

The Political Representation of Low-Income Citizens

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Abstract

How do electoral rules affect low-income citizens? How well do the policies of elected governments represent low-income citizens' preferences? When do parties have an incentive to seek the support of the low-income citizens? These questions motivate a larger, broadly comparative empirical study of how legislators' incentives to be responsive to low-income citizens are structured by the rules governing their re-election. In this discussion, I present the theoretical foundations of this project, using a formal-theoretic model of electoral politics, and identifying the conditions under which legislators are most likely to craft policy that is responsive to the poor, and when parties are likely to cultivate a partisan constituency among low-income citizens.

1 Introduction

- How well do the policies of elected governments represent the preferences of the low-income citizens?
- When do parties have an incentive to seek the support of the low-income citizens?

This discussion aims to establish a theoretical foundation for empirical research on relationship between electoral rules and incentives to represent the interests of the low-income citizens. Here, using a simple game-theoretic model of electoral competition, I demonstrate that earlier accounts of redistributive policy that emphasize a stark division between proportional representation (PR) electoral rules and plurality rules (e.g., Iversen & Soskice 2006, Persson & Tabellini 2000)¹ miss the important modifying effect of electoral context on incentives for governments to be responsive to low-income citizens. Persson & Tabellini (2003), for example, make a representative claim:

The winner-takes-all property of plurality rule reduces the minimal coalition of voters needed to win the election, as voter for a party not obtaining plurality are lost. With single-member districts and plurality, a party thus needs only 25% of the national vote to win: 50% in 50% of the districts. Under full proportional representation it needs 50% of the national vote. Politicians are thus induced to internalize the policy benefits for a larger proportion of the population, leading to the prediction of larger broad spending under proportional representation.

As this discussion demonstrates, the relationship between electoral rules and redistributive policy is modified to an important extent by the context in which elections are held. Further, other accounts of redistributive policy that emphasize the role of social democratic parties (e.g. Huber & Stephens 2001) never question the incentive structures which make a political party that relies low-income citizens viable. To this end, I also demonstrate that a party's incentives to represent the preferences of low-income citizens are similarly determined by the interaction of electoral rules and electoral context.

2 A Simple Model of Electoral Politics

Electoral politics can be characterized by a three-stage game: In the first stage, "History" determines the electoral rule governing elections (specifically, the structure of electoral dis-

¹Iversen & Soskice (2006), for example, compare an electoral system in which elections are held in a single national district, and a majoritarian electoral system. In contrast to Iversen & Soskice, I make no assumptions about how electoral rules affect party politics. Iversen & Soskice assume that "majoritarian systems can only sustain two parties in equilibrium." In fact, the issue of when social democratic parties will stand for election is of central importance to this research. It is worth noting, however, that when elections are held under single member district rules (and low-income citizens are evenly distributed across districts), two-party competition arises as a result of the analysis.

tricts), and the political context in which elections are held (here, I mean the extent of turnout bias, and the geographic distribution of citizens). Then, in a second stage, an election campaign is held in which parties propose policies in anticipation of voter decision-making. Finally, in a third stage, elections are held and some citizens vote. In this analysis, voters cast a single (closed party list) ballot, and seats are allocated to parties according to History’s rule. Governments are formed, and the proposed policies of the governing party or coalition are perfectly implemented.²

2.1 Citizens

Following much of the previous literature, suppose that there are three types of citizens, defined by their income: there are *Low-income* citizens, *Middle-income* citizens, and *High-income* citizens .³

$$y_L < y_M < y_H \tag{1}$$

Then, a citizen’s indirect utility function is defined by the following expression,

$$V_j(p_j) = y_j - T_j + B_j = y_j + p_j \tag{2}$$

for types $j \in \{L, M, H\}$, and where y_j reports the earnings income, T_j reports taxes assessed for each citizen type, and B_j reports any benefits that are distributed to citizens of type j . Thus, p_j reports the net benefits of redistributive policy.

Suppose, as well, that there are some factors, exogenous to electoral competition that prevent some citizens from voting, and that low-income citizens feel the effects of these factors more frequently than middle-income and high-income citizens. Thus, let π_j define the proportion of voters of type j in the electorate, and assume that

$$\pi_L < \pi_M < \pi_H \tag{3}$$

in the national electorate, although citizen types exist in equal proportions within the national population.⁴

Citizens may vote strategically. That is, they may vote for the party other than the party that offers their most preferred policy (i.e. by type), in order to ensure a more favorable policy outcome. As we shall see, this ability has important implications for the incentives parties face to be responsive to different types of citizens.

²This discussion is offered as a contribution to the extensive formal and empirical literature on the politics of redistribution. The model presented here builds especially on Iversen & Soskice (2006) – wherever possible, I have maintained their original assumptions – but departs in important ways; these differences are noted along the way. “References” lists other papers that have been especially influential.

