same position (Calvert, 1985). Given the commitment problem, however, the rightward move follows rationally from the center-left's incentives to achieve endogenous commitment. An increase in the distance of middle to top incomes increases the willingness of the middle income group to support the center-left party. But this is conditional on the party's ability to appease middle-class fears of being soaked at the expense of the poor. With higher inequality between the rich and the middle class, the redistributive gains of a commitment strategy increase for the left, and so it will be more willing to select candidates with a moderate reputation. Note that if top inequality increases because the high income group becomes richer relative to everybody else, then the left's moderation can occur despite a rise in the tax base for redistribution (different from Barth, Finseraas and Moene 2015).

Third, what parties do in non-marginal districts matters for the outcome in marginal

¹³Probability refers to the larger set of parameters for which the center-lefty party pursues a strategy of costly moderation.

or swing districts. Indeed, parties may have incentives to nominate moderates even in safe districts to achieve more commitment in marginal districts. This does not follow from standard political economy models of majoritarian systems in general (Persson and Tabellini, 2000) or models of costly candidate selection by parties in particular, where parties tend to concentrate high-cost candidates in marginal districts (Galasso and Nannicini, 2011).

Comparison with PR

The outcome of redistributive conflict under majoritarian institutions analyzed so far can also be compared to PR. A clear benchmark is provided by the PR model in Iversen and Soskice (2006), which is based on the same general assumptions about preferences and policy. Key features of PR in their model are that there are group-based parties and, as no party can expect to win a majority, policy is determined through a process of coalition bargaining between parties. Crucially, coalition government implies that left parties in government are subjected to a veto by a coalition partner. This makes center-left coalition governments attractive to middle-income voters. Coalition government, put simply, results in endogenous commitment due to mutual vetoes (Stasavage 2002; Tsebelis 2002). Comparing redistributive politics across the majoritarian and the PR system, the analysis concurs with that of Iversen and Soskice (2006) in that government partisanship is a key mechanism through which electoral rules affect economic policy. There tends to be an anti-left bias in majoritarian compared to proportional electoral rules that leads to lower redistribution (for a formal statement, see Proposition 2 in Appendix S2). Extending their framework to allow for endogenous commitment highlights that the anti-left bias may take two distinct forms and is conditional on features of the political economy. The anti-left bias has a positional as well as an electoral component. Observed differences in government partisanship and redistribution across electoral rules can arise because left parties competing under majoritarian rules are (i) less electorally successful compared to the left parties competing under PR (the mechanism

emphasized by Iversen and Soskice 2006) or (ii) are credibly more centrist (the endogenous commitment mechanism). Studies using center of gravity measures of government partisanship have documented a robust difference in partisanship across electoral rules (Iversen and Soskice 2006; Döring and Manow 2015; also see Funk and Gathmann, 2013). Interpreting this observed difference as the effect of electoral bias most likely overstates the electoral component as it does not account for endogenous commitment, which entails a positional bias but not necessarily an electoral bias.

The comparison also implies that there should be observable differences in candidate selection across electoral rules. Holding other things equal, left parties have more incentives to nominate moderate candidates in majoritarian than in proportional electoral systems, where coalition government provides endogenous commitment. By the same logic, the effect of income inequality on the position of the center-left party, discussed above for the majoritarian setting, should vary by electoral system. While an increase in inequality between top incomes and middle incomes increases the incentives for the left to moderate under majoritarianism, this is not case under PR.

Extension

An inter-temporal issue ignored until now is that current redistribution influences the future distribution of pre-fisc income and thereby also shapes future conflict over redistribution. To explore how such dynamic considerations shape endogenous commitment, I have analyzed a dynamic version of the static model, in the spirit of models like that of Besley and Coate (1998) (see online Appendix S2). There are two electoral periods. After the first period, there is a shock to the distribution of incomes that depends on the size of the redistributive budget in the first period. The economic assumption is that higher income redistribution in the first period leads to lower income growth and a more compressed pre-fisc income distribution in the second period. Reassuringly, the results from the static model still go through in this

repeated elections framework. But accounting for dynamics generates additional insights.

