IF YOU CAN’T MOVE, BE AMBIGUOUS: HOW INCOME INEQUALITY CAN INCREASE PARTY PLATFORM AMBIGUITY IN PR SYSTEMS

JOHN MARSHALL*

March 2014

Abstract

Although the role of information in politics is receiving increasing attention, research has under-emphasized the strategic supply of information by political parties. This paper proposes a new explanation for voter uncertainty about where parties stand: where within-party heterogeneity constrains the platforms of policy-motivated parties, parties use ambiguity—defined as the range of policies played with positive probability in a party’s mixed strategy—to move the expected policy outcome towards their ideal point. This lack of platform precision occurs despite voters being risk-averse and perfectly informed. This framework is applied to redistributive politics in multi-party bargaining systems, hypothesizing that income inequality increases platform ambiguity for left parties and decreases ambiguity for right parties. A difference-in-differences analysis of 14 Western European democracies, for the first time using expert surveys to reduce bias in measures of ambiguity, provides empirical support for the central predictions of the model.

*Department of Government, Harvard University. jmarsh@fas.harvard.edu. Thanks go to Jim Alt, Nilesh Fernando, Stephen Fisher, Noam Gidron, Andy Hall, Timothy Hellwig, Torben Iversen, Horacio Larreguy, Rakeen Mabud, Noah Nathan, James Robinson, Ken Shepsle, Chiara Superti, Jim Snyder, Hye-Young You, and participants at Harvard Government Department workshops, the University of Tampere Summer Workshop, Tampere June 2011 and IPSA Annual Meeting, Madrid July 2012 for insightful comments and suggestions regarding previous versions of this paper.
1 Introduction

It is typically assumed that voters cannot pinpoint the positions of political parties on important issues such as redistribution because they are poorly informed. The political incentives arising from differences in such information across social groups can be highly consequential for policy outcomes, as Bartels (2008) suggests with respect to the Bush income and estate tax cuts in the United States and Adams and Ezrow (2009) show across Western Europe. However, the inability of voters to clearly identify the positions of political parties could also emanate from strategic decisions by political parties to prevent voters from being able to do so.

While the consumption (or demand) side of voter information is being increasingly researched, this paper instead examines the supply of political information. More specifically, it considers the incentives for policy-motivated political parties to provide ambiguous redistributive platforms in proportional representation (PR) systems when within-party heterogeneity constrains their ideal platform. The central argument is that where parties are internally constrained to target at least some campaign appeals toward the median voter, platform ambiguity may be used as a means of moving policy away from the centrist voters toward a party’s own ideal point. By integrating this incentive into an environment of redistributive conflict, this paper formally shows that income inequality increases the platform ambiguity of left parties and reduces the ambiguity of right parties. Using a new measure of party ambiguity based on expert ratings in 14 Western European democracies with PR electoral rules, I show that greater income inequality increases the ambiguity of left parties.

The theoretical model integrates political competition and the opportunity for party platform ambiguity—where ambiguity is formally defined as the support of the distribution of a party’s mixed strategy policy platform—into the context of redistributive
conflict over the tax rate. The starting point is the economic environment of Romer (1975) and Meltzer and Richard (1981) where voter preferences for redistribution differ with pre-tax income. The results thus speak to the large literature examining political competition over redistribution (e.g. Alesina and Glaeser 2004; Austen-Smith 2000; Bartels 2008; Iversen and Soskice 2006; Karabarbounis 2011; Moene and Wallerstein 2003; Persson and Tabellini 2003; Roemer 1998). The model is particularly relevant to Iversen and Soskice (2006) because it may be interpreted as endogenizing the probability that a party leader in a majoritarian system will defect toward their ideal point.

The model assumes that parties care about policy outcomes as well as winning office, while voters are fully informed and risk-averse. A simple model of endogenous delegation of platform control to a party leader shows that internally heterogeneous parties will use incomplete delegation. The paper then focuses on the case of incomplete delegation, considering the restriction that platforms must place positive probability on a tax rate appealing to the median voter. Abstracting from voter responses to ambiguity, the PR-inspired model of post-election bargaining requires two parties to form a winning coalition. The probability of being recognized as formateur is increasing for left parties and decreasing for right parties in income inequality as inequality increasing the number of poor, whose votes are more elastic with respect to redistributive policies. In addition, electoral platforms serve as important commitments because the post-election bargaining policy outcome is a weighted average of these platforms. In an infinite-horizon bargaining model similar to Baron (1993), Baron and Ferejohn (1989) and Rubinstein (1982), a mean and median-preserving increase in income inequality increases (decreases) the bargaining power of left (right) parties and thus provides an incentive to use more (less) ambiguous platforms that move expected policy outcomes toward the ideal point of non-centrist parties.

Using a difference-in-differences design that focuses on changes in party platform in
response to changes in income inequality, the empirical analysis finds evidence consistent with the theoretical model’s implications among Western Europe’s PR systems. As predicted, income inequality is not associated with platform ambiguity for the average political party. Rather, increasing income inequality allows only left of centre parties to become more ambiguous. I argue that using the standard deviation of expert party position placements significantly alleviates the biases inherent in voter perception-based measures of ambiguity used previously. Supporting a key assumption in the model, greater inequality also increases the vote share of left parties.

Using several definitions of ambiguity, the existing literature has offered various explanations for why political parties may choose ambiguous platforms in majoritarian systems. Downs (1957) argued that political parties appeal to rationally ignorant voters, and use vague platforms to maintain the broadest appeal possible. Given Shepsle’s (1972) observation that ambiguity is reserved for risk-loving electorates and Page’s (1976) critique of the strong Downsian assumptions, motivations for ambiguity have focused on models of majoritarian politics where voters are risk-averse but information imperfections exist. Alesina and Cukierman (1990) and Aragones and Neeman (2000) model ambiguity as a socially-efficient means of retaining room for maneuver once in office when the optimal future policy is uncertain. In the model of majoritarian politics closest to that proposed here, Alesina and Holden (2008) suggest that policy-oriented parties balance median convergence pressures against campaign contributions elicited by offering extreme positions by choosing ambiguous platforms. More recent work has incorporated primaries as information revelation devices (Meirowitz 2005) and context-dependent voting (Callander and Wilson 2008).

The theoretical model presented here departs from this literature in several ways. First, it provides a rationale for ambiguity based in the policy preferences of parties that are constrained (by their party members) to partially appeal to the median voter.
Contra Downs (1957) and Shepsle (1972), this result applies despite voters being perfectly informed and risk-averse. Second, the rationale for ambiguity is applied to redistributive politics, generating comparative static predictions linking the model to the empirical electoral competition literature.

Little attention has been devoted to explaining platform ambiguity empirically. This is probably due to significant measurement and endogeneity problems associated with voter perception-based measures of party ambiguity (Tomz and Van Houweling 2009). Instead, existing empirical work has primarily focused on voter perceptions of ambiguity and its effect as an independent variable. A prominent example is Tomz and Van Houweling (2009), who survey experiment shows that informed and risk-averse voters are less likely to vote for an ambiguous candidate, although ambiguity may be used to gain support from a party’s own supporters without suffering losses from opposition voters. This paper moves beyond the abstract theoretical results of previous research and provides a cross-country test of the model’s implications using a new measure of ambiguity based on expert surveys. This is the first test of formal models where parties strategically choose ambiguity of which I am aware.

The paper is structured as follows. Section 2 formally models party platform choice under PR (post-election bargaining) institutions. Section 3 uses expert surveys to examine the consistency of the theoretical predictions with the data. Section 4 concludes.

2 Theoretical model

This section first outlines the model’s economic and political primitives, before characterizing the institutional framework in PR systems and ultimately examining platform ambiguity in equilibrium. Focusing on three-party post-election (non-cooperative) bargaining in PR systems, I will show that all things equal greater income inequality in-
creases the ambiguity of left parties and reduces the ambiguity of right parties.

The logic is simple: greater income inequality increases the bargaining power of left parties at the expense of right parties, as poor voters are relatively more sensitive to tax policy. With greater bargaining power, non-centrist parties (which do not delegate complete policy control to their leader) use ambiguity to move policy closer to their ideal point.