³As will become evident, relative (not absolute) poverty is applicable to this research. Thus, in the empirical analysis that follows, ‘low-income citizens’ are defined as those with incomes in the poorest third.

⁴Iversen & Soskice (2006) assume, instead, that “the voting population is equally divided between the three groups.”

2.2 Parties and Election Campaigns

Parties are groups of citizens who together stand for election: party **L**, party **M**, and party **H**. Thus, party utility is defined by Eq. (14). (Assume that there are no costs or benefit to office-holding beyond influence in policymaking.) Parties that expect to hold the majority of seats in the assembly propose their most preferred policy.⁵ Here, policy proposals take the form of vectors, $\mathcal{P} = (p_L, p_M, p_H)$, that describe tax and transfer policies. Proposals are subject to several constraints: First, no group can be taxed at a rate beyond their capacity.

$$T_j \leq y_j \text{ for all } j \quad (4)$$

Also, tax policy must be (weakly) progressive, and redistribution must be (weakly) non-regressive.⁶

$$0 = T_L \leq T_M \leq T_H, \quad (5)$$

$$p_L \geq p_M \geq p_H. \quad (6)$$

Finally, the government's budget must be balanced.

$$\sum_j p_j = 0. \quad (7)$$

Let the policy vectors $\mathcal{P}_j = (p_L, p_M, p_H)$ characterize the policy most preferred by citizens of type j . Then, \mathcal{P}_j for $j \in \{L, M, H\}$ is given by:

$$\mathcal{P}_L = (y_M + y_H, -y_M, -y_H) \quad (8)$$

$$\mathcal{P}_M = \left(\frac{y_H}{2}, \frac{y_H}{2}, -y_H\right)$$

$$\mathcal{P}_H = (0, 0, 0)$$

That is, L would tax M and H at their full capacities, and distribute benefits exclusively among low-income citizens. M would tax the high-income citizens at their capacity, and share the benefits with the low-income citizens. Finally, H prefers that no redistribution occurs.

However, if no party expects to hold the majority of seats, then parties (simultaneously) propose a coalition $\{\mathbf{J}, \mathbf{I}\}$ and a compromise policy $\mathcal{P}_{ji} = k_{ji}\mathcal{P}_j + (1 - k_{ji})\mathcal{P}_i$, with $k_{ji} \in [0, 1]$, and where \mathcal{P}_j and \mathcal{P}_i are the preferred policy vectors described in Eq. (8). The coalition

⁵I assume that parties will be punished for the unnecessary moderation (or electioneering) of their most preferred policies. Suppose, for example, that if a party that can expect to hold the majority of seats, were to campaign on a platform other than their most preferred policy, its less confident supporters would be deterred by this inconsistency, and would vote strategically for another party. Thus, by deviating from type, a party risks losing its electoral basis of support. Relaxing this assumption, however, does not result in more or less generous policy outcomes for low-income citizens.

⁶Note that Iversen & Soskice (2006) assume, instead, that $0 = T_L < T_M < T_H$: they do not allow for the case in which no redistribution occurs.

that secures the support of the majority of the assembly will then implement the policy $\mathcal{P}_{ji} = (p_L^{ji}, p_M^{ji}, p_H^{ji})$. Note that parties may use k_{ji} to induce strategic voting, and attain a better policy outcome. Citizen voting rules, therefore, can be summarized in terms of values of k_{ji} , and are reported in Table 1. Here, the rows identify the proposing party, and the columns report the response of voters. Intuitively, k_j reports the extent to which party j is willing to compromise its policy in order to form a coalition with another party.

2.3 Equilibrium Concept

Suppose that citizens and parties know the distribution of types within the electorate, the policies that will be implemented by the parties and coalitions that form the government, and the electoral rules that govern the distribution of seats within districts. Thus, parties take voter decision-making into account when deciding whether or not to propose an electoral coalition, and which compromise policy to propose. The appropriate equilibrium concept, therefore, is subgame perfection with weakly undominated voting strategies. Subgame perfection implies that the policies proposed by parties are optimal given voter decision-making. Weak dominance requires that voters do not support a party that will implement a policy that is contrary to their interests. In equilibrium, therefore, parties propose a policy that is a best response given citizen voting strategies, and voters support parties according to the proposed policy outcome.

2.4 History's Rule: Three Hypothetical Electoral Systems

Elections are held according to one of the following sets of electoral rules:

Assembly F. (First-Past-the-Post) Nine legislators are elected in 9 single-member districts.

Assembly N. (National District) Nine legislators are elected in a national nine-member district.

Assembly V. (Varying District Size) Four members are elected in a (perhaps urban, denoted U_i) four-member district, 4 members elected in two two-member (suburban, denoted S_{ii}) districts, and one member is elected in a single-member (rural, denoted R) district.