The commitment problem does not go away even if policymakers in the first period put a large weight on second-period utility and anticipate how current redistributive policy affects future income distribution and voting behavior. Consider the scenario where the center-left party **LM** wins the election in the first period and there is a majority of L -types in the legislature. While policymakers are forward-looking and understand the economic and political cost of redistribution, a L -majority will generally choose more redistribution to the low-income group than preferred by the pivotal middle-income voter M (Proposition 3 in S2). Intuitively, first-period policy in the dynamic framework can be more moderate than in the static model if policymakers put a high weight on the second period. Politicians understand that high redistribution in the first period can undermine economic efficiency and political support among the middle class in the second period. In response, the L -majority will choose to moderate current redistribution if it cares sufficiently about the future - though not enough to eliminate the commitment problem. The reason is that M voters cannot credibly threaten to punish all deviations from their most preferred policy.

Dynamic considerations can actually increase the commitment problem faced by **LM** - because forward-looking middle-income voters now have an additional motivation to fear a left government: not just the current loss imposed by redistribution to the poor, but also the reduction in future income as a consequence of high redistribution. As a consequence, they can be more reluctant to support the **LM** party in the dynamic compared to the static setting. Appendix S2 describes such an equilibrium (Proposition 4). The severity of the commitment problem is indicated by the relative income threshold below which middle-class voters have a dominant strategy to vote for the center-right party (**MH**). In this equilibrium of the dynamic game, the endogenous threshold is to the right of the threshold of the static game, $\frac{2(1-\pi)^2}{\pi-1/2}$, depicted in Figure 1.

Evidence

The empirical section confronts novel implications of the theoretical model with evidence. The main focus is on how within-country changes in top income inequality affect party positions and whether this relationship depends on electoral rules. The basic statistical specification is as follows:

$$Y_{it} = \alpha_i + \beta_1 TI_{it} + \beta_2 PR_{it} + \beta_3 TI_{it} \times PR_{it} + \beta_4 X_{it} + \epsilon_{it} \quad (2)$$

where Y_{it} is the economic left-right position of the main left party (lower values indicate a more leftist position) in country i at election year t , α_i is a country specific intercept (capturing possibly unobserved time-invariant confounders), TI_{it} is a measure of top income inequality, PR_{it} is an indicator for proportional representation, X_{it} stands for various control variables, and ϵ_{it} is the error term. The interaction term $TI_{it} \times PR_{it}$ allows the impact of inequality to vary by electoral system. The prediction of the theory is that an increase in top income inequality leads the left to move to the right in majoritarian systems ($\beta_1 > 0$). Under PR, on the other hand, inequality does not lead to a rightward move; in terms of coefficients, this means, first, that there is a significant negative interaction term ($\beta_3 < 0$) and that the marginal effect of inequality in PR systems is at least weakly negative ($\beta_1 + \beta_3 \leq 0$).

The analysis covers 16 advanced industrial parliamentary democracies between 1946 and 2010 for which the inequality data are available: Australia, Canada, Denmark, France, Germany, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom. In line with the theory as well as the study of Pontusson and Rueda (2010), the focus is on the position of the main left party.¹⁴

¹⁴See Appendix S3 for a list of the parties, sources for all variables, and descriptive statistics.