2.1 Economic and political environment

2.1.1 Policy preferences

The economic environment builds upon the Romer (1975) and Meltzer and Richard (1981) framework where voter income determines redistributive preferences. Take a continuum of voters of unit mass, differentiated by their exogenous (positive) income \( y \in \mathcal{Y} \subseteq \mathbb{R}^+ \). Income is distributed by cumulative distribution function \( F(y) \), with associated density \( f(y) \).

The government chooses the tax and benefit policy pair \((\tau, T)\), where \( \tau \in [0, 1] \) is a proportional tax rate levied on \( y \) and \( T \geq 0 \) is a lump-sum transfer made to all citizens. This transfer could be reconceptualized as a public good. There is a convex cost \( \phi(\tau)\bar{y} \) to increasing \( \tau \), where \( \int_{y \in \mathcal{Y}} ydF(y) = \bar{y} \) is the mean income and \( \phi : [0, 1] \mapsto \mathbb{R}^+ \) is a convex-increasing function such that \( \phi'(\tau) > 0, \phi''(\tau) > 0 \) and \( \phi(0) = 0 \).\(^1\) The government’s budget constraint is thus:

\[
[\tau - \phi(\tau)]\bar{y} \leq T. \tag{1}
\]

Since the budget constraint binds in equilibrium, the problem is single dimensional in \( \tau \).

\(^1\)This cost could be labour supply disincentives, capital misallocation or the inefficiency of revenue collection.
A voter with income $y$ has the following policy utility function, receiving utility from post-tax income and the lump-sum transfer:

$$u((1 - \tau)y + [\tau - \phi(\tau)]\bar{y}) \equiv u(\tau; y), \quad (2)$$

where $u : \mathbb{R} \rightarrow \mathbb{R}$ is a concave-increasing function: $u'(\cdot) > 0, u''(\cdot) < 0$ and $u(0) = 0$. Tax rates have two effects on voter utility: redistribution of income and a (disincentive) cost to increasing taxation.

Given preferences are strictly concave in $\tau$, they are single-peaked. We can identify the ideal policy of a voter with income $y$ as:

$$\tau(y) = \max \left\{ (\phi')^{-1}\left(1 - \frac{y}{\bar{y}}\right), 0 \right\}. \quad (3)$$

As in Romer-Meltzer-Richard, rich voters prefer lower tax rates/less redistribution:

$$\frac{d\tau(y)}{dy} = -\frac{1}{\phi''(\tau)\bar{y}} < 0. \quad (4)$$

Given $y > 0$, the cost of taxation ensures that no individual has a preferred tax rate of $\tau = 1$. All $y > \bar{y}$ prefer $\tau = 0$. The voter with median income $y_m$ desires $\tau(y_m)$.

2.1.2 Political parties: platforms and delegation

The political environment centers on three political parties: left, middle and right. These parties, denoted $p \in \mathcal{P} \equiv \{l, m, r\}$, are defined by income $y_l < y_m < y_r$, where for simplicity $y_m$ is also the median’s income. The model applies to large parties who could form a government or affect coalition policy. It is assumed that achieving office is purely instrumental to the implementation of desirable policies.\(^2\) A party $p$ receives utility

\(^2\)Downs’s (1957) office “rents” $W > 0$ could easily be added to the model. As $W \rightarrow \infty$, we approach median voter convergence, although the central insights of this model are unaffected: see Wittman (1983)
\(u(\tau; y_p)\), identical to a voter with income \(y_p\) as in equation (1). I interpret \(y_p\) as the exogenous focal member of party \(p\) (its leader, bargained center or median member), such that a party’s strategy (defined below) is chosen to maximize \(\mathbb{E}[u(\tau; y_p)]\). I assume \(p\)’s ideal policy \(\tau(y_p)\) is sufficiently far from the median’s ideal policy \(\tau(y_m)\) for \(u(\tau; y_p)\) to be concave-increasing in \(\tau\) for \(y_p < y_m\) and concave-decreasing for \(y_p > y_m\) in every equilibrium.

Although parties have a focal policy preference \(\tau(y_p)\), they are internally heterogeneous in that every member \(j\) of party \(p\) has a different ideal policy \(\tau(y_{jp})\). The distribution of member types \(y_{jp}\) for every party \(p\) is fixed with continuous cumulative distribution function \(G_p(y)\) with positive support on \(Y_p\). Empirically, there is considerable historical evidence to support the existence of preference-based factionalism (e.g. Aldrich 1995; Cohen et al. 2008; Kitschelt 1994; Lowndes 2008; Roemer 2001). Party membership is exogenous; see McGann (2002) for endogenous sorting into political parties.

A strategy (platform) for party \(p\) in state \(d_p \in \{D, N\}\) is a probability density function \(h^{d_p}_p : [0, 1] \rightarrow [0, 1]\) over the tax rate \(\tau\) such that \(\int_0^1 h^{d_p}_p(\tau) d\tau = 1\). \(h^{d_p}_p(\tau)\) represents the probability attached to rate \(\tau\) by \(p\)’s platform. Strategies may vary across delegation (\(d_p = D\)) and non-delegation (\(d_p = N\)) states (see below) such that a contingent plan for \(p\) is \(h_p(\tau) = (h^D_p(\tau), h^N_p(\tau))\). There are two types of strategy:

**Definition 1.** A platform \(h^{d_p}_p : [0, 1] \rightarrow [0, 1]\) is unambiguous (pure strategy) if it is a degenerate probability distribution. A platform \(h^{d_p}_p : [0, 1] \rightarrow [0, 1]\) is ambiguous (mixed strategy) if it places positive probability on an interval \([\tau_p, \bar{\tau}_p]\) \(\subseteq [0, 1]\) of its domain.

The party strategy profile is \(h(\tau) = \{h_p(\tau)\}_{p \in \mathcal{P}}\).\(^\text{3}\)

---

\(^\text{3}\)Some theorists have argued that incumbency affects how parties convey their messages (Alesina and Cukierman 1990; Shepsle 1972). Although incumbency effects are plausible, it is unclear in which direction they should work—this uncertainty is borne out in the empirical analysis here. Moreover, changing
For analytical tractability, ambiguous platform parties are restricted to using a uniform distribution. Hence, party $p$ chooses $h_p^N(\tau) \sim \mathcal{U}(\underline{\tau}_p, \overline{\tau}_p)$ where $\underline{\tau}_p$ and $\overline{\tau}_p$ are the uniform distribution’s lower and upper limits. The uniformity assumption does not drive the implications and comparative statics of the model (only the particular solution), while permitting clear analysis of the model.\footnote{If parties could choose any distribution, they would place almost all weight on a policy arbitrarily close to their pure strategy position. Since parties are forced to place positive probability on $\tau(y_m)$ when $d_p = N$, the uniformity assumption exaggerates the ambiguity result by forcing equal probability mass on all points between the limits. The uniformity assumption—or imposing distribution continuous over $[\underline{\tau}_p, \overline{\tau}_p]$—is reasonable where parties cannot offer several sharply different policies (e.g. either an income tax rate of 20% or 40%), but rather a range of policies (e.g. the tax rate could equally be anywhere between 20% and 40%). The continuous best response would similarly spike close to the pure strategy equilibrium.} The uniform distribution gives an intuitive and precise meaning to platform ambiguity in the model:

**Definition 2.** The (extent of) ambiguity of $p$’s platform is the length of the interval $[\underline{\tau}_p, \overline{\tau}_p]$.

Party members endogenously determine whether a party uses an unambiguous or ambiguous platform by simultaneously choosing whether to delegate complete platform control to a single “leader” representing income type $y_p$ or retain partial control of the party’s message to the electorate. Since all actors (voters, parties and party-members) are risk-averse, given the concavity of $u(\tau; y)$, a leader with complete control will always choose an unambiguous platform because this will increase their expected utility (by reducing policy outcome uncertainty) and increase their probability of being selected by voters or coalition partners (by reducing policy uncertainty for voters). Thus, unlike Alesina and Cukierman (1990), Aragones and Neeman (2000) and Shepsle (1972), there is no political value to being ambiguous for any leader. However, only if party members cede platform control to a leader ($d_p = D$) can such an unambiguous strategy be used.