Assume that seats are allocated according to the simple Largest Remainder (Hare Quota) within each district, and under all sets of rules.⁷

⁷This choice of formula is largely inconsequential, but offers the greatest advantage to smaller parties among the largest remainder methods. In the context of this example, then, the Hare Quota is most favorable to the party preferred by low-income citizens. To be clear, seats are allocated in the following way: First, the quota Q_d is calculated as $Q_d = N_d/S_d$, where N_d is the number of voters in district d , and S_d is the number of seats to be allocated in the district. Then, each party P is allocated n_P seats, where

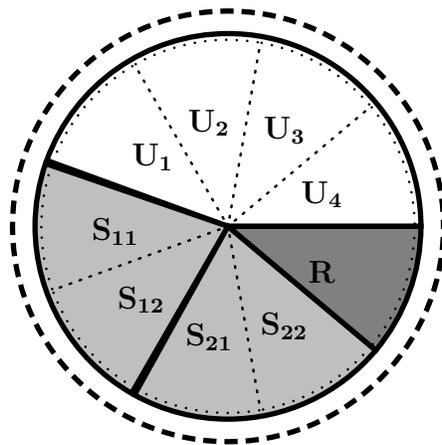
Table 1: Citizen Voting Rules Under Different Compromise Policy Proposals

		Citizen Type		
		H	M	L
	H		if $0 \leq p_M \Rightarrow \mathbf{M}$ if $0 > p_M \Rightarrow \mathbf{H}$	if $\frac{y_H}{2} \leq p_L \Rightarrow \mathbf{L}$ if $\frac{y_H}{2} > p_L \Rightarrow \mathbf{M}$
σ	{H, L}	H	if $k_{HL} = 1 \Rightarrow \mathbf{M}$ if $0 \leq k_{HL} < 1 \Rightarrow \mathbf{H}$	if $0 \leq k_{HL} \leq \frac{2y_M + y_H}{2(y_M + y_H)} \Rightarrow \mathbf{L}$ if $\frac{2y_M + y_H}{2(y_M + y_H)} < k_{HL} \leq 1 \Rightarrow \mathbf{M}$
	{H, M}	H	if $0 \leq k_{HM} \leq 1 \Rightarrow \mathbf{M}$	if $k_{HM} = 0 \Rightarrow \mathbf{L}$ if $0 < k_{HM} \leq 1 \Rightarrow \mathbf{M}$
	{L, M}	H	if $0 \leq k_{LM} \leq \frac{y_H}{2y_M + y_H} \Rightarrow \mathbf{M}$ if $\frac{y_H}{2y_M + y_H} < k_{LM} \leq 1 \Rightarrow \mathbf{H}$	if $0 \leq k_{LM} \leq 1 \Rightarrow \mathbf{L}$

NOTE. This Table reports the criterion under which each type of voter (columns) would support a policy proposal made by each party or legislative coalition (rows). The policy proposals are summarized by $k_{ji} \in [0, 1]$, such that the policy compromise is represented by $\mathcal{P}_{ji} = k_{ji}\mathcal{P}_j + (1 - k_{ji})\mathcal{P}_i$, where \mathcal{P}_j and \mathcal{P}_i are the preferred policy vectors described in Eq. (8).

Note that assemblies F, N and V vary in two dimensions: First, the assemblies vary in the average number of legislators elected in each district. Second, the assemblies differ in the variance of legislators elected across districts.⁸ These dimensions are evident in Figure 1, which summarizes district structures associated with assemblies F (denoted by the interior dotted lines), N (denoted by the exterior dashed line), and V (denoted by the solid lines).

Figure 1: District Structure Under Different Electoral Rules



NOTE. This Figure reports the nested structure of the electoral districts of Assemblies F (denoted by dotted lines), N (denoted by the dashed line), and V (denoted by solid lines). \mathbf{U}_i , $\mathbf{S}_i\mathbf{i}$ and \mathbf{R} denote a legislators elected in urban, suburban, and rural areas, respectively.

