

The Institutional Determinants of Rural Poverty:

A Comparative Perspective on Latin America

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Abstract: Throughout the developing world, rural poverty rates are consistently higher, more extreme, and more enduring than urban poverty rates. In a systematic sense, rural poverty rates in Latin America are unaffected by higher rates economic growth and higher amounts of government expenditure on agriculture. However, the structure of government expenditures has produced a systematic impact on rural poverty rates. Government expenditures on public, collectivistic goods such as infrastructure and education are strongly associated with lower rates of poverty and higher agricultural GDP, while private, or particularistic expenditures on goods such as fertilizer and equipment subsidies have the opposite effect. And yet, Latin American governments generally prioritize private expenditures, despite the clear advantages produced by public expenditures. This paper tests the proposition that the prioritization of private relative to public expenditures can be systematically explained by political institutions which fail to align the interests of the rural poor with those of their political representatives. Specifically, I test the effects of decentralized governance, closed-list proportional representation, and low-district magnitude on rates of rural poverty, advancing the argument that when rural interests are better represented in political institutions, collectivistic policy choices will result in relatively lower levels of rural poverty.

Introduction

Throughout the world, poverty rates are consistently the highest and most enduring in rural areas. In much of the developing world, impoverished rural populations depend on some form of agricultural production for their livelihoods, the majority of which is composed of smallholder family farms (FAO 2015). These small farms comprise the majority of agricultural production globally, but are themselves often the least food secure and most impoverished demographic (Ibid.). More than 90% of the world's farms are small family farms, and fully 75% of global poverty is rural (Fan et al., 2015; Byerlee et al. 2009). The United Nations' Food and Agriculture Organization estimates that half of the world's hungry are small family farmers (The World Bank 2016).

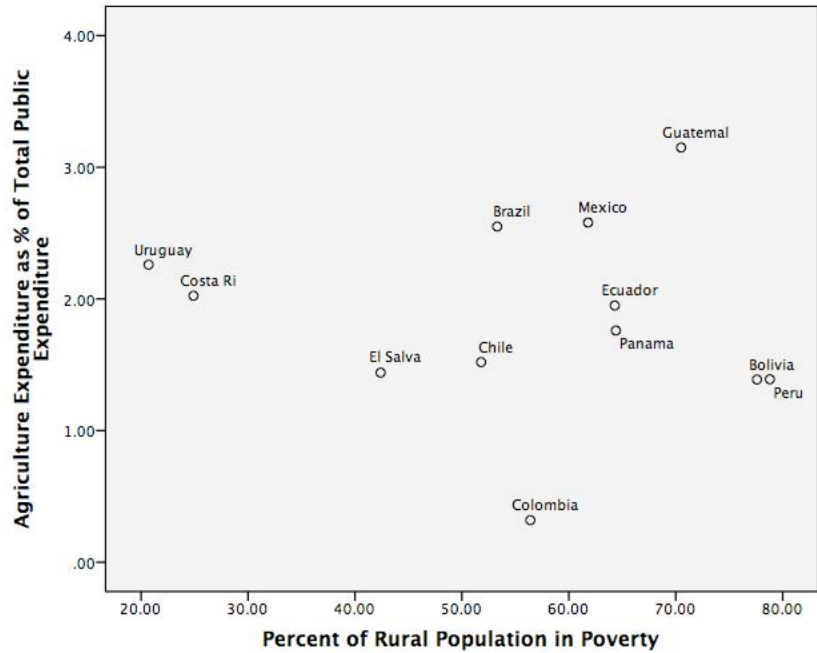
The incidence of rural poverty can be understood within the context of wider economic development. The agricultural sector typically shrinks as countries move towards industrialization (Byerlee et al. 2009). On a cross-national basis over the past several decades, a consistent trend has been the structural transformation of economies: as per capita income rises, the agricultural sector's share of employment and GDP declines (Ibid). Furthermore, alongside this pattern, urban poverty rates remain consistently, significantly lower than rural poverty rates across the world (The World Bank, 2008).

These trends are particularly apparent in Latin America, where despite a decline in overall poverty rates over the past several decades, in 2013, rates of extreme poverty in the region were nearly three times higher in rural areas than in urban areas (CEPALSTAT 2015). As a whole, the share of the workforce in the agricultural sector in Latin America has declined significantly since 1991, even as output growth for the agricultural sector has grown consistently over the same period (Ibid; IFPRI 2015; Ludena 2010). Latin America is also the most unequal

region in the world; on average, countries in the region have inequality rates significantly higher than the world average (Lustig 2015).

Neither economic growth nor increased government expenditures in the agricultural sector have consistently, systematically impacted levels of rural poverty in Latin

Figure 1: Agricultural Expenditure and Rural Poverty Rates in Latin America, 2005



America. The 1990s brought significant economic growth to the region without a consistent effect on poverty rates and economic equality (Ibid.; Stein et al 2006; Baker 2003).

