

INSTITUTIONS AND POVERTY

By

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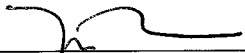
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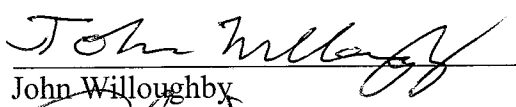
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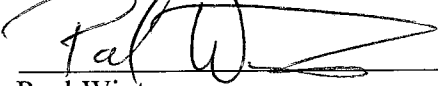
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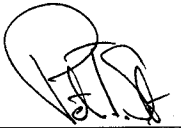
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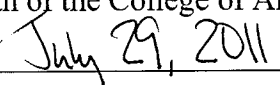
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ABSTRACT

This dissertation analyzes the effects of institutions on poverty by developing an innovative framework for embedding institutions into poverty analysis. In doing so, it makes a clear distinction between economic and political institutions. It reaches a number of key conclusions. First, stronger economic institutions are found to have direct positive effects on the incidence and severity of poverty measured at either at \$1.25 or \$2 a day. Moreover, economic and political institutions are also found to reduce poverty by stimulating economic performance. In this regard, poverty rates are found to decline faster in countries with presidential systems because they register stronger economic performance than countries with parliamentary systems. Similarly, economic performance and poverty reduction are found to be more significant under proportional representation. Finally, this study finds no evidence that the types of political regimes and electoral systems affect differently poverty through public policy and corruption.

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CHAPTER 1

INTRODUCTION

Global poverty remains a major concern for policymakers and development practitioners in general. On September 16, 2009, the World Bank issued a report which predicts that, as a result of the recent crisis, 89 million people will join those across the world who live in “extreme poverty”, meaning with less than \$1.25 a day in the bank’s terminology.¹ In 2015, it projects that about 883 million people around the world will live each day with less than this amount. These sad prospects warrant that prompt actions be taken to fight poverty. And indeed, over the last several years, a sense of urgency seems to have inhabited policymakers, multilateral development institutions, non-governmental organizations, and civil society. These stakeholders have taken and continue to take key global and domestic initiatives supported by abundant economic research.

At the same time, the economic literature has witnessed the rapid emergence of research on institutions. Over the last decade, many respectable economists came up with an uncountable number of studies that appear to have reached some common grounds on the idea that institutions matter for economic performance even though they do not matter exclusively. If indeed strong institutions foster economic performance, then the question that immediately pops up in the mind of those concerned with poverty reduction is

¹ See the World Bank (2009).

whether institutions are part of the “magic box” that can make poverty history.

Intuitively, the answer to this question may be affirmative, especially since plenty of empirical evidence appears to support the notion that sound institutions stimulate economic performance. However, this intuition starts to dissipate once one begins to recount the multiple instances provided by economic history in which wealthy and influential minorities were able to redefine existing institutions in general, and those which guarantee the security of property rights in particular, with the aim of accumulating more assets and resources that were previously common goods or owned by less influential people.

Another way of reformulating the question is to ask whether institutions contribute directly or indirectly to poverty reduction or whether there are other important institutional conditions for such a reduction. In contrast to the extensive analysis of the effects of institutional quality on economic performance, this question has received little attention from scholars, with the literature providing scarce theoretical and empirical evidence about the relationship between institutions and poverty. Still, among the few studies that have attempted to highlight the types of institutions that must exist and function effectively for poverty reduction to take place,² none seems to have aimed at defining the mechanisms through which institutional quality contribute to shaping poverty outcomes.

² Shirley (in Ménard and Shirley, 2005) addresses this issue, claiming that the New Institutional Economics does not.

In this light, this paper contributes to filling this gap in the literature by providing a framework for analyzing whether and how institutional quality affects poverty in a society along with supporting empirical evidence. It introduces a key innovation by developing a theoretical and empirical framework for embedding institutions into poverty analysis. In doing so, it makes a clear distinction between two types of institutions: economic and political institutions. Clearly, such a distinction involves necessarily some judgment and arbitrariness given the encompassing nature and interconnectedness of institutions.³ However, the institutional distinction operated in this study is not only made for tractability purposes and for the purpose of disentangling the respective effects of these institutions on poverty, but it is also based on a number of potential poverty-reducing features that are associated in the literature with selected economic and political institutions, as discussed hereafter.