2.5 History's Variables: Electoral Context

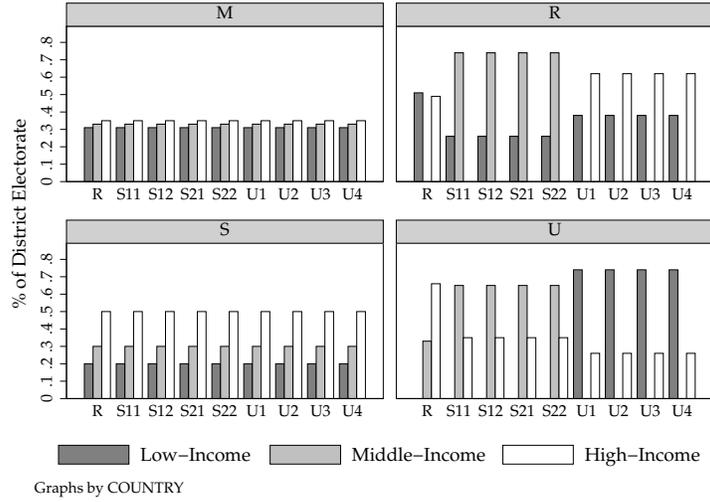
Imagine that the different electoral rules, described above, are applied to several different countries. What features of these countries would affect the ways in which the different rules determine political outcomes? Two features that seem especially important are (1) the composition of the electorate, and (2) the distribution of different types of citizens across electoral districts (see also Rodden 2005). Four archetypal countries might be described in the following ways (see Figure 2):

COUNTRY S. (Severe Turnout Bias). Suppose that factors that influence turnout bias are so significant that high-income citizens are substantially over-represented in

$n_P \leq \frac{V_d^P}{Q_d} \leq n_P + 1$, V_d^P is the number of votes cast in favor party P in district d , and $n_P \in \mathbb{N}$. Finally, any remaining seats are allocated according to the values of the remainder for each party, or $V_d^P - n_P \times Q_d$. Note that when applied to a single member district, the Largest Remainder (Hare Quota) allocation yields the simple plurality rule result.

⁸This research owes much to Monroe & Rose (2002): They argue that there exists a variance effect, such that greater cross-district variance, particularly when combined with low magnitude districts, results in the under-representation of urban interests.

Figure 2: Distribution of Citizen Types



NOTE. This Figure reports the distribution of citizen types across four hypothetical countries: Country M. (Minimal Turnout Bias), Country S. (Severe Turnout Bias), Country R. (Rural Poverty), and Country U. (Urban Poverty).

the electorate. Specifically, let

$$\pi_H = \pi_M + \pi_L + \epsilon, \quad (9)$$

where $\epsilon > 0$. Thus, turnout bias is so substantial that the high-income citizens outnumber all other types in the electorate of every district.

COUNTRY M. (Minimal Turnout Bias). Suppose that the factors associated with turnout bias are less prevalent in Country M. That is, let ϵ denote a very small number such that $\epsilon \rightarrow 0$ as $n_d \rightarrow \infty$, where n_i is the number of voters in district d . Then, consider an electorate in which

$$\pi_H = \frac{1}{1 - \epsilon} \pi_M = \frac{1}{(1 - \epsilon)^2} \pi_L. \quad (10)$$

Thus, when the electorate is sufficiently large, the citizen types comprise approximately equal proportions within the electorate.

COUNTRY R. (Rural Poverty). Suppose that income is correlated with population density, such that, although Eq. (10) characterizes the national population (i.e., although turnout bias remains, citizens types exist in approximately equal proportions in the national electorate), citizen types are concentrated in the different regions in the

following way:

$$\begin{aligned}
\pi_H^U &> \pi_L^U > \pi_M^U = 0 \\
\pi_M^S &> \pi_L^S > \pi_H^S = 0 \\
\pi_L^R &> \pi_H^R > \pi_M^R = 0
\end{aligned}
\tag{11}$$

Thus, the high-income voters are concentrated in urban districts (U), the middle-income voters comprise the largest share of the suburban districts (S), and the low-income voters are the largest part of rural districts (R).

COUNTRY U. (Urban Poverty). Suppose that income is negatively correlated with population density, such that, although Eq. (10) characterizes the national population (i.e., although turnout bias remains, citizens types exist in approximately equal proportions in the national electorate), citizen types are concentrated in the different regions in the following way:

$$\begin{aligned}
\pi_L^U &> \pi_H^U > \pi_M^U = 0 \\
\pi_H^S &> \pi_M^S > \pi_L^S = 0 \\
\pi_M^R &> \pi_H^R > \pi_L^R = 0
\end{aligned}
\tag{12}$$

Thus, low-income voters are concentrated in urban districts (U), high-income voters comprise the largest share of the suburban electorates (S), and the middle-income voters form the largest group in rural districts (R).

Then, using the simple model of electoral politics presented above, this analysis assumes the task of applying different electoral rules to countries that vary in important ways, and evaluating policy outcomes.

3 Policy Outcomes Under the Rules of Assembly F.

COUNTRY S.

Although voters of each type exist in roughly equal proportions in each district, high-income voters outnumber middle- and low-income voters combined. As a result, \mathbf{H} has no incentive to propose anything other than its most preferred policy, $\mathcal{P} = \mathcal{P}_H$. Under the rules of Assembly F, then, \mathbf{H} will win in every district, and no redistribution will occur.