Furthermore, as a whole, Latin America increased spending

on agriculture by 42%

Sources: The World Bank Poverty and Equity Database, 2016; International Food Policy Research Institute (IFPRI) Statistics on public expenditures and economic development (SPEED), 2015.

from 1980 to 2005 (Fan and Saurkar, 2). As Figure 1 depicts, there also appears to be no

systematic relationship on a cross-national basis between the amount that governments spend on

agriculture as a percentage of their total budgets and rural poverty rates. Indeed, to this day, a

full 20% of Latin Americans continue to live in chronic poverty (CEPALSTAT, 2015, Rigolini

and Vakis, 2015). Furthermore, Latin American countries continue to experience wide variance

in both rates and types of poverty, despite similar regional economic conditions (Pribble et al.

2009). From 2009-2013, the estimated proportion of the rural population living in poverty varied

from a low of 2% in Uruguay to a high of nearly 80% in Peru (CEPALSTAT 2015). While

scholars and experts agree that economic growth and investment in the agricultural sector are certainly necessary components of reducing rural poverty, higher levels of growth and spending simply are not sufficient to address chronic poverty or to close the gap between rural and urban poverty (Vakis et al, 2015; Food and Agriculture Organization, 2012).

Economic growth and government spending on the agricultural sector have no systematic impact on rural poverty because rural poverty is not impacted simply by the amount of expenditure or growth that occurs, but by the form that it takes. Government expenditures on public, collectivistic goods such as research, education, and infrastructure in rural areas have far greater social and economic returns than expenditures on private goods such as subsidies (FAO 2012a; World Bank, 2013). Public, or collectivistic goods can be broadly accessed, and include collectively owned infrastructure, such as village water supplies, rural roads, and marketplaces, as well as intangible goods such as agricultural research, information sharing, and financial services (IFAD 2015, 9). Private goods, on the other hand, are owned and accessed exclusively by specific groups, and include export subsidies and internal commercialization support (Ibid; Allcott et al 2006). These include subsidies and specific agricultural inputs such as farm equipment and fertilizers (Ibid).

Public investments not only alleviate poverty, but also drive wider economic growth. Despite the general persistence of rural poverty, when broad economic growth does occur in the agricultural sector, it has been found to benefit the most impoverished sectors more any other sector of the economy (Ligon and Sadoulet 2007; Christiaensen et al. 2010; World Bank 2008; Townsend et al 2013). In turn, when agricultural productivity grows, farmers promote the growth of local economies by spending favorably on rural goods (King and Bylerlee 1978; Haggblade, Hazell, and Reardon 2008). Growth of the agricultural sector can also lower food prices and

expand rural labor markets, promoting the growth of non-agricultural sectors in rural economies and spurring wider development (World Bank 2013; Christiaensen et al., 2010; IFAD 2014, 5).

Conversely, government expenditures on private, particularistic goods tend to be associated with higher levels of poverty, unsustainable, unpredictable market distortions, and lower agricultural GDP (López and Galinato 2007; Pinstруп-Andersen and Watson 2011). Allcott et al (2006) find that the greater the share of rural government expenditures on private goods in Latin America, the lower agricultural GDP tends to be (3). Many governments subsidize the growth of industrialized agriculture, which generates high-volume output and economic gains but exacerbates unemployment and damages social well-being (Maass Wolfensen 2013). For example, from 1991-2001, Brazil doubled its cereal outputs through large-scale commercial farms, but saw an increase in rural poverty, while during the same period, China doubled its cereal outputs through smallholder farms, and saw a 63% reduction in rural poverty (Byerlee et al., 2009a). In recent years, Bolivia and Brazil have both experienced poor rates of rural poverty reduction despite increased agricultural outputs, because growth has been “concentrated in a dynamic export-oriented sector of large capital-intensive farms, [so] agricultural employment [has] declined and shifted to higher-skilled, higher-wage workers” (World Bank 2013).

Despite clear evidence of the widespread benefits of public goods expenditures in rural areas, governments in developing countries have typically prioritized policies that invest in private goods, favoring “industrial, urban and service sectors at the expense of agricultural and other rural sector development” (Anríquez and Stamoulis 2007, 6). In fact, in low and middle income countries, small farmers invest four times more capital in their farms than their governments in the agricultural sector (FAO, 2012a).

Given the clear advantage collectivistic policies hold over particularistic policies, this paper asks why policymakers choose to make particularistic investments in rural areas. I approach this puzzle through the lens of political economy, exploring the idea that political institutions which tie legislators more closely to impoverished, rural voters rather than to narrow, elite groups may account for the choice to make public investments, resulting in more effective poverty relief. I assume that when policymakers stand to gain or lose based on how well they represent rural interests, they are more likely to strive to do so by choosing collectivistic policies. This intuitive notion aligns with the widely held assumption that political leaders in democratic settings are primarily motivated by electoral concerns (Allcott et al 2006, 6). As Huber (2009) asserts,

“The degree of reduction of poverty and inequality achieved varies with the size of taxes and expenditures and with the structure of expenditures and services, and those in turn vary with the underlying political power distribution” (651).