If a party does not cede complete control to a leader ($d_p = N$), its platform is constrained (see also McGann 2002; Roemer 1998, 2001). In particular, $p$ must assign positive
probability to the policy preferred by the median voter \( \tau(y_m) \), who for simplicity is assumed to be at the extreme of a party’s distribution \( G_p(y) \).\(^5\) A leader of type \( y_p \) chooses the mixed strategy \( h_p^N(\tau) \) for their party, but is constrained to include \( \tau(y_m) \) in its interval \([\tau_p, \tau_p] \) assigned positive probability.

This restriction reflects the idea that parties cannot prevent their most centrist members from communicating with the electorate. Following the logic of Ansolabehere, Leblanc and Snyder (2012), candidates that are low on the party list have an incentive to make centrist statements in order to maximize their probability of election. On the other hand, non-centrist extreme members are assumed to be willing to stay silent to benefit the party (in equilibrium positive probability will be placed on positions closer to their ideal point than with an unambiguous strategy). When constrained in this way, parties use ambiguity to move policy to their preferred pure strategy in expectation; this is closer to their ideal point \( \tau(y_p) \) than \( \tau(y_m) \).

Potentially overwhelming the electoral benefits of an unambiguous platform for member \( j \) of party \( p \) is the cost of delegating control \( c_p(|y_p - y_jp|) \), where \( c_p'(\cdot) > 0 \), \( c_p''(\cdot) > 0 \) and \( c_p(0) = 0 \). This convex cost could come from party alienation or conflicts with local interests (constituents, business or primary election claims). A strategy for member \( j \) is to choose whether to delegate \( d(\cdot; y_p, y_jp) : [0,1]^{\vert P \vert} \mapsto \{0,1\}; j \) delegates power to a leader of type \( y_p \), \( d(h(\tau); y_p, y_jp) = 1 \), if the difference in expected utility from playing an unambiguous platform \( h_p^D(\tau) \) relative to an ambiguous platform \( h_p^N(\tau) \) exceeds the cost of ceding control:

\[
\mathbb{E}
\left[
\frac{

u(h_p^D(\tau), h_{-p}(\tau); y_jp)
- u(h_p^N(\tau), h_{-p}(\tau); y_jp)
}{\begin{array}{c}
\quad
\end{array}}
\right]
\geq c_p(|y_p - y_jp|) \quad (5)
\]

A delegation profile is \( d(h(\tau)) = \{d(h(\tau); y_p, y_jp)\}_{j \in \gamma_p \atop p \in \|P\|}; I \) assume party members

\(^5\)This could be relaxed to require positive weight on any position more centrist point than the pure strategy/delegation equilibrium policy.
use weakly undominated strategies. The equilibrium platforms $\tau^*_p$ and $h^*_p(\tau)$ will depend upon $y_p, y_{-p}$ and $G_p(y)$. A quorum—proportion $n \in (0, 1]$ of party members—must agree to delegate power before a leader can choose an unambiguous platform. Thus, party $p$ delegates power to its leader if:

$$1 - \left[ G_p(y_{_{-p}}) + [1 - G_p(\bar{y}_p)] \right] \geq n,$$

where $y_{_{-p}} < y_p$ and $\bar{y}_p > y_p$ are income thresholds (that are endogenously determined) below and above which members would not delegate power to a leader because the cost is too high. This model of delegating power to leadership is very simple—it serves to motivate the paper’s central concern with how ambiguity is used when parties use ambiguous platforms. The paper’s results and empirical analysis will focus on the case where all parties are sufficiently internally heterogeneous to use ambiguous platforms.

Throughout, this paper will assume that in choosing a platform, a party $p$ is committing to $h_p(\tau)$ in the sense that this distribution fully constrains $p$’s policy options if $p$ enters office. The details of this commitment are introduced with the institutional environment below. Since platforms represent commitments, the final policy outcome is an independent draw from the winning probability distribution(s).

---

Although Fiorina (1997) finds evidence that parties in the USA generally stay true to their campaign claims and lab experiments have shown that voters wish to punish policy inconsistency (Allgeier et al. 1979; Sigelman and Sigelman 1986; Tomz and Van Houweling 2009), the problems of credible commitment and time-inconsistency have become a key focus in institutional analysis (e.g. Alesina 1988; Iversen and Soskice 2006). Without commitment, rational voters would glean nothing from pre-electoral politics as they recognize that parties are not bound by their pre-election policy platforms once in office. Alesina (1988) rationalizes policy commitment in terms of repeated games; more generally, reputation-based arguments are used to justify this assumption. Nevertheless, it should be noted that voters punishing their preferred candidate in future may not be credible (Aragonès and Postlewaite 2002). A further issue is whether voters can identify cases where parties renege on their promises, especially when parties are ambiguous.
2.2 Post-election bargaining in PR systems

The analysis of PR systems abstracts from the voting stage to present a simple logic based on post-election coalition formation. The post-election bargaining game \( \Gamma_B \) is similar to Baron (1993) where legislative districts get differential benefits from a public good, and a legislative majority must determine the level of its provision.

Given the party platform profile \( h(\tau) = \{h_p(\tau)\}_{p \in \{l,m,r\}} \), voting takes place. Seats in the legislature are allocated in proportion to a party’s vote share \( s_p \). We analyze only the non-trivial—and empirically common—case where no party wins a majority of the seats. A party’s seat share varies with the degree of income inequality in the economy.

However, characterizing changes in the income distribution is challenging. This is because particular changes do not easily map to measures of inequality, while it is difficult to parse changes in policies due to \( F(y) \) from changes in the median voter and mean income in the model.\(^7\) To make the theoretical implications clear and keep the model tractable, increasing income inequality is defined as a mean and median preserving spread (MMPS):

**Definition 3.** A voter MMPS adds \( \varepsilon > 0 \) to all voters with income \( y > y_m \) and subtracts \( \varepsilon \) from all voters with income \( y < y_m \); party incomes \( y_p, \forall p \in \mathcal{P} \) are held fixed.

By definition, a MMPS does not affect median income \( y_m \) and leaves mean income \( \bar{y} \) unchanged. However, a MMPS increases the variance \( \text{Var}[Y] \) and Gini coefficient of every distribution \( F(y) \):

**Lemma 1.** A MMPS of \( F(y) \) increases \( \text{Var}[Y] \) and associated Gini coefficient.

\(^7\)A MMPS provides clearer effects than a mean-preserving spread, since most distributions \( F(y) \) cannot hold \( y_m \) constant and consequently incorporate two effects: the strategic effect on the extreme limits of \( h_p^N(\tau) \) examined above, but also a recalibration of the centrist limit \( \tau(y_m) \). Another possibility is a median-preserving spread. However, the results for such a measure reverse a mean-preserving spread because a median-preserving spread increases \( \sigma^2 \) partly by increasing \( \bar{y} \).
A larger spread is characterized by a larger \( \varepsilon \). A MMPS broadly captures the idea that countries may have similar levels of wealth, but vary in their dispersion of income. For example, France and Sweden have broadly similar GDP per capita, but Sweden has much less income inequality by any measure.

Specifically, the model assumes that \( p \)'s seat share \( s_p(\varepsilon) \in (0, 1/2) \) is stochastic (reflecting a valence term from a distribution known to all parties), continuous in \( \varepsilon \), increasing in \( \varepsilon \) for party \( l \), unaffected by \( \varepsilon \) for party \( m \), and decreasing in \( \varepsilon \) for party \( r \): \( s'_l(\varepsilon) > 0 \), \( s'_m(\varepsilon) = 0 \) and \( s'_r(\varepsilon) < 0 \). Informally, the right party \( r \) loses (gains) votes to the left party \( l \) as the income distribution disperses (concentrates) under a MMPS. This is intuitive given party ideal points \( \tau(y_p) \) are sufficiently fixed that party policies remain ordered such that \( \mathbb{E}[\tau_l] < \mathbb{E}[\tau_m] < \mathbb{E}[\tau_r] \) (since parties only care about policy, not winning the election). Given diminishing marginal utility from post-tax income, tax-benefit policy matters relatively more (less) than valence issues affecting all voters equally for poor (rich) voters after a MMPS. Whether party \( m \) or \( r \) loses more votes to \( l \) after a MMPS depends on the policies of the two parties and income distribution. While simplifying the model, these assumptions fit with policy-oriented parties endogenously repositioning.\(^8\)

This simplifying assumption allows the PR model to focus on post-election bargaining incentives. Empirical support for the assumed association between income inequality and vote shares is provided below.