COUNTRY M.

Although voters of each type exist in roughly equal proportions in each district, there are slightly more high-income voters than either middle- or low-income voters. Thus, if all citizens vote by type, \mathbf{H} will win in every district, and implement its most preferred policy,

$\mathcal{P} = \mathcal{P}_H$. Note, however, that L has an incentive to vote strategically: L strictly prefers the policy proposed by \mathbf{M} to that which \mathbf{H} proposes. Therefore, \mathbf{M} will win the election with the support of L , without any compromise in policy, and will implement $\mathcal{P} = \mathcal{P}_M$. This policy outcome cannot be improved by H through strategic voting.⁹

COUNTRY R.

Note that if citizens vote by type, \mathbf{H} will win 4 urban seats, \mathbf{M} will win the 4 suburban seats, and \mathbf{L} will win the rural seat. Thus, no party holds the majority of seats in the assembly, and parties must negotiate a governing coalition and a compromise policy.

For each policy proposal made during the campaign period, voters of each type will evaluate the proposal relative to the policy outcome they can achieve through strategic voting. The lower section of Table 1 summarizes the policy proposals that can be made by each party or coalition in terms of threshold values of k_J , where $J \in \mathbf{H}, \mathbf{M}, \mathbf{L}$, or how the proposer's policy would be weighted in the compromise policy outcome. To determine viable coalitions and policy compromises, then, we need only identify optimal proposals through backwards induction from citizen voting rules and the consequent electoral responses. This analysis can be summarized with the following claims:

- *\mathbf{H} is never a coalition partner.*

To see this, notice that there is no value of k_H that \mathbf{H} can propose to sustain a \mathbf{H}, \mathbf{L} coalition. Any value of $k_H > \frac{2y_M + y_H}{2(y_M + y_H)}$ will not maintain the support of L , who will vote strategically for \mathbf{M} , and any value of $k_H < 1$ will not maintain the support of M , who will vote strategically for \mathbf{H} . Furthermore, any \mathbf{H}, \mathbf{L} proposal weakly dominates any $\{\mathbf{H}, \mathbf{M}\}$ proposal that \mathbf{H} can make: Any $k_H > 0$ will allow \mathbf{M} to form the government, and impose $p_H = -y_H$, which is the same policy that $k_H = 0$ implies.

- *The only sustainable governing coalition is $\{\mathbf{M}, \mathbf{L}\}$.*

Note that \mathbf{L} need only to ensure that its policy proposal maintains the support of M , or that \mathbf{L} must propose $p_M \geq 0$, which corresponds to $k_L \leq \frac{y_H}{y_H + 2y_M}$. Otherwise, M will vote strategically for \mathbf{H} . Similarly, note that L will support any value of k_L that

⁹Suppose, instead that \mathbf{H} can propose a policy that does not encourage L to vote strategically. Specifically, suppose that \mathbf{H} can propose $\mathcal{P} = (\frac{y_H}{2}, 0, -\frac{y_H}{2})$, such that L is indifferent between a government formed by \mathbf{H} , and a government formed by \mathbf{M} . Note that there is no policy that \mathbf{M} can propose that leaves M better off. To see this, suppose that \mathbf{M} and \mathbf{H} were competing for L 's support. Both \mathbf{M} and \mathbf{H} would have to propose $\mathcal{P} = \mathcal{P}_L = (y_H, 0, -y_H)$. As this outcome would leave M no better off, and as there are no benefits derived from office holding beyond the policy outcome, \mathbf{M} has no incentive to make this proposal. Also, H strictly prefers this outcome to what would result from L 's strategic voting: A government formed by \mathbf{M} would impose $p_H^M = -y_H$. Thus, by conceding $-\frac{y_H}{2}$, and preventing P from voting strategically for \mathbf{M} , \mathbf{H} has secured a better policy outcome than what could be achieved otherwise. Therefore, in equilibrium, citizens will vote by type, \mathbf{H} will form the government, and will implement the policy $\mathcal{P} = (\frac{y_H}{2}, 0, -\frac{y_H}{2})$. From the perspective of the low-income citizens, this policy is equivalent to the equilibrium outcome described in the text.

M will propose. Thus, the set of compromise policies is defined by the vector

$$\mathcal{P}_{ML} = \left(\frac{y_H}{2} \leq p_L \leq y_H, 0 \leq p_M \leq \frac{y_H}{2}, -y_H \right). \quad (13)$$

While it may be informative to identify the specific policy outcome resulting from a **{M, L}** coalition under a specific set of rules, or context, this is not possible without further assumptions, nor is it necessary to the task at hand. Therefore, it is sufficient to state that under the rules of Assembly A, elections held in Country 3A will result in a government formed by an **{M, L}** coalition, which will implement the policy described in $\mathcal{P} = \mathcal{P}_{ML}$, or Eq. (13).