Indeed, in a cross-national analysis, Jusko (2008) demonstrates that the larger the proportion of legislative seats won by low-income voting blocs, the stronger the associated government’s poverty relief ratio, regardless of party ideology (114). In other words, “an increase in the share of seats secured by a low-income voting bloc is associated with an increase in levels of income support provided to low-income citizens” (115). In this analysis, Jusko provides empirical support for this paper’s central intuition: that politicians have incentives to serve the constituencies upon whom they depend electorally, demonstrating that this does include low-income constituencies.

Scholars and international agencies have found that the strength and independence of the judiciary, institutionalized political parties, a strong legislature, and a “well-developed civil service” are strongly correlated with cooperative, effective policymaking (Franco Chuaire and

Scartascini 2014, 8). Effective policymaking in turn impacts poverty reduction (Stein et al 2005). Furthermore, a strong record of democracy has been associated with lower poverty levels and lower income inequality (Pribble et al. 2009), while a left-leaning partisan balance and higher levels of public social spending have been found to be associated with lower levels of income inequality (Huber et al 2006).

While many studies have demonstrated the salience of institutional variables in explaining national poverty, spending patterns, and inequality, to date, very few scholars have systematically investigated the institutional determinants of the specific phenomenon of rural poverty in Latin America. The lone exception, Allcott et al (2006), find strong support for the hypothesis that greater inequality is correlated with a greater share of private subsidies in rural public expenditure, and lower agricultural GDP (24). They also find that electoral proportionality positively impacts agricultural GDP specifically through the type of rural public expenditure made (36, 37). Moreover, they claim that ethno-linguistic fractionalization will make it more difficult for citizens to hold government accountable for fiscal policy, and indeed find that greater fractionalization is associated with a 17% reduction in agricultural GDP (23).

This paper endeavors to build on the work of Allcott et al (2006) and Jusko (2008) in filling the gap in the study of the institutional determinants of rural poverty in Latin America, by testing the relationship between decentralized governance, closed-list proportional representation, and district magnitude, and rural poverty rates. I expect that political institutions that tie the fate of political leaders more closely to rural voters will result in more collectivistic policymaking, and thus exhibit lower rates of rural poverty. I examine why variance in government structures may generate incentives for politicians to invest in collectivistic policy

choices, by making leaders more dependent on rural voters rather than on elite groups. I then test the relationship between these variables and rural poverty.

Theory

The nature of rural agriculture in developing countries presents specific challenges for effective representation of rural interests, and the ability of rural residents to hold their leaders accountable. The rural, agricultural demographic in developing countries tends to be widely dispersed and impoverished, and thus politically weak (Bates and Block 2013). With rural populations less able to engage in collective action, governments tend to be biased towards wealthier, urban groups for whom political organization is easier (Olson 1965). The problems of chronically poor rural areas can be expensive and difficult to address, and “the votes of the marginalized and excluded may be perceived as counting for less” (Bird et al, 2). In fact, López and Galinato (2007) argue that the consistent historical bias towards investment in private goods in Latin America is politically motivated, pointing out that private subsidies tend to be directed towards “wealthier segments of society,” who are better positioned to lobby for policies from which they will benefit than the rural poor (1072, 1075, 1092). Indeed, greater income inequality in Latin America correlates positively both with a greater share of rural expenditures on private subsidies relative to public goods, as well as with larger overall total government allocation to rural sectors, suggesting that economic policy reflects the interests of elites when inequality is high regardless of whether they are urban or rural (Allcott et al 2006, 21).

Some evidence indicates that better representation of rural interests may generate collectivistic policy choices and lower poverty rates. In countries with largely agrarian populations in Africa, executives chosen in open, competitive elections have been found to “intervene in markets in ways less likely to shift relative prices against farmers... spend more on

agricultural research, secure higher levels of educational attainment, and pave a larger percentage of their roads,” suggesting that democratic institutions that give voice to rural voters produce incentives for policy reforms (Bates and Block 2013). In India, when impoverished voters were newly enfranchised, resources flowed to their sectors at greater rates (Foster and Rosenzweig 2001; Pande 2003).

Which institutional arrangements more closely tie political leaders to rural voters?

Institutions are an extremely broad category, and there is some disagreement over the relative importance of different institutions for different outcomes (Jutting 2004, 19).¹² In any case, what is clear is that different institutions matter for different outcomes. Because the central focus of this thesis is on the endurance of rural poverty, this analysis will consider institutions that may be expected to enhance the political importance of rural populations. I will consider the following: I begin with decentralization, arguing that because decentralized governance brings policymakers closer to rural areas, they will be more likely to represent rural interests, and moreover that rural voters will be better able to hold representatives accountable. I then consider the theoretical and empirical implications of proportional versus majoritarian electoral systems, including closed-versus open- party lists, and low versus high district magnitude. I argue that because specific features of electoral formulas enhance the representation and the electoral power of rural voters, leaders in these contexts will be more likely to choose policies that alleviate rural poverty.