In order to form a winning coalition, a majority coalition must form in the legislature. Coalition formation follows an infinitely repeated bargaining game with impatience, employing important features from Rubinstein (1982), Baron and Ferejohn (1989) and Baron (1993). Denote by \( \mathcal{H}_t \) the set of complete histories of play up to round \( t \)

\(^8\)The reduced form seat share is simplifying because seats do not depend upon the party platform profile. Letting \( s_p \) depend upon \( h(\tau) \) would act as a counterveiling strategic force on \( s_p \), but the overall effect of \( \varepsilon \) is robust since parties care only about policy outcomes. If parties care about office, the incentive to implement policy close to \( \tau(y_p) \) should overpower the incentive to win office. This ensures party \( m \) would not wish to outflank either \( l \) or \( r \) because it cares about policy.
in the bargaining game; a particular history is $H_t \in \mathcal{H}_t$. Starting at round $t = 0$, a formateur $f$ is chosen with probability $q_p(s_p) > 0$ such that $\sum_{p \in \mathcal{P}} q_p(s_p) = 1$, where $q'_p(s_p) > 0, \forall p$. Diermeier and Merlo (2004) provide empirical support for the claim that formateur probability is increasing in seat share. The formateur $f$ then proposes a coalition $K_{ft}(h(\tau), H_t) \in \mathcal{K} \equiv \{l, lm, lr, lmr, m, mr, r\}$ from the full set of possible coalitions, where $K_{ft} : [0,1]^3 \times \mathcal{H}_t \mapsto \mathcal{K}$ maps $h(\tau)$ and the complete history of play $H_t$ to the set of coalitions $\mathcal{K}$. There will be no incentive to form a grand coalition $lmr$ in equilibrium, so this possibility is ignored.

The defining feature of coalition $K_{ft}(h(\tau), H_t)$ is that the coalition’s policy is a weighted sum of the platforms of its members. Where an ambiguous platform is included in the winning coalition, the coalition’s policy is also ambiguous (a probability distribution). More precisely,

$$h(K_{ft} = fp) = \gamma h_f(\tau) + (1 - \gamma) h_p(\tau)$$

where $\gamma \in (0,1)$ is the weight attached to the formateur’s platform. Accordingly, pre-election platforms serve as commitments that affect policy outcomes and thus the set of coalitions that will form in equilibrium. Parties therefore use ambiguity to move policy toward their ideal point in expectation, but are constrained by making themselves sufficiently attractive coalition partners.

Parties then vote $v_p(K_{fi}) \in \{0,1\}$ over coalition proposal $K_{fi}$, where $v_p(K_{fi}) = 1$ denotes accepting the proposal. A voting profile is thus $v(K_{fi}) = \{v_p(K_{fi})\}_{p \in \{l,m,r\}}$, and voting is a mapping $v_p : [0,1]^3 \times \mathcal{K} \times \mathcal{H}_t \mapsto \{0,1\}$ from policy platforms, coalition proposal and complete prior history to a party’s vote. I assume parties restrict attention to weakly undominated voting strategies. If a majority approves $K_{fi}$ then the bargaining game ends and the policy outcome is a random draw from $h(K_{fi})$. If a majority
rejects $K_{ft}$, the bargaining process repeats starting in round $t = 1$ where each party is recognized with probability $q_p(s_p)$. Parties discount across bargaining rounds by factor $\beta \in (0, 1)$. Note that each round of the legislative bargaining subgame is structurally equivalent.

The dynamic structure of $\Gamma_B$ is summarized as:

1. Each member in party $p$ simultaneously makes a delegation choice $d(h_p(\tau); y_p, y_{jp})$ to maximize their expected utility.

2. Parties $p \in \{l, m, r\}$ simultaneously choose a platform $h^D_p(\tau)$ or $h^N_p(\tau)$.

3. Elections stochastically allocate seats to parties according to $s_p(\epsilon)$.

4. If no party has a seat majority, policy follows an infinitely repeated bargaining game with rounds $t = 0, 1, \ldots$:
   (a) At round $t$ a formateur $f_t$ is chosen according to recognition probabilities $q_p(s_p)$.
   (b) The formateur $f_t$ proposes coalition $K_{ft}(h(\tau), H_t) \in \{l, lm, lr, lmr, m, mr, r\}$ with associated policy distribution $\tau(K_{ft})$.
   (c) Parties then vote $v_p(K_{ft}) \in \{0, 1\}$ whether to accept coalition $K_{ft}$. If a seat-majority of parties approve $K_{ft}$, the bargaining game ends and we proceed to stage 5. If a seat-majority of parties does not approve $K_{ft}$, we return to stage a) of the bargaining game, at discounting cost $\beta \in (0, 1)$.

5. Once a coalition is agreed, policy is drawn from the distribution $h(K_{wt})$ of winning coalition $K_{wt}$.

We search for a SPNE $\sigma^*_B = (d^*(h(\tau)), h^*(\tau), K^*(h^*(\tau), H), v^*(K^*))$ to game $\Gamma_B$. 

15
2.3 Stationary equilibrium and comparative statics

Given the wide range of potentially complex punishment strategies available to support a variety of SPNEs, I focus on stationary SPNE. A SPNE is stationary if the continuation values $V_p(h(\tau))$ for each structurally equivalent subgame of stage 4 are the same. Accordingly, the subscript $t$ can be dropped as stationary strategies do not condition on $H_t$. This refinement is common in bargaining games of this type (e.g. Baron and Ferejohn 1989; Rubinstein 1982). We now seek to identify a no delegation stationary SPNE; since $m$ will play an unambiguous strategy in either state, we need only consider $d_p = N, \forall p = l, r$. When $d_p = D$, an unambiguous strategy is dominant.

If $f$ is the formateur, party $p \neq f$ will accept coalition proposal $K_f$ only if:

$$\mathbb{E}[u(\tau, y_p)|h(K_f)] \geq \beta V_p(h(\tau)),$$

where $\mathbb{E}[u(\tau, y_p)|h(K_f)] = \int_0^1 u(\tau, y_p)h(K_f)d\tau$ is $p$’s expected utility under coalition $K_f$ and $V_p(h(\tau))$ is $p$’s continuation value defined as:

$$V_p(h(\tau)) = q_l(\varepsilon)\mathbb{E}[u_{p,l}] + q_r(\varepsilon)\mathbb{E}[u_{p,r}] + [1 - q_l(\varepsilon) - q_r(\varepsilon)]\mathbb{E}[u_{p,m}]$$

where $\mathbb{E}[u_{p,f}] \equiv \mathbb{E}[u(\tau, y_p)|h(K_f)]$ and $q_p(s_p(\varepsilon)) \equiv q_p(\varepsilon)$ are short-hand. The continuation value $V_p(h(\tau))$ is a measure of $p$’s bargaining power, which increases in the probability of being chosen as formateur $q_p(\varepsilon)$.

Now consider which coalitions will be proposed. Given parties care about policy, $\mathbb{E}[\tau_l] < \mathbb{E}[\tau_m] < \mathbb{E}[\tau_r]$, $l$ and $r$ will seek to gain the support of only $m$—otherwise $h(K_l)$ and $h(K_r)$ would further depart from their policy preferences. Furthermore, for sufficiently high $\beta$, neither $l$ nor $r$ can successfully propose a coalition containing only their own probability distribution as they must compete for $m$’s support and satisfy
equation (8). As in Baron (1993), m occupies a privileged median position:

**Lemma 2.** When \( f = m \), m proposes \( K_m = m \); l and r both accept.

Lemma 2 ensures that m always implement its ideal point as a minority government.