COUNTRY U.

Under this different geographic distribution of citizen types, if all citizens vote by type, **L** can expect to win 4 urban seats, **H** will win the 4 suburban seats, and **M** will win the rural seat. As in the case above, no party will hold the majority of seats in the assembly, and parties must negotiate a governing coalition and a compromise policy prior to the election. Again, **H** is not a viable coalition partner for either **M** or **L**. Therefore, an **{M, L}** coalition will form the government and implement the policy $\mathcal{P} = \mathcal{P}_{ML}$.

4 Policy Outcomes Under the Rules of Assembly N.

COUNTRY S.

When turnout bias is substantial, **H** will hold the majority of seats in the legislature, and will implement the high-income voters's most preferred policy, $\mathcal{P} = \mathcal{P}_H$. Neither the middle-income nor the low-income voters can improve this policy outcome through strategic voting.

COUNTRIES M, R, and U.

When the different groups of citizens comprise approximately equal shares of the electorate, the parties can expect to hold equal shares of seats in the assembly: **H**, **M** and **L** will each hold three seats. As was the case under the rules of Assembly F, the voting power of the different groups of citizens can extract concessions from the parties in their policy proposals. And, as was the case above, the only viable coalition is **{M, L}**, which will implement the policy $\mathcal{P} = \mathcal{P}_{ML}$ in equilibrium.

5 Policy Outcomes Under the Rules of Assembly V.

COUNTRY S.

When M and L cannot effectively challenge H , the rules of Assembly C will allow \mathbf{H} to expect to win the majority of seats (suppose, for example, that \mathbf{H} can expect to win 3 urban seats, and at least 2 suburban seats, and one rural seat). As in the other cases in which turnout bias is severe, neither M nor L can improve the policy outcome by voting strategically. Therefore, in equilibrium, \mathbf{H} will form the government and implements its most preferred policy.

COUNTRY M.

Although the turnout bias is less severe, H constitutes a slightly larger share of the electorate in each district, and if citizens vote by type, \mathbf{H} can expect to win 2 of the urban seats, 2 suburban seats, and the rural seat. \mathbf{M} will win 1 urban seat, and 2 suburban seats. \mathbf{L} will win 1 urban seat. Thus, \mathbf{H} can implement $\mathcal{P} = \mathcal{P}_H$ without moderation. However, L can improve this outcome by voting strategically for \mathbf{M} . Note that \mathbf{M} can be assured of L 's support, without any moderation of M 's preferred policy.

COUNTRY R.

Under the a fairly equitable distribution of types within each district that meets the criterion listed in (11),¹⁰ \mathbf{H} can expect to be elected to 2 urban seats, \mathbf{M} will win 2 suburban seats, and \mathbf{L} will win 2 urban seats, 2 suburban seats, and 1 rural seat. Then, \mathbf{L} forms the government, and implements $\mathcal{P} = \mathcal{P}_L$ without compromise. Note that M cannot improve this outcome by voting strategically for \mathbf{H} : M does not comprise a sufficiently large share of the electorate in any district to change the allocation of seats.

COUNTRY U.

When low-income voters are less evenly distributed across district types, as in Country U, \mathbf{L} will be elected to 2 urban seats, \mathbf{M} wins 2 suburban seats, and \mathbf{H} wins 2 urban seats, 2 suburban seats, and 1 rural seat. Then, \mathbf{H} forms the government, and implements $\mathcal{P} = \mathcal{P}_H$ without compromise. Note that L cannot improve this outcome by voting strategically for \mathbf{M} : M and L do not comprise a sufficiently large share of the electorate in any district to change the allocation of seats.

¹⁰One distribution that meets the criteria in (11), and maintains a fairly equitable national distribution lets $\pi_H^U = 0.62$, $\pi_M^S = 0.74$, and $\pi_L^R = 0.51$.

6 Summary: Evaluating Representation

There are two ways in which the electoral outcomes of elections held under different rules and circumstances can be evaluated from the perspective of low-income citizens. First, expected policy outcomes might be evaluated in comparison with L 's most preferred outcomes. Second, the electoral rules may be evaluated by the incentives they create for parties to seek electoral support among the low income citizens. Put another way, in the context of these examples, if there are costs associated with entering the electoral competition, are there incentives for low-income citizens to form \mathbf{L} ? This section considers the effects of electoral rules from both perspectives.