Measurement

The dependent variable is measured using new estimates of the publicly stated economic left-right position based on party manifestos from Elff (2013), where larger values indicate a more rightist (i.e., less supportive of redistribution and state intervention) position. The positions were estimated by Elff (2013) using data coded by the Comparative Manifesto Project (CMP, see Budge et al. 2001) for a large set of countries since World War II. As has been extensively described elsewhere (Budge et al., 2001), CMP has manually coded each quasi-sentence in a given electoral program into one of 56 policy categories. The left-right summary indicator provided by CMP, which is based on the relative frequency of sentences in left versus right policy categories, has been widely used in the literature on party positions and partisan effects on policy. Its time-coverage is unique and it correlates fairly highly with alternative measures (such as expert judgements) available for a subset of country-years. The measure developed by Elff (2013) deals with important limitations of the CMP index. His scaling procedure, which is related to the estimation of ideal points in legislatures, disentangles policy positions from the relative frequency or salience of an issue. It also relaxes the assumption that all coding categories are a priori determined to be either left or right. The variable does not attempt to measure whether a party's stated position is perceived to be credible by voters. But it allows researchers to examine whether left parties make more or less leftist appeals in response to changing inequality.

To measure income inequality, I draw on the World Top Incomes Database painstakingly put together by economists using income tax records over the last decade (Atkinson and Piketty 2007; Atkinson and Piketty 2010; for an overview and thorough discussion of methodological issues, see Atkinson, Piketty and Saez 2011). The database covers a much larger period than usual survey-based measures and it contains a measure that is close to the theoretical model. The model emphasizes a particular facet of inequality, namely, how much better the rich are doing compared to the middle classes. What matters for the electoral

incentives of left parties is shaped to an important degree by the dynamics at the top of the income distribution. For this purpose the database is especially well suited. Survey-based measures, by comparison, usually have problems capturing the top of the distribution due to top-coding and relatively small sample sizes. The inverted Pareto coefficient characterizing top incomes is the main measure of income inequality. The Pareto law is usually considered to be a good approximation of the upper part (say top 10 %) of the observed income distribution. Reflecting the theoretical logic, an increase in the coefficient indicates higher top shares and generally higher income inequality. For instance, if the coefficient is 2 the average income of individuals with income above a threshold, say \$100,000, is twice the threshold value (Atkinson, Piketty and Saez, 2011). In the data set, it varies from 1.3 to 2.9.¹⁵ The data are fairly homogenous within countries and researchers contributing to the database have made great efforts to harmonize them across countries as well. Including country fixed effects in the estimation absorbs possibly remaining country-specific variation in the measure. The variable has been rescaled as deviations from the overall mean to allow for an easier interpretation of the interactive specification.

Thanks to a cumulative research effort, classifying electoral rules has become a largely uncontroversial affair. Following Iversen and Soskice (2006), for each election the electoral system for the legislature (lower house under bicameralism) is coded as PR or majoritarian (missing years were updated, see online Appendix S3 for details). As is well-documented in the literature, most of the variation in electoral rules is cross-sectional.

¹⁵This implies a somewhat more selective and probably more common definition of the high-income group than the one based on equal group size used for convenience in the theory. The results are robust to using alternative operationalizations (see S3).

Control Variables

The literature discusses several other factors that may affect income inequality, electoral rules and party positions. Country fixed effects account for potentially unobservable time-invariant country heterogeneity. For example, historical legacies, varieties of capitalist institutions, or cultural differences may drive trends in economic inequality and party positions. The literature on the choice of electoral rules debates whether they are endogenous to redistributive politics (e.g., Boix, 1999; Cusack, Iversen and Soskice, 2007). To account for unobserved time effects, the analysis includes a linear time trend; some specifications also include period effects (1950-1972, 1973-1989, 1990-2010) or country-specific trends. The analysis also includes time-varying control variables whose omission may bias the results. Income per capita captures differences in the capacity to redistribute and, according to some (Wagner's Law), preferences for public spending. Voter turnout is often linked to the mobilization capacity of left parties (Pontusson and Rueda, 2010). Population size is included because size has been argued to impede the organization of working class interests (Alesina and Glaeser, 2004). A prevalent view is that economic globalization, which covaries with income inequality, increases demand for public spending; at the same time, it is held to constrain policy choices and thus party positions (Ward, Ezrow and Dorussen 2011). The measure used here is trade openness as a percentage of GDP. The percentage of population over 65 is a common proxy for the demand for social insurance. All time-varying right-hand side variables except electoral rules are measured as the average for the years from the last to the current election.