In bargaining games with complete information, agreement will be reached in the first round. It is clear from Lemma 2 that m will exploit its privileged center position and choose a degenerate probability distribution placing all mass on \( \tau(y_m) \). Caillaud and Tirole (1999) provide an alternative model justifying complete delegation in centrist parties. Realizing this, l and r will choose \( \tau_l \) and \( \tau_r \) such that when selected as formateur equation (8) binds for m, thereby minimizing their policy concessions to gain m’s support. Solving the indifference conditions simultaneously yields:

**Proposition 1.** The unique stationary SPNE \( \sigma_B^* \) of the game \( \Gamma_B \) where \( d_p^* = N, \forall p = l, r \) is defined by:

1. Policy platforms where \( h_i^N(\tau) \sim \mathcal{U}(\tau(y_m), \tau_i^*) \); \( h_m^N(\tau) = h_m^D(\tau) = \tau(y_m) \) and \( h_r^N(\tau) \sim \mathcal{U}(\tau_r^*, \tau(y_m)) \), such that \( \int u(\tau; y_m)h(K_{lm})d\tau = \gamma \int u(\tau; y_m)h(K_{rm})d\tau = \nabla \) where:

\[
\nabla = \frac{u(\tau(y_m); y_m)\left[\gamma(1 - \beta(q_l(\epsilon) + q_r(\epsilon))) - (1 - \beta)\right]}{\gamma[1 - \beta(q_l(\epsilon) + q_r(\epsilon))]} \tag{10}
\]

2. Coalition proposals \( K_l = lm, K_m = m \) and \( K_r = mr \).

3. Legislative voting is such that: \( v_m(K_f) = 1, \forall f \); and \( v_{p'}(K_{p'}) = 1, v_{p'}(K_{-p'}) = 0 \), and \( v_{p'}(K_m) = 1, \forall p' = l, r \).

Proposition 1 says that the formateur will always successfully propose a winning coalition. While m may form a minority government with the support of at least one other party, both l and r must include m in a winning coalition and provide policy benefits
of value $\bar{V}$ to ensure $m$ prefers to accept the offer than wait for another formateur to emerge.

Importantly for testing the model in the data, this proposition yields clear comparative statics predictions for an increase in income inequality holding mean and median incomes constant:

**Proposition 2.** Consider a MMPS, $\varepsilon$. In the stationary SPNE $\sigma^*_B$ of $\Gamma_B$ where $d^*_p = N, \forall p$, an increase in $\varepsilon$ increases $\tau^*_l$ and $\tau^*_r$.

Thus, a MMPS of voter incomes increases the ambiguity of party $l$ and decreases the ambiguity of party $r$, leaving $m$ unchanged. Intuitively, greater income inequality increases the vote and seat share of the left party, and thus their probability of being recognized as the formateur. Being the formateur increases a party’s bargaining power once chosen and in terms of the continuation game, and its increased bargaining power allows the left party to move policy away from the party with centrist preferences.

### 3 Empirical analysis

I now examine some of the comparative static implications of the formal models in the lower legislative houses of 14 advanced European PR democracies in 1999, 2002, 2006 and 2010.\(^9\) Fitting with the theoretical analysis, I restrict my analysis to examine the three largest parties.

#### 3.1 Hypotheses

The formal model suggests many testable implications. I focus on the following central hypotheses, which pertain where all parties employ ambiguous platforms in equilib-

---
\(^9\)These countries are: Austria, Belgium, Denmark, Finland, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, and Sweden.
H1 Income inequality increases the party platform ambiguity of left parties.

H2 Income inequality decreases the party platform ambiguity of right parties.

H3 Left parties are less ambiguous than right parties when income inequality is low.

The first two hypotheses capture the headline linear implication in Proposition 1. The third hypothesis follows because the convex disincentive cost of increasing taxation, which makes it costly for a left party to deviate from the median because this entails increasing \( \tau \), is a bigger driver with low income inequality as the concavity of utility effect is similar across voter. While H1 and H2 with how the marginal effect of income inequality varies with party ideology (i.e. a slope), H3 is concerned with the relative level for different parties.

3.2 Data

3.2.1 Dependent variable: platform ambiguity

In Section 2 platform ambiguity was defined as the support, \( \bar{\tau}_p - \underline{\tau}_p \), of the uniform distribution \( h^N_p(\tau) \) proposed by party \( p \). Quantifying such ambiguity is difficult because it is ultimately observed by the beholder. Previous empirical research, which has predominantly focused on the U.S., has used variants of voter perceptions to quantify uncertainty over party platforms. While Alvarez and Franklin (1994) used surveys asking voters to quantify their uncertainty over what parties stand for, Bartels (1996) and Berinsky and Lewis (2007) employed measures based on the probability that a respondent answered “don’t know” when asked to place a party on a standard policy scale; others have used the standard deviation of voter responses (Campbell 1983). Since this paper focuses on
incentives for parties and assumes voters are perfectly informed, I require a measures abstracting from voter perceptions.

Such attempts to quantify policy uncertainty face several measurement problems. Alvarez and Franklin’s (1994) direct approach suffers from a limited number of surveys employing the relevant questions. Bartels (1986) points out that standard deviations may over or understate ambiguity if voters are decisive about incorrect placements or indecisive about correct placements of parties. Berinsky and Lewis (2007) re-examine Bartels (1986) finding opposing results. Beyond measurement, Tomz and Van Houweling (2009) identify three sources of endogeneity in voter perceptions. First, voters are often attentive to their favored politicians and relatively inattentive to other parties. Second, voters may convince themselves their favored candidate is less ambiguous than they are. Finally, politicians may make different statements to different audiences.

This paper instead uses expert surveys. Like voter surveys, experts are asked to place a party on a policy scale. Unlike voters, experts are assumed to be able to “access and process diverse sources of information” about contemporary politics and political parties in their country of expertise (Hooghe et al. 2010: 689). Clearly expert surveys are not perfect (see Benoit and Laver 2006; Hooghe et al. 2010), but averaging across well-informed experts should reduce the potential biases afflicting voter perception-based measures and abstract from voter perceptions. Furthermore, only if the dependent variable suffers from systematic bias will coefficient estimates be biased. As argued above, such bias is likely to be lower among political experts than voters.

This paper uses four expert survey waves from the Chapel Hill Expert Survey Series project examining the attitudes of political parties in Western (and more recently Eastern) Europe toward European integration (Bakker et al. forthcoming; Hooghe et al. 2010; Steenbergen and Marks 2007). The surveys include questions about party left-right ide-

---

10The Comparative Manifesto Project does not yet provide a measure of platform position uncertainty.
ology and economic policy. The data required to construct measures of ambiguity was only available for the surveys conducted in 1999, 2002, 2006 and 2010. These surveys asked 10.4 experts, on average, from each country to place political parties on an integer scale ranging from 0 to 10; the number of experts ranges from 5 to 18—the distribution is shown in Figure 1.\footnote{The experts used here are professional researchers who have published on political parties in their country of expertise, excluding graduate students, journalists and party officials; response rates were c.40\% (Hooghe et al. 2010). Experts were asked to ignore questions they were unfamiliar with.} Although the relatively small number of experts evaluating parties is an unavoidable concern, we can control for the number of experts evaluating a party; the results are also robust to weighting observations by the number of experts.

The main survey question of interest for this analysis is:\footnote{This question is taken from the 2002 survey and differs very slightly in wording, but not substance, from the other surveys.}

*Political scientists often classify parties in terms of their ideological stance on economic issues. Parties to the right emphasise a reduced economic role for government. They want privatization, lower taxes, less regulation, reduced government spending and a leaner welfare state. Parties to the left want government to play an active role in the economy. Using these criteria, indicate where parties are located in terms of*
their economic ideology.

This question closely resembles the redistributive fiscal policy underpinning the theoretical model driving this paper. As a robustness check, I also examine a general measure of left-right ideology.

Expert responses produce a dependent variable measuring party platform ambiguity: the standard deviation of economic policy expert party placements, *Fiscal ambiguity*. Larger standard deviations denote greater policy ambiguity. Appendix 2 provides definitions for all variables used in the analysis, while Table 1 provides descriptive statistics.