More specifically, economic institutions are defined in this present study as those institutions that protect contractual and property rights and the rule of law that enforces them as well as those that guarantee good governance in the public sector. In line with the new institutionalist literature, the emphasis is put on secure property rights as well as the rule of law which refers to the existing legal framework that helps enforce such rights (see for instance Harriss, Hunter, and Lewis, 1995; Acemoglu, Johnson, and Robinson, 2001; 2002; Ménard and Shirley, 2005; Brousseau and Glachant, 2008; Di Gregorio et al., 2008). By institutions that guarantee good governance, it is hereby referred to *non-*

³ For instance, it can be argued along the lines of Shirley (in Ménard and Shirley, 2005) that political institutions such as electoral rules may play a key role among institutions that protect private property.

political institutions that determine how efficiently the public administration implements government policies. These institutions incorporate some aspects that contribute to the protection of property and contractual rights. As suggested by Keefer and Knack (1995), an incompetent and corrupt bureaucracy is not only likely to award government contracts and licenses on the basis of considerations other than allocative and technical efficiency, but also to be more ineffective in protecting property and contractual rights.

In this dissertation, political institutions will essentially be meant to refer to two types of political regimes—presidential and parliamentary regimes—and two types of electoral systems—proportional and non-proportional systems. Crudely speaking, presidential regimes are regimes under which there is separation of powers between the executive and legislative branches and the President is neither responsible to the legislature and nor can he or she be dismissed by the latter.⁴ In contrast, parliamentary regimes are characterized by the lack of separation of powers between the two branches and the accountability of the executive branch to the legislature. Clearly, not all political regimes can necessarily be classified either as presidential or parliamentary regimes. For instance, the so-called “mixed” or semi-presidential systems in which the government is accountable to both the legislature and to an independently elected President display features from both types of regime. But as in many other studies including Persson, Roland, and Tabellini (2000), Persson (2002) and Persson and Tabellini (2004), the classification adopted in this dissertation is used for tractability purposes and is supported

⁴ In many countries, separation of powers is typically aimed at strengthening accountability of elected policy-makers and limiting potential abuse of power (see Persson, Roland, and Tabellini, 2000).

by the observation that most regimes in the real world fit such a classification. As for electoral systems, they refer to the rules that govern the election of a country's legislature. As reminded by Persson (2002), the political science literature emphasizes two aspects of electoral rules: the *district size* which determines the number of legislators who get a seat in a voting district and the *electoral formula* which defines the way votes are translated into seats.⁵

It is noteworthy that only the electoral formula and its relevance to poverty dynamics are contemplated in this dissertation, particularly proportional representation under which parties win seats in proportion to their vote shares. While district size is not directly taken into account in the analysis conducted hereafter, its indirect effect is captured by the inclusion of electoral formula. Indeed, the literature evidences a strong correlation between district size and electoral formula (see Persson, 2002). For instance, as pointed out by Persson, Tabellini, and Trebbi (2003), "systems based on proportion representation electoral formula tend to combine large district magnitude and citizens casting their ballot for party lists while plurality systems tend to have small districts where citizens cast their ballot for individuals".

In order to assess whether and how economic and political institutions affect poverty, a unique modeling framework is developed in this dissertation based on a system of simultaneous equations. Each of these equations aims to capture how poverty or poverty determinants of interest are affected by selected institutions, thus helping assess

⁵ Other aspects may include the rules governing establishment of party lists, thresholds for representation.

the direct and indirect effects of economic institutions as well as the indirect effects of political institutions on poverty. This study makes use of different indicators of the incidence and depth of poverty compiled with different poverty lines. Specifically, it uses the World Bank's poverty headcount and poverty gap indices at both \$1.25 and \$2 a day (PPP). As such, it is relevant to countries belonging to different income groups, particularly low- and middle-income countries.