Results

Figure 2 provides a descriptive overview of the relationship between top income inequality and party positions by electoral system (online Appendix S3 provides a plot for each country). Observations are deviations from their country-specific means. The pattern is plain to see:

In majoritarian electoral systems, there is a clear positive relationship between top inequality and the left-right position of the main left party. In PR systems, there is no discernible aggregate relationship.

[Figure 2 about here.]

The regression results from the basic specification are summarized in Table 1.¹⁶ They confirm the graphical analysis. While all models include country fixed effects, additional control variables are added sequentially. Throughout, the effects of the main variables of theoretical interest, income inequality and its interaction with PR, are fairly precisely estimated and have the predicted sign. The positive coefficient on the inequality variable indicates that an increase in top income inequality is associated with a rightward move of the main left party in majoritarian systems. The magnitude of the negative coefficient on the interaction term indicates that the impact of inequality is practically reversed in PR systems. These estimates are consistent with the theoretical expectations and are not easily accounted for by existing theories. Adding control variables and time effects does not change the results very much. The results are politically relevant. Model (4), which includes time-varying controls as well as country-specific time trends, suggests that a one standard deviation increase in top income inequality causes left parties in majoritarian settings to move to the right by about one standard deviation. The sum of the coefficients on inequality and the interaction term suggests that the marginal effect of inequality is negative (about -0.6) under PR, though not significant at conventional levels ($p = 0.25$). What is clear is that, on average, left parties competing under PR do not move to the right in response to rising top inequality whereas left parties in majoritarian systems do.

¹⁶Standard errors are clustered by country to allow for serial correlation. As shown in Appendix S3, using a lagged dependent variable yields similar results.

[Table 1 about here.]

The results are robust to various alternative specifications (see online Appendix S3). This includes using alternative measures of all three main theoretical concepts: top income inequality, electoral systems, and party positions. The sensitivity analysis also adds additional control variables sometimes used in related studies of party positions (union density, EU integration, incumbency, existence of a left competitor) and a lagged dependent variable. I also control for the centralization of candidate selection. Using data on the Gini coefficient of market inequality available from 1960 onwards, I rule out that the effect of top inequality is driven by changes in other parts of the income distribution.

One remaining concern is that top income inequality is endogenous to redistributive politics in a way that is not captured by the fixed effects, controls, and time trends. Given the observational nature of the data, it is impossible to completely rule out time-varying country-specific confounders. To address this possibility, an additional analysis exploits plausibly exogenous variation in top income inequality based on the evolution on top inequality in the United States. The idea is that the increase in top income inequality is driven to an important part by a dramatic increase in executive pay and this occurred first in the U.S. (Atkinson, Piketty and Saez, 2011). This rise was not driven by politics in the smaller economies outside the U.S. Through explicit compensation benchmarking and partially integrated markets for top managers (DiPrete, Eirich and Pittinsky, 2010), the dramatic rise in executive compensation in the U.S. led to exogenous competitive wage pressures on executive pay in other developed countries. The instrumental variable estimates confirm the results from the basic panel analysis that under majoritarian rules increased top inequality leads left parties to move to the right (S3, Table 8).¹⁷

¹⁷Unfortunately, as explained in more detail in S3, this approach is only possible for majoritarian systems. In PR systems, the candidate instrument is too weak.

Altogether, the results provide robust evidence consistent with central implications of the theory and run counter to conventional views of partisan conflict over redistribution. The results also qualify the previous finding that higher inequality generally induces left parties to move to the right (Barth, Finseraas and Moene, 2015). Accounts emphasizing the ability of rich elites to influence voting and party behavior through the media and political donations (Hacker and Pierson, 2010) also do not explain the institution-varying effect of income inequality.¹⁸

Note that the empirical analysis does not aim to address whether or not candidate selection is the commitment mechanism driving these results or whether some other commitment mechanism is doing the work. The central finding is that left parties in majoritarian systems behave in a manner consistent with the endogenous investment into a commitment device but at odds with standard explanations. Building on the literature about the role of parties in the chain of delegation in representative democracies, the theoretical model highlights that candidate selection can offer such a device. More data is needed to distinguish between different commitment mechanisms.