While there is evidence of the varying consequences of different electoral systems and forms of decentralization, the ways in which these institutions affect rural poverty specifically

¹ There is also a wide body of literature which asserts problems relating to endogeneity in operationalizing institutional variables, contesting the relative importance and correlations of formal versus informal institutional factors (authors). While this analysis does not discount the importance of those inquiries, it focuses instead on formal arrangements, controlling for endogeneity in x y and z ways.

has not been well explored. The quality of institutional context is unequivocally fundamental for reducing rural poverty (United Nations 2015). This paper seeks to contribute to a wider understanding of how political institutions can incentivize leaders to substantively represent the interests of their constituents through policy choices that maximize benefits broadly.

Independent Variables

“The broader the constituency to which politicians are accountable, the stronger the incentives to provide broad public goods.” (Hicken and Simmons 2008, 111).

“Where representation is achieved through electoral channels and where rural dwellers constitute a large segment of the voting population, then politicians have an incentive to bear the costs of political organization and to cater to the interests of farmers.” (Bates and Block 2013).

In general, elections are considered to be the most powerful tool to ensure political accountability. A growing body of literature lends support to the idea that variance between electoral settings has varying consequences for policy outcomes, as well as for accountability in a broader sense (Menocal 2011, 2). Elections incentivize politicians to act in the interests of their constituents “when the threat of not being re-elected serves as motivation” (Aidt and Svets 2012, 1). However, the nature of this threat varies depending on the electoral system at play: depending on the electoral formula, politicians depend on different groups for re-election (Menocal 2011, pp). Because the size and nature of the support candidates need for election depends largely on the electoral formula, we may expect that the incentives produced by these rules lead to different policy outcomes and allocation of resources (Carey and Shugart 1999, 434).

Electoral rules can be expected to factor strongly into how impoverished populations are represented, and how well they are served by policy choices, because they determine whether and how badly legislators need the support of those constituencies to secure election. Because electoral systems determine which groups are electorally important, systems that broaden the

political arena may relieve poverty because groups can use political channels to push for policies that enhance their welfare (Crepaz 1998, 76). Because virtually any policy choice presents an opportunity for the government to choose how to distribute resources, policymaking inevitably also presents an opportunity for groups to lobby for a larger share of those benefits (Pinstrup-Andersen and Watson 2011, 35). Legislators have an incentive to target policies to groups from whom they need support (Hallerberg and Marier 2004, 572). Economic and political elites are virtually always better positioned than the poor to lobby for particularistic public policies that will serve their interests, so the more dependent politicians are on the support of such narrow groups, the more public investment tends to be biased towards private goods (López and Galinato 2007, 1075; Allcott et al., 2006).

Conversely, as Alence (2004) asserts, when “governments [are] more politically responsive and accountable to broader constituencies, it seems to discourage the abuse of public resources for private gain relative to the provision of welfare-enhancing public goods” (176). Public goods tend to disperse benefits more broadly and slowly than private goods, so the political motivation to invest in public goods is very different than the motivation to invest in private goods (López and Galinato 2007, 1075; Poulton 2014, 115). When the provision of public goods aligns with the goals and motivations of policymakers, we can reasonably expect that they will prioritize these types of investments.

Electoral systems are extremely broad institutions with a vast array of features. This paper focuses specifically on the features of electoral systems that may incentivize politicians to choose to invest in public goods, by enhancing the representation of rural voters and their ability to hold politicians accountable.

Enhancing Representation: Closed-List PR

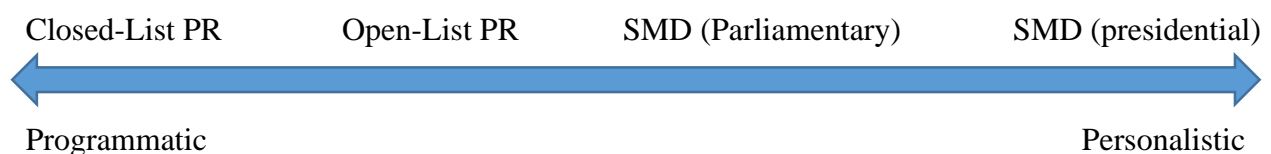
As a rule, proportional representation (PR) electoral systems generally are thought to be more inclusive of broader interests, and more accurately representative of a country's population than majoritarian systems (Lijphart 1984, pp). Because legislative seats are assigned more or less proportionately, fewer votes are "wasted," and citizens tend to feel more included (Norris 1997, 7). Furthermore, PR systems tend to accurately and proportionately represent voters (Lijphart 2004). On the other hand, majoritarian systems have been widely criticized for producing disproportionate representation, and for representing the will of a majority or a plurality at the expense of other groups, reducing representativeness (Carey and Hix 2008, 384). Furthermore, voter turnout tends to be higher in PR systems than in majoritarian systems, likely because the value of voting is higher to both voters and parties when fewer votes are wasted (Cox, 1999; Jusko 2011, 2).