Table 1: Summary statistics

<table>
<thead>
<tr>
<th></th>
<th>Observations</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiscal ambiguity</td>
<td>132</td>
<td>1.08</td>
<td>0.42</td>
<td>0.30</td>
<td>3.21</td>
</tr>
<tr>
<td>Market inequality</td>
<td>132</td>
<td>46.35</td>
<td>6.15</td>
<td>37.49</td>
<td>64.31</td>
</tr>
<tr>
<td>Fiscal ideology</td>
<td>132</td>
<td>5.41</td>
<td>1.99</td>
<td>0.09</td>
<td>8.63</td>
</tr>
<tr>
<td>Incumbent</td>
<td>132</td>
<td>0.52</td>
<td>0.50</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Competitiveness</td>
<td>132</td>
<td>10.75</td>
<td>10.98</td>
<td>0</td>
<td>40.1</td>
</tr>
<tr>
<td>Vote share</td>
<td>132</td>
<td>23.83</td>
<td>11.04</td>
<td>3.77</td>
<td>45.7</td>
</tr>
<tr>
<td>Years until next election</td>
<td>132</td>
<td>1.30</td>
<td>1.26</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Next vote share</td>
<td>131</td>
<td>22.79</td>
<td>11.76</td>
<td>4.08</td>
<td>45.7</td>
</tr>
<tr>
<td>Experts</td>
<td>132</td>
<td>10.36</td>
<td>3.16</td>
<td>5</td>
<td>18</td>
</tr>
</tbody>
</table>

3.2.2 Independent variables: market income inequality and party ideology

To test the hypotheses, I also operationalize the main variables identified by the theoretical model: income inequality and party ideology. Operationalizing income inequality is difficult, and almost every measure has been criticized (Atkinson 2003). Despite measurement caveats, I measure *Market inequality* as the Gini coefficient for pre-tax/gross
market household income inequality calculated by (Solt 2009). Market inequality is preferred to net inequality given the theory pertains to heterogeneity in pre-tax income y. An increase in the Gini coefficient approximates an increase in \( \mathbb{V}(Y) \).

To measure party ideology I return to the Chapel Hill expert ratings. I use the mean expert response to define Fiscal ideology over the interval \([0, 10]\), where ten represents the extreme right of the policy dimension. In terms of the model, this captures the mean of

\[
h^N_p(\tau).
\]

Figure 2 plots the relationship between market income inequality and fiscal ambiguity by party ideology. The cross-sectional relationship offers preliminary support for the predictions of the model: the correlation between market income inequality and fiscal ambiguity is most positive for left-wing parties and least positive for right-wing parties. To investigate this relationship more rigorously, I examine now estimate show ambiguity changes with inequality.

### 3.3 Estimation strategy

The data is hierarchical with party observations \( i \) over time \( t \) nested within countries \( j \). Observations are pooled across survey waves to produce a sample of 132 observations. To identify the effects of income inequality on party platform ambiguity I employ a difference-in-differences (DD) design (see e.g. Angrist and Pischke 2008). This approach

---

\(^{13}\)Solt’s (2009) algorithm merges data from the Luxembourg Income Study and United Nations to maximize cross-national comparability. Fortunately, income inequality is measured with greatest precision in advanced nations.

\(^{14}\)Note that market wealth inequality might represent a better fit with the theory, but unfortunately I am not aware of sufficient data for such analysis.

\(^{15}\)At least for the case of a MMPS, the Gini coefficient must increase. More complex changes in the income distribution also affect the Gini coefficient, and thus mapping from the formal model to the data is not always clear. However, the Gini coefficient should provide a reasonable approximation. It is preferred to decile ratios primarily because of greater data availability, but also because theory is interested a measure capturing the full income distribution.

\(^{16}\)Parties are not grouped into families because such families are unable to capture changes over time and incorporate considerable within-group heterogeneity.

23
Figure 2: Scatter plot of the relationship between market income inequality and fiscal ambiguity

uses parties in countries that did not experience substantial changes in inequality as controls to separate trends in fiscal ambiguity from the impact of changes in inequality on parties in countries where changes in inequality were more substantial. Identification requires that in the absence of changes in income inequality, parties in countries where changes in income inequality were substantial would experience parallel trends in fiscal ambiguity to those where income inequality changed less. This “parallel trends” assumption is required for the results to be given a causal interpretation.

The DD empirical strategy therefore identifies the effects of income inequality by exploiting changes in income inequality within countries over time. The hypotheses above pertain to the heterogeneous effects of inequality; to capture this, I interact income inequality with fiscal ideology. More formally, this entails estimating the following
interactive DD equation using OLS:

\[
\text{fiscal ambiguity}_{ijt} = \beta_0 + \beta_1 \text{market inequality}_{jt} + \beta_2 \text{fiscal ideology}_{ijt}
+ \beta_3 (\text{market inequality}_{jt} \times \text{fiscal ideology}_{ijt}) + x_{ijt} \eta + \psi_j + \nu_t + \epsilon_{ijt},
\]

where \(x_{ijt}\) is a vector of controls used to enhance estimation efficiency,\(^{17}\) \(\psi_j\) are country fixed effects, \(\nu_t\) is a survey/year dummy, and \(\epsilon_{ijt}\) is the residual. Given inequality varies at the country level, this is the natural level at which to include unit fixed effects and cluster standard errors. Since there are only 14 countries, (downward) small sample bias is a major concern (e.g. Cameron, Gelbach and Miller 2008). To be conservative, country-clustered standard errors were calculated using a block bootstrap.\(^{19}\)

### 3.4 Results

Table 2 reports the DD estimates using variants of equation (11). Before turning to the interactive models testing the model’s predictions, specification (1) shows no correlation between income inequality and platform ambiguity. While there is a slight negative correlation, this association cannot be distinguished from zero and is relatively small in magnitude. Although right-wing parties appear to be slightly more ambiguous on average, there is no statistical difference. Nevertheless, the lack of a linear relationship could mask heterogeneity across types of political party.

\(^{17}\)Given the lack of previous empirical research there is no obvious set of controls. This paper considers four control variables. First, previous theoretical research (Alesina and Cukierman 1990; Chappell 1994; Shepsle 1972) has identified government incumbency as a potential determinant of platform ambiguity. An indicator—\(Incumbent\)—for whether a party is a member of the governing coalition at the time of the survey measures this effect. Second, political \(\text{Competition}\) is measured with the absolute value of the difference in vote share between a given party and the largest other party in the legislature.\(^{18}\) Large values indicate lack of competition. Third, \(\text{Vote share}\) in the preceding election controls for possible effects of party size. Finally, \(\text{Years until next election}\)—denoting the number of years until the next election (0 if an election was held in the year of the survey)—controls for electoral cycle effects.

\(^{19}\)Specifically, using Stata’s “pairs” resampling of observation clusters (1,000 replications).
Table 2: DD estimates of the effect of market income inequality and party ideology on fiscal ambiguity

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market inequality</td>
<td>-0.002</td>
<td>0.060**</td>
<td>0.000</td>
<td>-0.003</td>
</tr>
<tr>
<td></td>
<td>(0.012)</td>
<td>(0.023)</td>
<td>(0.012)</td>
<td>(0.014)</td>
</tr>
<tr>
<td>Fiscal ideology</td>
<td>0.014</td>
<td>0.514***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.026)</td>
<td>(0.196)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inequality × ideology</td>
<td>-0.011**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.004)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ideology (std)</td>
<td>0.070</td>
<td>1.266**</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.055)</td>
<td>(0.605)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ideology (std)</td>
<td>-0.166**</td>
<td>-0.726</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.071)</td>
<td>(0.447)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inequality × ideology (std)</td>
<td>-0.026*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.014)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inequality × ideology (std)^2</td>
<td>0.013</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.010)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Countries</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Observations</td>
<td>132</td>
<td>132</td>
<td>132</td>
<td>132</td>
</tr>
</tbody>
</table>

Notes: All specifications include country and year fixed effects, and control for incumbency, competitiveness, years until the next election and party vote share at the previous election. All specifications estimated using OLS, with country-block bootstrapped standard errors (1,000 resamples) in parentheses. Fiscal ideology variables standardized in specifications (3)-(4). * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$. 
However, the theoretical model emphasized differential incentives for parties with different ideologies to be ambiguous. Specification (2)—the main specification in this paper—reports the interactive estimates that tests H1-H3. First note that the coefficient on income inequality dramatically increases, indicating the effect is largest for the most extreme left-wing parties (with fiscal ideology scores of 0). At this largest point, a standard deviation increase in market inequality (6.15 Gini points), increases expert ambiguity by 0.3 (almost a standard deviation in fiscal ambiguity). Critically, the presence of a negative linear interaction between fiscal ideology and market income inequality implies that the positive effect of inequality on ambiguity decreases as parties become more right-wing.