An additional empirical analysis, reported in detail in online Appendix S4 due to space constraints, provides some initial evidence that parties select parliamentary candidates consistent with the commitment-mechanisms of the theoretical model. The analysis exploits within-country variation in electoral rules created by political decentralization in Great Britain to test the implication that the main left party's incentives to select moderate candidates are larger under pure majoritarian rules (in place for the national parliament in

¹⁸Accordingly, higher top inequality increases the stakes of redistributive conflict and thus should lead elites across institutions to use their financial clout to blunt the left's redistributive zeal.

Westminster) than the mixed-member proportional electoral rules (in place for the new sub-national Scottish Parliament). The research design allows us to compare candidate selection in the same constituency under alternative electoral institutions and it uses smaller parties as a control group for the party (Labour) that, according to the theoretical model, should be most sensitive to alternative institutions. It thus accounts for unobserved district heterogeneity and changes in the median voter at large across elections. The main finding is that Labour significantly increased its share of left-wing candidates compared to its smaller competitors when competition moved to PR.

Concluding Remarks

This paper has provided a new theoretical perspective and brought new evidence to bear on how partisan conflict over redistribution plays out in contemporary democracies under alternative rules of the electoral game. Political parties competing for the power to set redistributive policy face the problem of making credible their policy promises to voters, because electoral promises are not legally binding. Using a game theoretic model, I have developed the argument that in majoritarian electoral systems parties' efforts to solve the commitment problem are a driving force in redistributive politics and that candidate selection is an important – though mostly neglected in the literature – commitment device. The main theoretical innovation is to consider how parties' ability to invest in endogenous commitment influences electoral strategies, election outcomes, and policy. This has led to several new testable implications, for example, concerning the institution-varying responsiveness of parties to rising income inequality. The empirical analysis has found evidence consistent with key implications of the theoretical logic. Left parties in majoritarian electoral systems turn to the right, thereby moving closer to the center of the political space, as top inequality increases. Under PR, they more or less stay where they are.

In future research, additional implications of the theory merit testing. One further empirical task, for example, is to try to unbundle the difference in government partisanship observed across electoral institutions into its positional and electoral component. Broadening the analysis of commitment beyond reputation also matters for the literature on the determinants of party policy positions and opens up questions about the underpinnings of credible positions.