The model is a system of simultaneous equations which is estimated using three-stage least squares techniques and a set of instruments for economic institutions that are selected on the basis of an exhaustive literature review and supported by instrument validity tests. The key advantage of using such a model is that it helps capture the linkages that exist between institutions, poverty, and other variables through which they may interact, including public policy, corruption, and economic performance. The use of the 3SLS procedure is an innovation in the analysis of institutions. Tests conducted in the empirical chapter confirm that it gives more efficient estimates than 2SLS techniques that are commonly used in this type of analysis.

A number of key messages can be drawn from the empirical evidence presented in this dissertation. The first message is that stronger economic institutions exert direct positive effects on the incidence and severity of poverty whether these are measured at either at \$1.25 or \$2 a day. This direct impact of economic institutions on poverty is consistent with the conclusions reached by the limited number of available studies that address this issue, including Chong and Calderón (2000a). Economic institutions are also found in this paper to reduce poverty by stimulating economic performance, which is widely evidenced in the literature.

Another message drawn from the empirical evidence presented in this paper is innovative: different types of political regimes and electoral rules have indirect and different effects on poverty that channel through economic performance. All things being equal, poverty reduction is faster in countries with presidential systems because they tend to register stronger economic performance than countries with parliamentary systems. Similarly, economic performance and poverty reduction are found to be more significant in countries with proportional electoral systems than in countries with non-proportional systems. The innovation of these findings relates to the fact that the incidence of electoral rules on the relationship between poverty and economic performance has thus far been unaddressed by the existing literature and that the literature provides limited and inconclusive supporting evidence to the finding that countries with proportional electoral rules outperform economically countries non-proportional systems.

A last but not least important message is that the types of political regimes and electoral systems that are considered in this paper do not affect the incidence and depth of poverty through public policy and corruption. While this issue has virtually received no attention thus far in the literature, a review of the literature suggests that political institutions are likely to have significant effects on public policy and corruption, thereby affecting poverty. But instead of providing a definitive answer, the conclusion reached in this study suggests that additional research would provide useful further evidence in this regard. That said, electoral rules are found to have noticeable effects on corruption and pro-poor spending. In line with a significant segment of the political science literature, the fraction of government spending that is allocated to pro-poor spending is found to be larger under parliamentary regimes than under presidential regimes.

The outline of this dissertation is as follows. Chapter 2 develops a conceptual framework for analyzing the effects of economic and political institutions. Chapter 3 discusses data and methodological issues. Finally, Chapter 4 presents the empirical findings whereas Chapter 5 concludes.

CHAPTER 2

CONCEPTUAL FRAMEWORK

This chapter develops a conceptual framework for the analysis of institutions and poverty. To this end, the first two sections explain the focus of this study on selected economic and political institutions and to identify the rationale for the limited focus of the empirical literature on the relationship between poverty and institutions. Afterward, a number of transmission channels are identified from the literature through which different institutions are deemed to affect poverty either directly or indirectly. Finally, the hypotheses that this dissertation aims to test are specified in the last section.

2.1. RATIONALE FOR THE FOCUS ON SELECTED ECONOMIC AND POLITICAL INSTITUTIONS

The economic literature has long provided significant support to the notion that improvements in the quality of some institutions, particularly institutions that ensure property rights security, contract enforcement, and good public sector governance, contribute significantly to improving economic performance. In particular, a heavy focus has been put over the past centuries on institutions that safeguard property rights and economic development although a direct link has not systematically been established

between the two concepts.⁶ In addition, not only the desirability of private or public property rights has been interpreted differently by various authors, but also common grounds have not been found neither on the relevance of these types of institutions nor on their implications for economic activity. On the one hand, some classical economists put a heavy emphasis on the importance of private rights of ownership. For instance, Smith (1776) underscores that economic growth requires a voluntary and beneficial exchange framework which in turn necessitates security of private contracting. On his part, John Stuart Mill argued in his 1848's work entitled *Principles of Political Economy* that inadequate legal framework coupled with the incompetence of landlords were the primary causes of the hardship faced by society during his lifetime.

On the other hand, authors such as Jeremy Bentham (1795) claimed that the existence of property requires the existence of a government that guarantees the continued benefit of property rights and thus made a case for the desirability of government ownership.⁷ Along the same lines, Marx and Engels underscored in their *Communist Manifesto* that private property tends to be concentrated in the bourgeoisie and comes along with an institutional framework that aims at protecting the interest of this class. They argue that establishment of private property systems thus leads to impoverishment of some segments of the population. Marx acknowledged however that

⁶ Levine (2005) notes that for 2,500 years scholars have developed theories about the sources of variation in property rights.