Electoral systems further impact how leaders represent constituencies because they determine whether elections are candidate-centric or party-centric. The extent to which a candidate needs to appeal to her party or to voters to gain a legislative seat, both during her campaign and in her tenure in office, determines the value of cultivating a personal reputation, or seeking a "personal vote," relative to building a reputation based on a party's platform (Carey and Shugart 1995; Hallerberg and Marier 2004, 572; Carey and Shugart 1999, 418). This is important because in systems in which the value of personal appeals is high, politicians have greater incentives to implement policies for which they can personally claim credit, and consequently aim to provide localized benefits," or "pork" to constituents (Carey and Shugart 1995, 433; Heller and Mershon 2009; Crisp et al 2004; Hicken and Simmons 2008). In such contexts, politicians have electoral incentives to make personalistic appeals to narrower groups or coalitions of supporters, encouraging the targeted provision of particularistic goods as an

electoral strategy (Hallerberg and Marier 2004, 572; de Mesquita et al 2002, 572). Legislators who are accountable to extremely narrow interests may also be more likely to compete for the support of those interests, leading to gridlock and to less effective policymaking on a broader scale (Wallack et al 2003, 134). Thus, income inequality levels are generally lower in more proportional systems (Verardi 2005).

On the other hand, when the value of programmatic or party-based appeals increases relative to personal appeals, elections are more party-centered than candidate-centered (Carey and Shugart 1995; Reynolds 2005). Candidates appeal to parties in order to gain ballot access, and parties appeal to voters through programmatic policy platforms (Ibid). Hence, where “party reputation matters more, policymaking should be more ‘efficient,’ [because] voters vote on the basis of broad policy options rather than on the basis of promised particularistic benefits” (Carey and Shugart 1999, 433). Programmatic appeals may result in stronger and more broadly beneficial policies, because politicians are encouraged to build the party’s reputation along with their own (Lederman et al 2005, 117). This may be especially relevant because the benefits associated with public goods often take longer than individual politicians’ tenure in office to manifest, so when party reputation matters more, public goods investments may be more valuable over time (Poulton 2014, 115).

Electoral systems which cultivate personalistic versus programmatic incentives can be conceptualized along a simplified continuum, conceptually drawn largely from Carey and Shugart (1995):



Most electoral systems in Latin America employ mixed electoral systems for different legislative chambers and levels of government. The proportion of legislators elected in closed-list PR in the region ranges from 0 to 100% (Political Database of the Americas 2010). Because the electoral value of programmatic appeals and effective policymaking is maximized in closed-list, parliamentary PR systems, a testable hypothesis emerges:

H2: Relative to open list PR systems and majoritarian systems, countries with a greater proportion of legislators elected in closed-list, proportional representation systems will exhibit lower rates of rural poverty and a smaller gap between rural and urban poverty rates.

There is empirical evidence that legislators who have strong incentives to seek personal votes place greater emphasis on policies for which they can claim credit (Hicken and Simmons 2008, 111). For example, in Brazil's open-list proportional system, strong pressures from local constituencies have resulted in high amounts of pork-barrel spending at the expense of attention to national issues (Ames 1995). In the United States, legislators representing specific districts allocate fewer district-specific services when they are not facing electoral incentives to do so (Aidt and Shvets 2012, 20, 22). Furthermore, cross-nationally, lame duck presidents tend to cut public spending during their final terms, and the spending patterns of American governors who no longer face tend to deviate from voter preferences, suggesting that these actors are concerned primarily with personal rather than party electoral concerns (List and Sturm 2006, pp; Nogare and Ricciuti 2011, pp). In a comprehensive analysis of 21 OECD countries, Chang (2008) demonstrates that district-specific spending is higher in single-member district majoritarian systems, and social welfare spending is higher under PR (1095).

Incentives to cultivate a personal rather than a programmatic vote have also been associated with reduced quality of governance. For example, Chang and Golden (2007) find that

closed-list PR systems are strongly associated with lower levels of corruption.² Additionally, incentives to cultivate a personal vote in majoritarian systems have been found to reduce the efficacy of public spending: education spending aimed at reducing illiteracy, whereas party-centered systems display greater illiteracy reduction with similar spending levels (Hicken and Simmons 2008, 119). Perhaps most relevant, Rupasingha and Goetz (2007) find that in the United States, counties with greater “pork barrel” allocations from federal grants actually exhibited the highest levels of poverty (668).

A wide body of empirical evidence indicates that more inclusive representation tends to correlate with improved social welfare. Overall, institutions which are broadly inclusive such as PR systems, “tend to increase welfare expenditures and decommmodification, while majoritarian systems and institutions with competitive veto points decrease them” (Crepaz 1998, 76) In fact, social spending generally correlates positively with the degree of proportionality in the electoral system (Iversen and Soskice 2006). In fact, in Latin America, the larger the size of the minimum winning coalition leaders need to win, the more likely they are to emphasize effective public policies (de Mesquita et al 2002, 574).