6.1 Policy Outcomes and the Policy Preferences of Low-Income Citizens

Suppose that cross-national differences are summarized by the Electoral context statistic,

$$\mathcal{E}^j = 1 - \sqrt{\sum_{d=1}^D \frac{n_d}{N} \left(\pi_d^j - \frac{n^j}{N} \right)^2} \quad (14)$$

where $d = 1 \dots D$ denotes each electoral district, n_d reports the number of citizens residing in district d , N reports the number of citizens in the national electorate, n^j reports the number of type j citizens, and π_d^j reports the proportion of type j citizens residing in district d . Then, Figure 3 reports the value of the benefits distributed to the low-income citizens, under each set of electoral rules, and in each context. Using the assumption made in Eq. (1), that $y_L < y_M < y_H$, we can evaluate the conditions under which low-income citizens might expect policy outcomes to be more representative of their preferences. The following remarks present in general terms, then, how electoral rules might affect low-income citizens:

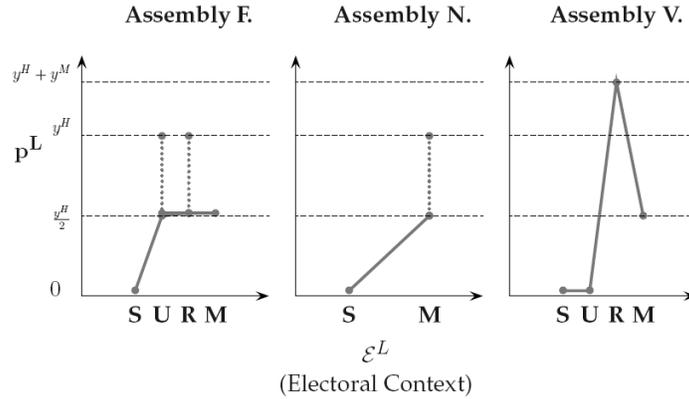
- *Significant turnout bias can make electoral rules unimportant.*

Notice that, as reported in Figure 3, every electoral rule applied to Country S yields the same policy outcome. Simply, if low-income citizens are not well-represented in the electorate, there is no electoral incentive for parties to craft policy that is responsive to the interests of low-income citizens.

- *When turnout bias is minimal and citizen types are evenly distributed across districts, electoral rules that favor larger parties can result in policy that is less responsive to low-income citizens.*

Recall the mechanism that led to the policy outcome $p_L = \frac{y_M}{2}$ when the rules of Assemblies F and V were applied to Country M: The slight advantage of \mathbf{H} in each

Figure 3: Policy Outcomes Under Different Electoral Rules



NOTE. This Figure reports the distribution of benefits, p^L , to low-income citizens. The horizontal axis reports values of \mathcal{E}^L (see Eq. (14)) corresponding to the hypothetical countries reported in Figure 2. Dotted lines denote the range of coalition government policy outcomes.

district, which was amplified by the (highly disproportional¹¹) electoral rule, created incentives for L to vote strategically for M . Thus, M could be assured of L 's support, without any incentive to moderate M 's most preferred policy. As a consequence, to the extent that electoral rules deviate from strictly proportionality – generally, systems in which elections are not held in single, national districts – electoral competition can be characterized by competition between parties that represent the middle- and high-income citizens, with low-income citizens effectively unrepresented.

- *Policy will tend to be less responsive to the interests of low-income citizens when they are concentrated in electoral districts with high district magnitude.*

Notice, for example, that when the rules of Assembly V are applied to countries in which the low-income citizens are concentrated in urban districts (i.e. Country U), in spite of the proportionality of the rule, the interests of low-income citizens are not represented in the policy outcome. This implications coincides with the “variance effect” identified by Monroe & Rose (2002): Variation in district magnitude results in the under-representation of interests concentrated in districts with large numbers of seats to be elected.

- *Policy can be more responsive when low-income citizens are concentrated in electoral districts that elect few seats.*

¹¹“Proportionality” refers to the extent to which the proportion of votes corresponds to the proportion of seats allocated to each party under a particular electoral rule. Single member districts tend to yield the least proportional results because, depending on the number of parties competing in an election, a party can win the seat with the support of a fairly small proportion of the ballots cast.

This claim reflects a corollary of the variance effect noted above: Especially when district magnitude varies, policy outcomes will tend to be more responsive to interests that are represented in low-district-magnitude districts. Thus, when low-income citizens form a majority of low-magnitude (in this case, rural) districts, they are able to exact a responsiveness in policy that rarely exists otherwise. This affect is heightened the distribution of low-income voters across districts allows the parties representing low-income citizens to build a widely based electoral coalition (as in Country R, under the rules of Assembly V).

In sum, therefore, the incentives for elected officials to craft policy that is responsive to the interests of low-income citizens vary across electoral rule and context. If antipoverty policy reflects the electoral incentives of the policy-makers, then while there are some cases in which distributions to low-income voters will be quite generous, this is not generally the case, even within countries that share the same electoral rule. Instead, incentives for redistributive policy are shaped jointly by the electoral rule and the context in which elections are held.