⁷ Jeremy Bentham, *Theory of Legislation*, first published in 1795.

capitalism which supports private property leads to rapid productivity growth, which makes it possible for poverty to be eliminated even if capitalism is unable to do so. More recently, many studies find that stronger institutions of property and contractual right security, the rule of law, and governance lead to improved economic performance (e.g. North and Thomas, 1973; North, 1990; Knack and Keefer, 1995; Acemoglu et al., 2001; Easterly, 2001; Acemoglu et al., 2001; Dollar and Kraay, 2002). The key argument that supports these findings is that more secure property and contractual rights and the rule of law can boost per capita income in a country by fostering long-term investments in physical and human capital.

The focus of this dissertation on the selected types of economic institutions is explained by the important role they play in providing a sound framework for economic and social transactions. Such institutions present at least three key elements that are deemed crucial for *good* institutions, as summarized by Acemoglu, Johnson, and Robinson (2006, p. 20)⁸: “(1) enforcement of property rights for a broad cross section of society, so that a variety of individuals have incentives to invest and take part in economic life; (2) constraints on the actions of elites, politicians, and other powerful groups so these people cannot expropriate the incomes and investments of others or create a highly uneven playing field; and (3) some degree of equal opportunity for broad segments of the society, so that they can make investments, especially in human capital, and participate in productive economic activities.” As noted by these authors, the

⁸ In Banerjee, Mookherjee, and Bénabou (2006), *Understanding Poverty*, Oxford University Press.

reference to such institutions as *good* institutions stresses the importance of the enforcement of the rule of law and property rights. Indeed, in countries with such institutions the rule of law prevails, investment and broad-based participation by citizens are facilitated, and market transactions are facilitated.

Here, it is noteworthy that while the notion that *good* institutions allow the poor to be more involved in economic activity and enjoy the income accruing from such activity has some fervent advocates in the literature, it has been challenged by some critics based on historical evidence. A key argument made by these critics is that establishment of private property rights is, in Marx' words, an "idyllic method of primitive accumulation"⁹ that involves denying the poor access to assets and resources that were previously collectively accessible. Already in the nineteenth century, Marx (1867) raised this in relation with enclosures in England. According to Marx, feudal lords forcibly engineered by means of acts of violence usurpation of common lands from small peasants in the 15th and 16th century and such usurpation continued in the 18th century backed by the law, notably through parliamentary Acts for the Enclosures of Commons by which landlords expropriated people's land and transformed it into private property. From this perspective, one can rightly question whether the imposition of new property rights is necessarily consistent with a significant reduction of poverty. As further discussed in the next chapter, a key argument made in this dissertation is that better institutional quality,

⁹ See Marx (1867).

as defined by Acemoglu et al., is indeed likely to provide the poor with more opportunities to improve their welfare.

Moreover, the focus of this dissertation on selected economic institutions is supported by existing though limited evidence in the literature that these institutions may exert a direct and indirect impact on poverty. Indeed, some of these selected institutions are shown by some studies to affect poverty directly, including those that ensure low risks of expropriation (property rights security) and an efficient bureaucracy in the public sector (Chong and Calderón, 2000*a*). As previously noted, this is likely to foster investment and improve social welfare by creating the conditions for broader social groups to be involved in economic activity. At the same time, recouping abovementioned theoretical and empirical findings about institutions and economic performance nexus and economic performance and poverty provides some indications that the quality of these institutions can affect indirectly poverty, notably through economic performance.