This relationship supporting H1 is perhaps clearest in Figure 3, which plots the marginal effect of income inequality on fiscal ambiguity conditional on party fiscal ideology, where dashed lines denote 95% confidence intervals and ticks on the x-axis denote the distribution of observations. Offering weaker support for H2, the predicted effect becomes negative for center-right and right parties (ideologies scores above 5.4), but never quite reaches statistical significance for the most extreme parties in the sample.

Figure 4 shows that for sufficiently low levels of inequality, right-wing parties are more fiscally ambiguous than left parties—and this provides support for H3. This marginal effect is significantly different from zero in the most and least equal PR countries.

So far the empirical analysis has implicitly assumed that all parties engage in incomplete delegation and are similarly heterogeneous. However, in reality there is variation in internal heterogeneity across parties. Centrist parties may be more internally heterogeneous since they often encompass diverse groups. To allow for such heterogeneity I add a quadratic right partisanship term (standardized to mitigate collinearity). Specification (3) suggests that there is an “inverted U”, where centrist parties (now scoring around 0)
Figure 3: Marginal effect of market inequality on fiscal ambiguity

Figure 4: Marginal effect of fiscal ideology on fiscal ambiguity
are most ambiguous. Note that this interpretation relies on experts being equally able to assess all parties—it is possible, albeit unlikely, that experts more accurately place more extreme parties. Specification (4) documents similar interactive effects to specification (2). The insignificant linear effect for market inequality in the interactive models reflects zero effect for centrist parties, but the rescaled interactions are consistent with the results in Figure 3.

### 3.5 Robustness checks

Table 3 shows that the main results from specification (2) in Table 2 are robust to a variety of important robustness checks. First, the key concern with DD strategies is the violation of the parallel. Beyond the time-varying controls already included, specification (1) shows that the results are robust to the inclusion of linear country-specific time trends designed to capture any general trends that differ across countries. This lends support to the causal interpretation of the results.

Second, the results are not being driven by the number of experts or particular observations. Specification (2) indicates that weighting each observation by the number of experts evaluating a party provides similar results, suggesting that the results are not driven by ambiguity and party position estimates based on very few expert judgments. In order to address the concern that particular observations or parties are driving the results, specifications (3) and (4) show that similar results obtain if party fixed effects are used and when the four most extreme values in the tail of each variable included in the regression were winsorized. While winsorizing increased the precision of the estimates, party fixed effects unsurprisingly reduced precision by estimating 40 more coefficients.

Finally, a related dependent variable suggests similar relationships. Using a more general measure of ideology—left-right ideology, also the mean expert response on a

---

20 Controlling for the number of experts produced identical results.
### Table 3: Robustness checks

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OLS</td>
<td>WLS</td>
<td>OLS</td>
<td>OLS</td>
<td>OLS</td>
</tr>
<tr>
<td>Market inequality</td>
<td>0.014</td>
<td>0.055**</td>
<td>0.049</td>
<td>0.059**</td>
<td>0.069</td>
</tr>
<tr>
<td></td>
<td>(0.016)</td>
<td>(0.021)</td>
<td>(0.038)</td>
<td>(0.023)</td>
<td>(0.043)</td>
</tr>
<tr>
<td>Fiscal ideology</td>
<td>0.412***</td>
<td>0.479***</td>
<td>0.334</td>
<td>0.507***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.131)</td>
<td>(0.147)</td>
<td>(0.257)</td>
<td>(0.194)</td>
<td></td>
</tr>
<tr>
<td>Inequality × ideology</td>
<td>-0.008***</td>
<td>-0.010***</td>
<td>-0.009</td>
<td>-0.011**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.003)</td>
<td>(0.003)</td>
<td>(0.006)</td>
<td>(0.004)</td>
<td></td>
</tr>
<tr>
<td>Left-right ideology</td>
<td></td>
<td></td>
<td></td>
<td>0.486</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.344)</td>
<td></td>
</tr>
<tr>
<td>Inequality × LR ideology</td>
<td></td>
<td></td>
<td></td>
<td>-0.010</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.008)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>✓</th>
<th>✓</th>
<th>✓</th>
<th>✓</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Country-specific trends</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Party fixed effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Winsorized</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Countries</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Observations</td>
<td>132</td>
<td>132</td>
<td>132</td>
<td>132</td>
<td>132</td>
</tr>
</tbody>
</table>

Notes: All specifications include country and year fixed effects, and control for incumbency, competitiveness, years until the next election and party vote share at the previous election. All specifications except (3) are estimated with OLS, with country-block bootstrapped standard errors (1,000 resamples) in parentheses. Specification (3) is estimated with WLS, weighting by number of experts; absolute standard errors in parentheses. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$. 
0-10 scale—instead of the fiscal policy-specific measure produced similar estimates to Table 2, specification (5) shows substantively with standard errors that fall just outside conventional statistical standards. Given left-right placement does not exclusively refer to redistributive fiscal policy, it is unsurprising to find that the results are less clear.

### 3.6 Income inequality and party vote share

The model assumed that the seat share of left parties increases with income inequality at the expense of right parties. The strategic mechanisms (or expectations) underpinning the comparative static predictions found above depend upon this assumption. A further test of the model’s applicability examines this assumption.

The following regression examines this relationship in the sample used in Table 2:

\[
\text{next vote share}_{ijt} = \beta_1 \text{market inequality}_{jt} + \beta_2 \text{fiscal ideology}_{ijt} + \beta_3 \left( \text{market inequality}_{jt} \times \text{fiscal ideology}_{ijt} \right) + \psi_j + \nu_t + \epsilon_{ijt},
\]

where \( \text{next vote share}_{ijt} \) is party \( i \)'s vote share in percentage points at the next election after being evaluated by experts at \( t \). All regression are estimated with OLS and block bootstrap standard errors by country.

Consistent with the model’s assumption, Table 4 shows a strong interactive relationship. Paralleling the conditional effects of inequality and ideology on ambiguity, Figure 5 confirms that market income inequality increases the vote share of left and centre-left parties, and decreases the vote share of the furthest right parties (albeit insignificantly). A standard deviation (6.15 Gini points) increase in market inequality raises the vote share of the most extreme left party in the sample (0.09 on the left-right scale) by 10.71 percentage points, while the most extreme right (8.63) party loses 3.95 percentage points. Karabarbounis (2011) provides within-country evidence that changes in inequality map
Table 4: DD estimates of the effect of market inequality and fiscal ideology on vote share at next election

<table>
<thead>
<tr>
<th></th>
<th>Next vote share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market inequality</td>
<td>1.766***</td>
</tr>
<tr>
<td></td>
<td>(0.619)</td>
</tr>
<tr>
<td>Fiscal partisanship</td>
<td>13.451**</td>
</tr>
<tr>
<td></td>
<td>(5.381)</td>
</tr>
<tr>
<td>Fiscal partisanship × Market inequality</td>
<td>-0.279**</td>
</tr>
<tr>
<td></td>
<td>(0.113)</td>
</tr>
<tr>
<td>Countries</td>
<td>14</td>
</tr>
<tr>
<td>Observations</td>
<td>131</td>
</tr>
</tbody>
</table>

Notes: Specification includes country and year fixed effects, and was estimated with OLS with country-block bootstrapped standard errors (1,000 resamples) in parentheses. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$.

to policy changes, although this is harder to evaluate in this model where the policy outcome is itself a random variable.

4 Conclusion

This paper has proposed a new explanation for party platform ambiguity: where policy-motivated parties are not completely flexible in the policies they can present to the electorate, they use ambiguity to move the expected policy outcome toward their ideal point. This logic is applied to redistributive politics, and suggests that income inequality typically increases platform ambiguity, especially for left parties.

Unlike the extant theoretical literature, these predictions are taken to the data. Using expert surveys to reduce systematic bias in measuring platform ambiguity, I find that the key predictions of the theoretical model are consistent with evidence from Western
European democracies using a difference-in-differences empirical design. In particular, there is clear evidence that left-wing political parties increase the ambiguity of their platforms in response to increase in market income inequality.