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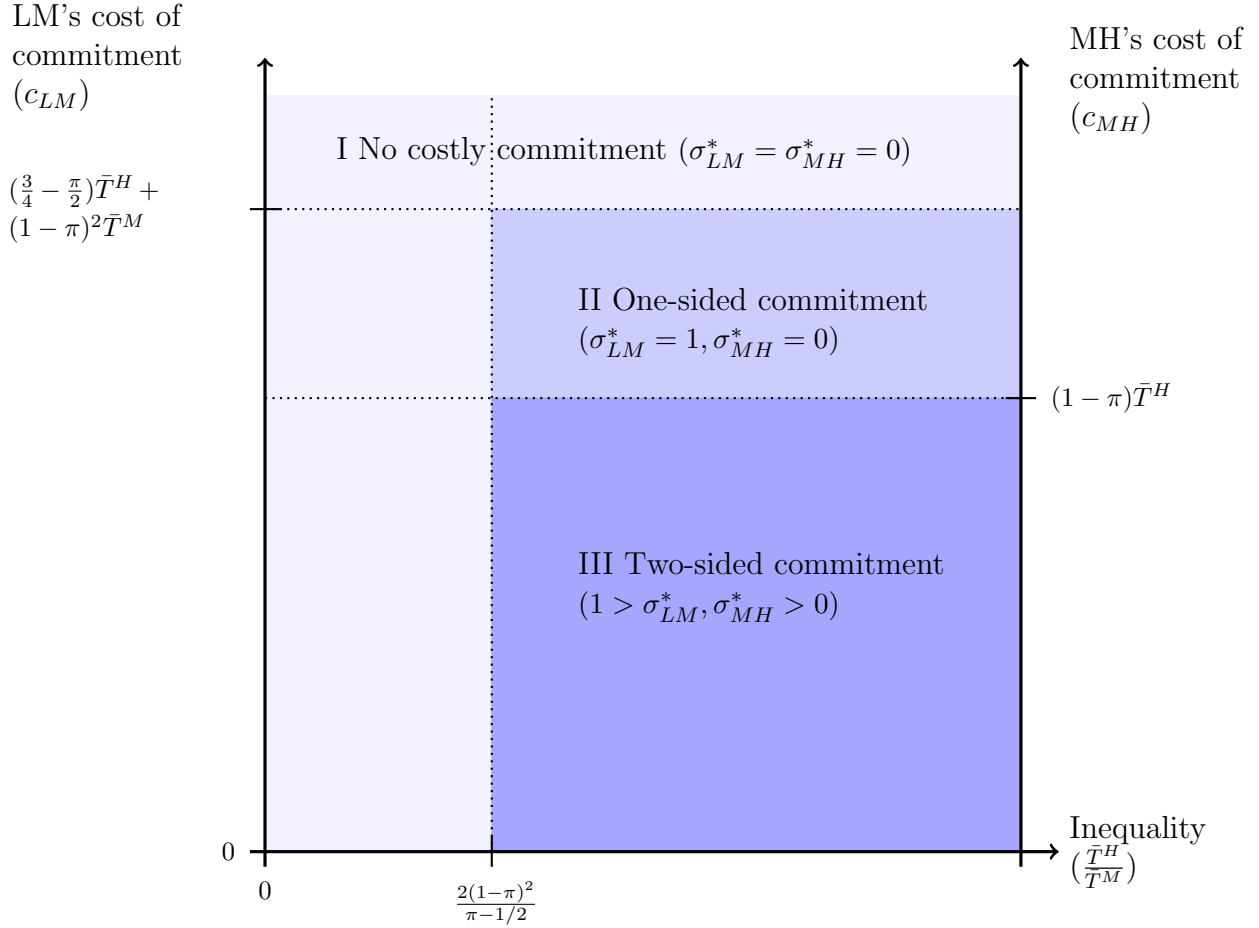


Figure 1: Equilibria in the majoritarian model. The figure shows how parties' electoral strategies vary by top income inequality (i.e., the ratio of taxable income of high and middle-income voters) and the cost of recruiting moderate candidates. The probability that the center-left **LM** (center-right **MH**) party pursues a costly strategy of recruiting middle-income types to commit to a moderate redistributive platform is denoted by σ_{LM} (σ_{MH}).