This dissertation focuses on political regimes and electoral rules in line with a significant segment—largely empirical—of the literature which has done so. Yet, the heavy focus of the literature on these institutions notwithstanding, the literature has ignored not only their effects on economic aggregates as noted by Persson (2002), but also on their poverty impact. Beyond being an attempt to fill this gap, the focus of the dissertation on political regimes and electoral rules has a number of motivations. One of the key motivations relates to the ability of the latter to capture essential features and

functioning of representative democracy. As noted by Shirley (2005),¹⁰ the functioning of democracy is affected *inter alia* by whether it is parliamentary or presidential and whether it uses proportional representation or winner-takes-all. Another motivation for the focus on selected types of political institutions stems from their critical influence on the policy choices made by elected politicians (see Persson, 2002; and Persson and Tabellini, 2001). In turn, these policy choices have a significant bearing on economic performance and thus on the welfare of society and the poor in particular. Last but not least, this focus is also for convenience. Indeed, comprehensive measures of such institutions are readily available for a wide range of countries across the world, thus facilitating the analysis of their effect on variables of interest such as poverty.

Instead of examining the poverty impact of political regimes and electoral rules, another approach might have been to study the impact of dictatorship versus democracy. Assuredly, a similar poverty analysis could be of great interest in the context of dictatorships, where both economic and political institutions could be expected to play a different role. While tempting, this approach is not explored in this paper however, as it focuses only on how poverty is affected by existing institutions in a representative democracy. Intuitively, the analysis of the effects of political institutions on poverty is likely to bear more fruit in a democratic setting than in a non-democratic one. Indeed, such institutions can be deemed to have more autonomous effects in well-functioning democracies where citizens enjoy greater freedom than in non-democracies such as

¹⁰ *Institutions and Development*, in Ménard and Shirley (2005).

dictatorships.¹¹ In this connection, it is noteworthy that most of the countries included in the samples used in the empirical sections of the paper guarantee some political rights, civil liberties, and press freedom.¹² However, while all sample countries do not necessarily have a perfectly functioning democratic system, they enjoy democratic processes that make them meet rigorous criteria set by the Database of Political Institutions (DPI)¹³ to classify their political regimes as either presidential or parliamentary and their electoral rules as either proportional or non-proportional. A complete list of included countries is provided in the Appendix.

2.2. RATIONALE FOR THE LIMITED FOCUS OF THE EMPIRICAL LITERATURE ON THE RELATIONSHIP BETWEEN POVERTY AND INSTITUTIONS

While the empirical literature puts a heavy focus on the relationship between institutions and economic performance, it has put little emphasis thus far on the effects of institutions on poverty. There seems to be a number of reasons behind this surprisingly limited investigation of this important issue. First, a key explanation for this limited focus

¹¹ See for instance Warren (2006), “Democracy and the State” in The Oxford Handbook of Political Theory, Edited by Dryzek, Honig, and Phillips, Oxford University Press.

¹² As discussed in the Appendix, I use two main samples in the regressions: a base sample which includes 85 countries most of which are classified in the 2011 country reports of Freedom House as “Free” or “Partly Free” and a *free* sample which includes exclusively countries classified as “Free” or “Partly Free”. The results of the regressions performed with these two samples convey virtually the same messages about the effects of economic and political institutions on poverty. As part of the robustness checks, I also report in Appendix Table A2 the regression results obtained with a *reduced* sample of *free* or *partly free* countries for which poverty observations are available. These results convey broadly the same messages obtained from the base and *free* samples.

¹³ The DPI is originally published by Beck, Clarke, Groff, Keefer, and Walsh (2001).

stems from the non-existence of an analytical framework to embed institutional analysis into economics and economic history, as observed by North (1990), but also into the study of poverty. This lack of framework concerns all types of institutions that are considered in this study, namely economic, political and social institutions. Given the multitude of potential dimensions and types of institutions and the multi-faceted nature of poverty, this is not surprising as it proves difficult to develop a unique framework that can analyze the relationship between institutions and poverty. As a result, the overwhelming segment of the poverty literature tend to focus on the interactions between poverty and other factors such as growth and inequality while assuming that institutions play an indirect role by structuring these interactions and acting as one of the determinants of each of these variables.