6.2 Incentives for Parties to seek the Support of the Low-Income Citizens

Suppose that there are costs associated with entering the election campaign, but that these costs are offset by the benefits associated with winning a single seat. Under what conditions, then, will political parties seek the support of the low-income voters? Or, put slightly differently, when will low-income citizens have the incentive to establish **L**? Figure 4 reports the number of seats **L** wins under each set of electoral rules, and in each country.

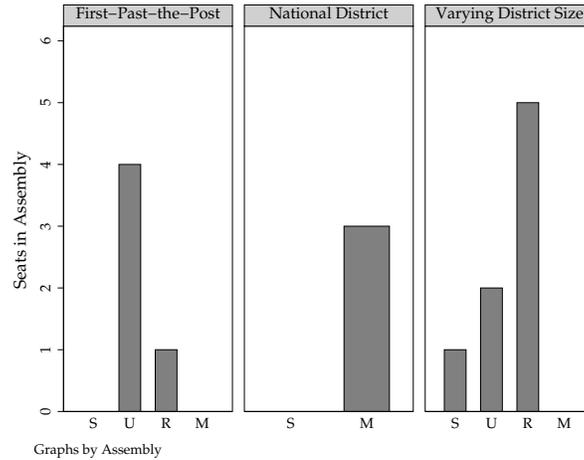
Notice that if standing for election is costly, in three cases the incentive for the party that best represented the interests of low-income citizens are limited. What are the conditions that lead to these cases? Table 4 suggests that there are two sets of conditions under which low-income citizens may not be represented by a political party in an election:

- *When elections are held under single-member district rules, and turnout bias is severe, parties that represent the interests of low-income citizens may have no incentive to stand for election.*

Notice, for example, that when the elections are held in a country with severe turnout bias (i.e. Country S), under single-member district rules (Assembly F), the party representing low-income citizens does not win a single seat. This is not the case, however, when election are held in districts that elect more than one member. In fact, even when turnout bias is severe more proportional electoral rules can ensure that win a fairly substantial number of seats (as under the rules of Assembly V).

- *When few legislators are elected in each district, and low-income citizens do not comprise a majority in any district, parties that represent the interests of the low-income citizens may have no incentive to stand for election.*

Figure 4: \mathbf{L} 's Allocation of Seats Under Different Electoral Rules



NOTE. This Figure reports the distribution of benefits, p^L , to low-income citizens. The horizontal axis reports values of \mathcal{E}^L (see Eq. (14)) corresponding to the hypothetical countries reported in Figure 2. Dotted lines denote the range of coalition government policy outcomes.

Even when low-income citizens are well-represented in the electorate, electoral rules may create incentives for the low-income voters to vote strategically, thus undermining incentives for parties to represent the interests of the low-income citizens. As seen in Figure 4, this is the case of Country M (where turnout bias is minimal), when elections are held under the rules of Assemblies F and V: In both cases, the slight advantage the high-income voters is amplified by the electoral rules, with the result that low-income citizens will prefer to vote for the party that represents the interests of the middle-income citizens. As a result, a party that seeks primarily the support of low-income citizens may have no incentive to stand for election.

Alternatively, from Figure 4 we can identify the conditions that can be most favorable to a party that represents the preferences of low-income citizens: First, when the number of legislators elected varies across districts (Assembly V), and low-income citizens form the largest proportion of the district in which the fewest legislators are elected (Country R), a party that represents the preferences of low-income citizens can be quite successful. Similarly, a party that represents low-income citizens can win a substantial proportion of seats when all elections are held in single-member districts (as in Assembly F), and the low-income citizens are concentrated in one part of the country (Country U). Finally, even when turnout bias is severe, there can be incentives for parties to represent the interests of low-income citizens when seats are allocated on the basis of the national vote distribution (Assembly N).

Therefore, while there are some conditions under which parties that represent the interests of the low-income citizens can expect to be quite successful in elections, the incentives for

these parties to stand for election are not always present – even when the same electoral rules are applied to different countries. Rather, it is the interaction of the electoral rule and the electoral context that creates incentives for parties to represent the interests of low-income citizens.

7 Empirical Implications

This discussion demonstrates, using a simple model of electoral politics, that the ways in which the relationship between electoral rules and policy outcomes can be modified by the electoral context in which those rules are applied. Contrary to Iversen & Soskice (2006) and others, there is not a straightforward mapping of PR rules to more extensive redistributive policy. Rather, the incentives to represent the interests of low-income citizens are moderated to an important extent by the context in which elections are held. There exists a concentration benefit, such there are incentives for legislators to be especially responsive to groups with a rule-dependent level of geographic concentration. Thus, more generally, single-member district systems tend to favor groups that are more highly concentrated than multi-member district systems. This intuition provides an important guidepost for future empirical research.

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