Enhancing Accountability: Low District Magnitude

While a strong case can be made that the inclusive features of PR systems make them more representative than majoritarian systems, scholars have often thought of the choice between majoritarian and PR systems as presenting a trade-off between representation and accountability (Carey and Hix 2009). Majoritarian systems are generally viewed to produce stronger accountability, because they produce party systems which present voters with a clear choice between relatively few parties or candidates (Ibid, 384). On the other hand, PR systems can

²This finding holds only when controlling for district magnitude, which I will explore in the next section.

produce highly fragmented party systems, leading to complex coalition governments (Ibid). Fragmented systems can make it difficult for voters to know how their votes will translate into representation, and complex coalitions can obscure to which party voters should assign blame or credit (Strom 1990; Ibid). Scholars have demonstrated empirically that greater the number of parties in a governing coalition, the more difficult it is for voters to vote prospectively and retrospectively (Hellwig and Samuels 2007). Importantly, scholars has also found that the greater number of parties in government, the greater the percentage of subsidies and transfers relative to public goods, although public goods spending in PR systems remains higher relative to majoritarian systems overall (Scartascini and Crain 2002).

PR systems may present additional challenges in terms of governance as well. In coalition governments, there are a greater number of veto players and a greater number of interests to satisfy, so parties are often forced to bargain to pass policies (Lijphart 1994; Béjar and Mukherjee 2011; Pereira and Mueller 2004). This can result in higher deficits alongside higher social spending, as the use of public resources is leveraged to resolve political conflicts (Persson and Tabellini 2003; Pereira and Mueller 2004, 782-3). Assembling an effective governing majority in the legislature can also be prohibitively difficult, and resulting coalitions can be unstable (Pereira and Mueller 2004; Menocal 2011, 5; Cho 2012; Lijphart 1994; Cox 1997). On the other hand, complex coalitions can undermine a government's ability to formulate or change policies at all, particularly policies that respond efficiently to problems (Tsebelis 2002). Empirically, although PR systems are usually associated with higher levels of social spending, this is not always the case (Jusko 2014, 270).

In majoritarian systems, leaders have greater ability to act unilaterally, which may result in quicker policy responses and action. This is one reason scholars point to for why majoritarian

democracies experience far more volatile economic growth than PR democracies, as dominant parties increase government spending during election years to gain reelection, creating uncertainty for investors (Béjar and Mukherjee 2011, 471, 461). This is especially true for pork-barrel expenditures (Ibid, 461). Indeed, Hallerberg and Marier (2004) find that in Latin America, when legislators have incentives to seek a personal vote, empowering executives with budgetary authority is highly effective in balancing budgets, whereas in party-centered settings, executive budget authority has no effect on balancing the budget.

Thus, in PR systems, government may be more representative but less accountable to voters, whereas in majoritarian systems government may be more accountable but less representative. Carey and Hix (2009) argue that this central tension can be resolved in PR systems by low district magnitude. By reducing party system fragmentation and simplifying governing coalitions, low-district magnitude can maximize the trade-off between representation and accountability (Carey and Hix 2009, 395). In fact, they demonstrate that as median district magnitude rises in PR systems, representation improves but accountability deteriorates (Ibid, 393). However, at a district magnitude of approximately four to eight, PR systems are both representative and accountable (Ibid, 395). In fact, they find that increasing district magnitude from one to five reduces disproportionality in representation by three-quarters and creates incentives for more medium-sized parties to coalesce, usually resulting in governing coalitions of two or three parties (Ibid).

Because low-magnitude PR produces a system that theoretically maximizes both representation and accountability, these countries may display lower levels of rural poverty. This discussion produces a second testable hypothesis, derived largely from the findings of Carey and Hix (2009):

H3: Relative to other systems, PR systems with district magnitudes ranging from 4 to 8 will display lower rates of rural poverty and a smaller gap between rural and urban poverty rates.

Empirically, district magnitude has been found to impact various consequences associated with PR systems. For example, Chang and Golden (2007) find that higher district magnitude is associated with higher levels of corruption in open-list PR, and lower levels of corruption in closed-list PR (117).

Interactive Variables

The features of decentralization and of electoral systems discussed generate good reasons to expect they may correlate with lower levels of rural poverty. However, as promising as the theoretical benefits of decentralization may be, a significant body of research associates decentralization with negative outcomes as often as positive outcomes (Faguet 2007). There is also evidence that decentralization can reduce democratic accountability because citizens may be unsure which level of government is responsible for government performance (see Gélinau and Remmer 2006). The mixed empirical results may also be due to inaccurate or over-generalized measurement of decentralization, which I endeavor to address by examining both fiscal and composite measures of decentralization (Voigt and Blume 2012; Sharma 2006). However, this may also be due to the exclusion of other potentially relevant variables.