In this connection, the scarcity of research on institutions and poverty may be related to the presumption that the poverty impact of institutions can be indirectly inferred from the relationship between institutions and economic performance on the one hand and economic performance and poverty on the other hand. In other words, this suggests that better institutional quality stimulates economic performance which in turn reduces poverty. But is that always true? The literature provides evidence that the answer to this question is not necessarily affirmative. A significant segment of the literature suggests a link between economic development and inequality. In particular, advocates of the Kuznets hypothesis contend that income inequality increases in the early stages of economic development before decreasing once a certain level of income per capita is reached, leading to an inverted U-shaped relationship between inequality and income per

capita. The existence of such a relationship—or for that matter any stable relationship between these two variables—would make the impact of improved economic performance on poverty reduction contingent upon prevailing patterns of income distribution and not necessarily positive. Even if economic development and inequality are not closely related as advocated by some critics of the Kuznets hypothesis, the evidenced lack of correlation between growth and changes in inequality must be interpreted with caution as argued by Ravallion (2005), given notably the nature of inequality measures, the difficulty of drawing the impact of distribution neutrality on poverty, and significant error measurements in changes in inequality. It is noteworthy that recent evidence points to the existence of a negative relationship between poverty and growth in mean household income which seems to refute the Kuznets hypothesis (see Ravallion, 2001).

Another possible explanation seems to relate to the intrinsic focus of the institutionalist literature which is put on the ability of entrepreneurs and other innovators to keep their rents and protect their interests while providing through levies and taxes the resources needed for the state to secure their property rights (see Bates, 2001). The focus is on economic and political elites such as the entrepreneurs who become the agents of institutional change by “responding to the incentives embodied in the institutional framework” (North, 1990). Thus, the focus of this literature is away from the poor who are just then the inadvertent beneficiaries of “good” institutions. If any, the interest of the

literature tends to be directed away from the poor toward the institutions that shape their environment (Bastiaensen, De Herdt, and D'Exelle, 2005).¹⁴

The scarcity of empirical research on institutions and poverty may also have to do with data shortcomings. As noted by Shirley (2005),¹⁵ good aggregate measures of complex institutions are still lacking. And these data limitations have long hampered the conduct of empirical tests of institutionalist theories. For instance, as noted by Knack and Keefer (1995), the lack of data on economic institutions such as those that protect property rights led empirical studies to focus on readily available measures of other aspects of institutions including measures of political stability, freedom, and civil liberties. Many of these measures proved to be inadequate for assessing the actual impact of economic institutions on poverty, particularly since they only partially capture cross-country institutional variations. As a result, most recent empirical studies on this issue have been conducted using presumably richer data on institutions that are compiled by risk rating agencies.¹⁶ Related to the problem of data availability in developing countries is also the lack of a critical mass of local researchers to facilitate a deeper understanding of institutions, as argued by Shirley (2005).¹⁷

¹⁴ According to Bastiaensen, De Herdt, and D'Exelle (2005), this inadequate level of attention that is put on poverty is due to the confusion that is usually made between individualized symptoms and institutional determinants of poverty.

¹⁵ *Institutions and Development*, in Ménard and Shirley (2005).

¹⁶ See for instance Chong and Calderon (2000a; 2000b) who use ICRG data to examine the relationship between poverty and institution.

¹⁷ *Institutions and Development*, in Ménard and Shirley (2005).

2.3. ECONOMIC INSTITUTIONS AND POVERTY

This section discusses first the potential direct effects of economic institutions on poverty. Then, through a selective survey of the literature, it identifies several channels through which various forms of institutions affect indirectly poverty.

DO ECONOMIC INSTITUTIONS AFFECT POVERTY DIRECTLY?

Intuitively, certain types of economic institutions can be expected to affect poverty directly depending on their relevance to the situation of the poor. This intuition seems to be corroborated by the results of the few studies conducted on the issue which find that some economic institutions exert direct effects on poverty. For instance, Chong and Calderón (2000*a*; 2000*b*) find that economic institutions that ensure lower expropriation risks and better quality of bureaucracy in the public sector have a direct positive impact on the poverty rate. The rationale is that such institutions are likely to improve the situation of the poor not only by leading to a more efficient allocation of public resources but also by reducing the level of economic uncertainty they face, particularly in situations of insecure land property rights. In this connection, it can also be argued that establishing strong property rights systems helps reduce poverty by promoting entrepreneurship of the poor.