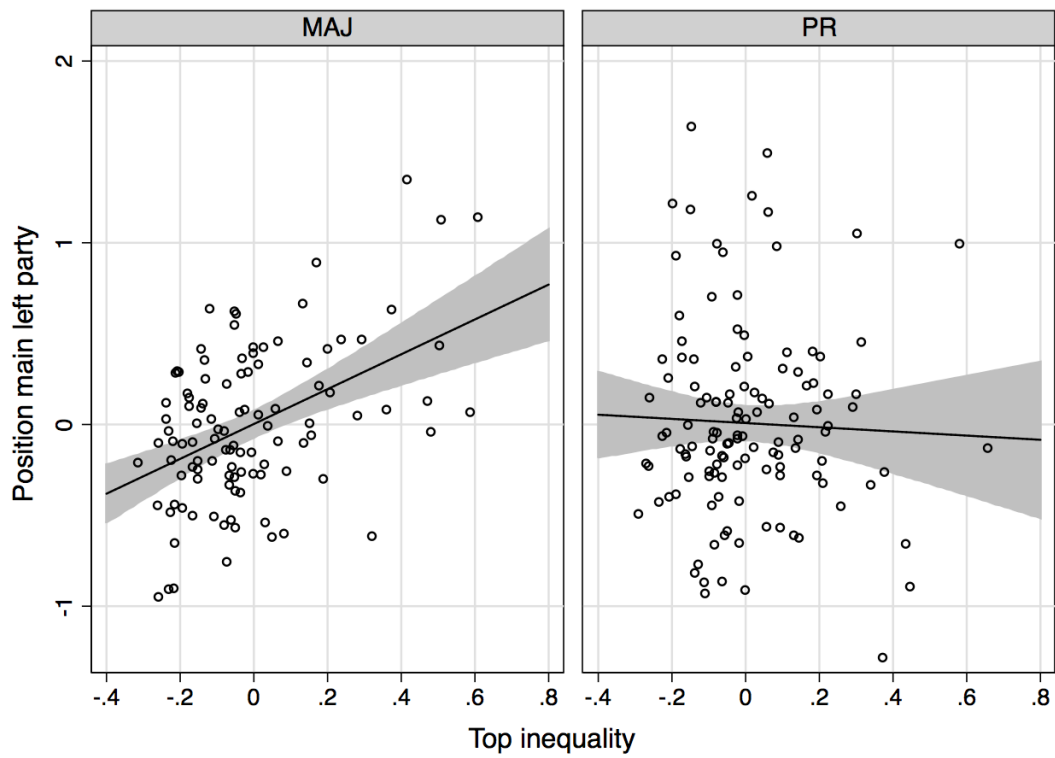


Figure 2: The descriptive relationship between party positions and top inequality by electoral system (after partialing out country fixed effects).

Table 1: Panel Estimates of the Conditional Impact of Top Income Inequality on the Economic Position of the Main Left Party in 16 Democracies 1950-2012

	(1)	(2)	(3)	(4)
Top Income Inequality (TI)	0.98*	0.91*	0.81*	0.89*
	(0.38)	(0.30)	(0.36)	(0.36)
Proportional Representation (PR)	-0.01	-0.14	-0.16	-0.19
	(0.31)	(0.10)	(0.10)	(0.14)
PR \times TI	-1.16*	-1.27*	-1.24*	-1.49*
	(0.53)	(0.36)	(0.38)	(0.42)
Income per capita (in 1000 USD)		-0.03	-0.03	-0.04
		(0.02)	(0.02)	(0.03)
Voter Turnout		-0.13	0.01	-0.41
		(0.49)	(0.44)	(1.03)
Trade Openness		-0.02*	-0.02*	-0.02*
		(0.00)	(0.00)	(0.01)
Population Over 65 (%)		-0.01	-0.02	-0.03
		(0.07)	(0.06)	(0.15)
Log of Population		-1.61*	-1.53*	-3.32
		(0.26)	(0.23)	(2.67)
Time Trend (Year)		0.05*	0.04*	0.07
		(0.01)	(0.01)	(0.05)
Country-specific time trend	No	No	No	Yes
Period indicators	No	No	Yes	No
Countries	16	16	16	16
Observations	229	229	229	229
Adjusted R^2	0.069	0.324	0.328	0.329

Standard errors in parentheses are clustered by country. The dependent variable is the left-right position of the main left party as estimated from manifestos by Elff (2013). All models include country fixed effects.

* $p < 0.05$ (two-tailed tests)

Supporting Information

Additional Supporting Information may be found in the online version of this article at the publisher's website:

- S1.** Proofs for Theoretical Model.
- S2.** Theoretical Extension: A Dynamic Game.
- S3.** Appendix for Analysis of Party Positions.
- S4.** Analysis of Candidate Selection in Britain.