Many scholars have pointed out that elections may provide the accountability necessary to ensure that the targeted policies decentralization ostensibly produces are actually carried out (Hankla 2010). Enikolopov and Shuravskaya's (2006) cross-national analysis of the results of fiscal decentralization demonstrates this dynamic nicely; they find that appointing rather than electing local officials does not improve the benefits of decentralization, whereas strong political party systems do. Studies have also found that the presence of municipal elections in

decentralized settings is especially significant in terms of promoting poverty alleviation (Voigt and Blume 2012; Von Braun and Grote 2000). Given this evidence, this research will also test whether decentralization and electoral formulas produce any interactive effects on rural poverty.

This discussion derives another testable another hypothesis:

H4: *Under closed-list proportional representation, where fiscal, administrative, and political decentralization is higher, rural poverty rates will be lower, and the gap between urban and rural poverty rates will be smaller.*

a. In PR systems with district magnitudes between 4 and 8, higher levels of fiscal, administrative, and political decentralization, poverty rates will be lower and the gap between urban and rural poverty rates will be lower.

Data and Measurement

Independent Variables

Decentralization

Due to limited data availability, I used two different datasets for the time periods 1994-2000 and 2009-2013. To measure the extent of both composite and fiscal decentralization from 2009-2014, I use data from Ivanya and Shah's (2014) dataset measuring fiscal, political, and administrative local autonomy. Ivanya and Shah create a decentralization index for the three components as well as a composite index. The fiscal index captures taxation autonomy, expenditure autonomy, intergovernmental transfers, borrowing, and the dependency of local on national governments. The administrative captures ____, while the political captures _____. They also create a composite index value including all three measures.

To measure the extent of fiscal decentralization from 1994-2000, I use data on decentralization compiled by Abdelhak, Chung, Du, and Stevens (2012) from a variety of multilateral agencies. This data represents an average value for the years 1994-2000, and includes the percentage of the GDP constituted by subnational government revenues, as well as

the subnational share of subnational government expenditures. Because no index has been constructed for this data, I instead create a composite measure, averaging both values, with the exception of Honduras, which simply reflects expenditure due to lack of data on revenue.

To measure administrative decentralization from 1994-2000, I use the values provided in the dataset for the subnational government employment share, or the proportion of non-central government employment. To calculate political decentralization from 1994-2000, I use the same dataset's variables measuring a country's number of tiers (ranging from 2-4), and whether the executive at the bottom and the second-lowest tiers are directly elected (these receive a value of 1) or chosen by a directly elected legislative body (these receive a value of .5). I create a measure based on these three variables. For example, Bolivia has four tiers, with executives chosen by directly elected bodies at the bottom 2. Because I am measuring the extent of political decentralization, I weight the bottom tier more heavily than the second lowest tier, so that Bolivia receives a $1/2$ for the bottom tier and a $.5/1$ for the second-lowest tier, for a total of $1.5/3$, or .5. One country, Uruguay, has only 2 tiers, so it receives a full score for having its executive elected at the lowest tier.

Electoral Systems

Closed-List PR

To measure the proportion of legislators elected via closed-list PR from 2009-2013, I used information from Georgetown's Political Database of the Americas, except for Nicaragua, which is sourced from the Inter-Parliamentary Union website. I calculate the proportion of legislators elected via closed-list PR compared to the total amount of seats in all houses of the legislature. To test closed-list PR, I recoded the proportion of legislators elected via closed-list PR into low, medium, and high.

Again, due to varying data availability, for 1994-2000, my methods were slightly different. For electoral systems information from 1994-2000, I used data from “Electoral Systems and the Personal Vote” (Johnson and Wallack 2012). The data measures the proportion of candidates elected via multi-member districts, or PR, and single member districts. They also measure to whether parties have control over both ballot access and candidate rank. I created a variable measuring the proportion of party control over the ballot, ranging from 0-1, with 0 being no control and 1 being full control. To do this, I calculated the extent of party control over candidates from both MMD and SMD and, weighted that by proportion of those legislators in the entire legislature. For example, in Bolivia in 1997, 48% of legislators were elected in MMDs and 52% in SMDs. Parties exercised full control over MMDs and only ballot access control over SMDs. Therefore, for Bolivia’s 1997 score, $48\% \times 0 + 26\% \times 0 + 26\% \times 1$, for a total of .74.

District Magnitude

To measure district magnitudes from 1994-2000, I used data from Johnson and Wallack (2012). I measure two district magnitude variables: one measures the average district magnitude of only the lower house of bicameral countries and the only house of unicameral countries, and the other measures the average district magnitude of both houses of bicameral countries, and includes the average district magnitude of unicameral countries. I calculated the average district magnitude for both houses of bicameral countries by taking the average district magnitudes for members of each legislative house and weighting them by their proportion of seats in the entire legislature.