Although the empirical analysis is limited by its small sample, and requires verification beyond this study, it points to the importance of strategic incentives for political parties to present ambiguous platforms. Given that the extant literature has been focused on explaining the effects of voters becoming more informed, this paper demonstrates that informing voters is more complex. Rather than just being a demand-side problem, political parties can have incentives to present ambiguous policies that may prevent voters from forming clear expectations about a party’s position.
Appendix 1

Proof of Lemma 1. Define income following a MMPS as:

\[ \tilde{y} = \begin{cases} 
  y + \varepsilon & \text{if } y > y_m \\
  y & \text{if } y = y_m \\
  y - \varepsilon & \text{if } y < y_m 
\end{cases} \]  
(13)

Then, using \( \mathbb{E}[\tilde{Y}] = \mathbb{E}[Y] \),

\[
\mathbb{V}[\tilde{Y}] - \mathbb{V}[Y] = \left( \mathbb{E}[\tilde{Y}^2] - (\mathbb{E}[\tilde{Y}])^2 \right) - \left( \mathbb{E}[Y^2] - (\mathbb{E}[Y])^2 \right) 
= \left( \int_0^{y_m} (y - \varepsilon)^2 f(y)dy + \int_{y_m}^{\infty} (y + \varepsilon)^2 f(y)dy \right) - \int_{y_m}^{\infty} y^2 f(y)dy 
= \varepsilon^2 + 2\varepsilon \left( \int_{y_m}^{\infty} y f(y)dy - \int_{y_m}^{y_m} y f(y)dy \right) 
= \varepsilon^2 + 2\varepsilon \left( \mathbb{E}[y|y > y_m] - \mathbb{E}[y|y < y_m] \right) > 0. 
\]

(14)

The Gini coefficient increases because the MMPS Lorenz curve \( \bar{L}(F(x)) \) lies below \( L(F(x)) \) at every income level \( x \in \mathcal{Y} \). For \( x \in (y_m, \infty) \),

\[
\bar{L}(F(x)) - L(F(x)) = \frac{1}{\tilde{y}} \left( \int_0^{y_m} (y - \varepsilon)f(y)dy + \int_{y_m}^{x} (y + \varepsilon)f(y)dy \right) - \frac{1}{\tilde{y}} \int_{y_m}^{x} yf(y)dy 
= \frac{\varepsilon}{\tilde{y}} \left( \int_{y_m}^{x} f(y)dy - \int_{y_m}^{y_m} f(y)dy \right) 
= \frac{\varepsilon}{\tilde{y}} (F(x) - 1) < 0.
\]

(15)
For $x \in (0, y_m]$, 
\[
\tilde{L}(F(x)) - L(F(x)) = \frac{1}{y} \int_0^x (y - \varepsilon) f(y) dy - \frac{1}{y} \int_0^x y f(y) dy \\
= -\frac{\varepsilon}{y} \int_0^x f(y) dy \\
= -\frac{\varepsilon F(x)}{y} < 0. \quad \blacksquare
\] (16)

**Proof:** Lemma 2. See Proposition 6 in Baron (1993) for similar proof. \(\blacksquare\)

**Proof:** Proposition 1. In a stationary equilibrium, $\tau_l^\ast$ and $\tau_r^\ast$ solve:
\[
\begin{align*}
\mathbb{E}[z_{ml}(\tau_l^\ast)] &= \beta \left[ q_l(\varepsilon) \mathbb{E}[z_{ml}(\tau_l^\ast)] + q_r(\varepsilon) \mathbb{E}[z_{mr}(\tau_r^\ast)] + [1 - q_l(\varepsilon) - q_r(\varepsilon)] \mathbb{E}[z_{mm}] \right], \\
\mathbb{E}[z_{mr}(\tau_r^\ast)] &= \beta \left[ q_l(\varepsilon) \mathbb{E}[z_{ml}(\tau_l^\ast)] + q_r(\varepsilon) \mathbb{E}[z_{mr}(\tau_r^\ast)] + [1 - q_l(\varepsilon) - q_r(\varepsilon)] \mathbb{E}[z_{mm}] \right],
\end{align*}
\] (17) (18)

To yield
\[
\mathbb{E}[z_{ml}(\tau_l^\ast)] = \mathbb{E}[z_{mr}(\tau_r^\ast)] \equiv \mathbb{V} = \frac{u(\tau(y_m); y_m) \left[ \gamma [1 - \beta (q_l(\varepsilon) + q_r(\varepsilon))] - (1 - \beta) \right]}{\gamma [1 - \beta (q_l(\varepsilon) - q_r(\varepsilon))]}.
\] (19)

Implicitly define $\tau_l^\ast$ and $\tau_r^\ast$ by noting that they are chosen to give $m$ utility of $\mathbb{V}$ such that
\[
\mathbb{V} - (1 - \gamma) u(\tau(y_m); y_m) = \frac{\gamma}{\tau_l^\ast - \tau(y_m)} \int_{\tau(y_m)}^{\tau_l^\ast} u(\tau; y_m) d\tau = \frac{\gamma}{\tau(y_m) - \tau_r^\ast} \int_{\tau_r^\ast}^{\tau(y_m)} u(\tau; y_m) d\tau. \quad (20)
\]

Equations (17) and (18) ensure that $m$ always votes for a proposal by $l$ or $r$, while $m$ clearly votes for its own policy proposal $h(K_m = m) = \tau(y_m)$ with support from $l$ and $r$ (by Lemma 2). When formateur, $l$ and $r$ vote for their own proposals. When excluded from coalition $K_f$, the vote of $p \neq f, m$ does not affect the outcome; using weakly undominated voting strategies, parties vote sincerely in this case. This ensures a
unique stationary SPNE.

With \( \beta \in (0, 1) \), \( \Gamma_B \) is continuous at infinity. It is easily shown that there exists no single deviation from the above strategies. ■

**Proof: Proposition 2.** \( \overline{V} \) is decreasing in \( q_l \) and \( q_r \):

\[
\frac{\partial \overline{V}}{\partial q_p} = -\beta \gamma (1 - \beta) u(\tau(y_m); y_m) \frac{\partial u(\tau(y_m); y_m)}{\partial \tau} < 0, \quad p = l, r. \tag{21}
\]

Using the chain rule repeatedly,

\[
\frac{\partial \tau^*_l}{\partial \epsilon} = \frac{\partial \tau^*_l}{\partial \overline{V}} \frac{\partial \overline{V}}{\partial q_l} \frac{\partial q_l}{\partial \epsilon} > 0, \tag{22}
\]

\[
\frac{\partial \tau^*_r}{\partial \epsilon} = \frac{\partial \tau^*_r}{\partial \overline{V}} \frac{\partial \overline{V}}{\partial q_r} \frac{\partial q_r}{\partial \epsilon} > 0, \tag{23}
\]

where \( \partial q_p / \partial s_p > 0, p = l, r, \partial s_l / \partial \epsilon > 0 \) and \( \partial s_r / \partial \epsilon > 0 \) are assumptions, and \( \partial \tau^*_l / \partial \overline{V} < 0 \) and \( \partial \tau^*_r / \partial \overline{V} > 0 \) must hold from equation (20) as \( \partial u(\tau(y_m); \tau) / \partial \tau < 0, \forall \tau > \tau(y_m) \) and \( \partial u(\tau; y_m) / \partial \tau > 0, \forall \tau < \tau(y_m) \) by single-peakedness. Putting these signed derivatives together with \( \partial \overline{V} / \partial q_p < 0 \) completes the proof. ■
Appendix 2

Fiscal ambiguity. Standard deviation of expert survey scores (0-10) by political party (Chapel Hill surveys).

Fiscal ideology. Mean expert placement scale score of political parties (Chapel Hill surveys).


Incumbent. Indicator coded 1 where a party is part of the governing coalition (receives cabinet portfolios).

Competitiveness. For the largest party, the absolute value of the difference in vote share between itself and the second-placed party. For the second and third largest parties, the absolute value of the difference between itself and the largest party.

Vote share. Percentage of the vote received by party (not coalition group) in the first round of the most recent national legislative election to the lower house.

Year until next election. Number of years until the next election to the lower house of the legislature. When an election took place in the year a survey was conducted this variable was coded 0.

Next vote share. Vote share, except for at next election.
References