To measure district magnitudes from 2009-2013, I used data from the “Quality of Government Basic Dataset” (Dahlberg et al 2016) where available, and where not available, I used the average district magnitude provided by the Georgetown Political Database of the

Americas or calculated it using the information they provided. To measure the upper house's proportion of the legislative seats, I used information on the number of seats in each house per year provided by the "Quality of Government Basic Dataset," and simply divided the upper house's share of seats by the total number of legislative seats.

Dependent Variables

Poverty Rates

To measure rural poverty rates from 1994-2000 and 2009-2014, I used data from CEPALSTAT's Database of the Americas, from each available year during that time period, for each country.¹ CEPALSTAT estimates the percentage of the population living in poverty and extreme poverty for urban areas and rural areas, as well as at the national level. CEPALSTAT estimated the cost of a food basket, consumption habits, food availability, prices, and regional price differences, from national household-budget surveys and other sources, in order to establish the indigence line. The poverty line was then from the indigence line by multiplying it by 2 for urban areas and 1.75 for rural areas (United Nations, 2016). The same methods were used for urban poverty rates. To calculate the rural-urban poverty gap, I simply subtracted the urban poverty rate from the rural poverty rate. Poverty rates were recoded into low, medium, high, and extremely high where appropriate.

I consider both rural poverty rates and the gap between rural and urban poverty for several reasons. Firstly, operationalizing the gap between urban and rural poverty rates as a dependent variable may more accurately capture differences in accuracy and substance of representation than a straightforward measure of rural poverty. However, it is important to

¹ For information on which countries were measured using which year, please contact author.

examine rural poverty rates alone as well, as urban poverty rates may fluctuate due to other independent, exogenous variables.

Control Variables

Population Variables

Data on a country's total population and the percentage of the population living in rural areas are taken from the World Bank's Poverty and Equity Database. According to the World Bank, "rural population refers to people living in rural areas as defined by national statistical offices...calculated as the difference between total population and urban population" (World Bank 2016b).

Freedom House Index

To measure the strength of political rights and civil liberties, I used the Freedom House Index's (2015) country scores for each year. I created a composite measure of freedom and civil liberties simply by adding the the Freedom House Index scores for political rights and civil liberties for each year.

Control of Corruption

To estimate corruption for each year, I used the variable capturing the extent to which a country has control of corruption, in the dataset "Worldwide Governance Indicators" by Kaufmann, Kraay, and Mastruzzi (2013). This reflects "the perceptions of the extent to which public power is exercised for private gain" (Kaufman et al 2010, 8). The data are collected through an aggregated survey from a variety of citizens, experts, and enterprises per country (Ibid).

Economic Growth

To measure economic growth, I used the GDP % growth from the World Bank's World Development Indicators databank from 1994-2000 and 2009-2014.³

Results

Decentralization

H1: The greater the extent of fiscal, political, and administrative decentralization, the smaller the gap between rates of rural and urban poverty will be.

a. The greater the extent of fiscal decentralization, the lower the rates of rural poverty will be.

To test this hypothesis, I ran correlations between of all three measures of decentralization as well as the composite measure with rural poverty rates and the urban-rural poverty gap for all countries for 2009-2013. For 1994-2000, I ran all three measures of decentralization, but due to limited data availability, was not able to run a composite score. The results can be observed in Table 1.

Electoral Systems

H2: Relative to open list PR systems and majoritarian systems, countries with a greater proportion of legislators elected in closed-list, proportional representation systems will exhibit lower rates of rural poverty.

To test this hypothesis, I ran correlations between the proportion of legislators elected via closed-list PR, rural poverty rates, and the urban-rural poverty gap for 2009-2013. Because no data were available for earlier years, I excluded those years. The results are observable in Table 2. A bar chart is also observable in Figure 1. Because corruption had nearly as strong an effect on the rural-urban poverty gap as the proportion of legislators elected via closed-list PR, I sorted

³ For charts and graphs, I recoded the total population variables into small and large based on the median value for all countries. I recoded the Freedom House Index scores so that a 1 indicates "Free" (values 1-5) and a 2 indicates "Partly Free" (values 5+). All other control variables were recoded into the categories low, medium, and high. For details on recoding, please contact author.

the countries into three categories, high, medium, and low control of corruption. Those results are observable in Table 4.

H3: Relative to other systems, PR systems with district magnitudes ranging from 4 to 8 will display lower rates of rural poverty.

To test this hypothesis, I ran correlations between both a country's average district magnitude for its lower house and its average district magnitude for all houses and rural poverty rates. The results are observable in Table 5.

H4: Under closed-list proportional representation, where fiscal, administrative, and political decentralization is higher, rural poverty rates will be lower, and the gap between urban and rural poverty rates will be smaller,

- a. In PR systems with district magnitudes between 4 and 8, higher levels of fiscal, administrative, and political decentralization, poverty rates will be lower and the gap between urban and rural poverty rates will be lower.*

To test this hypothesis, I examined the correlations between decentralization, closed-list PR, low district magnitude, and all control variables. The results are observable in Table 4.

[TABLES HERE]

Discussion

Forthcoming.

Conclusion

Forthcoming.

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