In support of these findings it is argued that, in theory, property rights reform can lessen the economic power of minority elite and special interest groups. For instance, Chong and Calderón (2000*a*) who hold this view argue that more secure property rights in marginal urban and rural areas improves delivery and allocation of public services in

favor of the poor living in these areas. In addition, there is across a segment of the literature a presumption that strong and effective rule of law that enforces property rights has the potential to enhance the welfare of the poor, either by securing asset ownership of the latter as previously noted or by further strengthening the ability of the poor to defend their interests (Di Gregorio et al., 2008; Meinzen-Dick, 2009). In this latter respect, many studies suggest that, in countries without a strong legal framework that enforces property and contractual rights or where such rights are backed by sources of coercion other than the rule of law such as political influence and power, the resolution of conflicts of interest between various groups and subsequent public policy depend on existing political institutions and tend to favor groups with stronger political power (Persson, 2002; Acemoglu, Johnson, and Robinson, 2004; Persson and Tabellini, 2004). And since the poor do not typically belong to these groups, they are thus more likely to be worse off when their interests are not consistent with those of the winning side.

While the above discussion suggests that improved economic institutions that ensure better protection of property rights and quality of government bureaucracy have direct positive effects on poverty reduction by weakening the power held by a country's elite, another segment of the literature argues that rulers and influential groups shape policies and institutions to better serve their interests and devise and enforce property rights in ways that give them a preferential treatment (North, 1990; Engerman and Sokoloff, 2006¹⁸). It is also argued that powerful groups usually favor institutions that do not

¹⁸ In Banerjee, Mookherjee, and Bénabou (2006), *Understanding Poverty*, Oxford University Press.

provide any rights to the majority of the population with the aim at extorting resources or labor from them or keeping the most profitable businesses (Acemoglu, Robinson, and Johnson, 2006).

History also provides some evidence that institutional development as reflected in better enforcement of property rights has not always favored the poor. In particular, protection of property rights, notably on land tenure, has often involved dispossession of previous beneficiaries of such rights. In cases where the latter included the poor, particularly poor farmers, increased property rights security did not necessarily imply poverty reduction. In this connection, segments of the literature often cites the experience in South America where politically influent people enjoyed new property rights at the expenses of dispossessed poor peasants. In many former Spanish colonies located in that region, Engerman and Sokoloff (2006)¹⁹ note that common practices consisted in “awarding claims on land, native labor, and rich mineral resources to members of the elite”. Similarly, initiatives aimed at strengthening private property rights for the elite in former colonies often came at the expense of the poor indigenous populations, as they lost their own property rights or access to common property. For instance, in colonies where Europeans did not settle, the power of the elite was left unconstrained and civil or property rights for the majority of the population were inexistent according to Acemoglu, Johnson, and Robinson (2006).

¹⁹ In Banerjee, Mookherjee, and Bénabou (2006), *Understanding Poverty*, Oxford University Press.

So far, this section has provided evidence from the literature that the quality of economic institutions affects poverty either positively or negatively. In either case, the above discussion suggests that rulers and influential groups comprising members of political and economic elite are homogenous and motivated by similar interests. In other words, these are organized within homogenous groups that carry out collective actions to achieve their goals. And as argued in the literature, organized groups that attempt to undertake collective action are more likely to succeed if they manage to set up relatively homogenous groups (Olson, 1986). Yet, it is not clear that in the real world influential groups always exhibit similar interests given the plurality of sectors and activities in which they operate. Influential groups such as political parties, associations of entrepreneurs, and unions tend to be motivated by a variety of oftentimes divergent interests, which combined with their large membership makes it often difficult to conduct successful collective action. As Olson (1986) puts it, “the larger the number of individuals or firms that would benefit from a collective good, the smaller the share of the gains from action in the group interest that will accrue to the individual or firm that undertakes the action. Thus, in the absence of selective incentives, the incentive for group action diminishes as group size increases, so that large groups are less able to act in their common interest than small ones.”²⁰ If valid, this argument thus casts doubt on the notion

²⁰ Olson (1971, 1986) defines a *selective incentive* as one that applies selectively to the individuals depending on whether they do or do not contribute to the provision of the collective good. It can be either positive or negative.

that the economic and political elite can always shape institutions of private property in line with their interests, particularly if these interests are divergent.

Last but not least, there are dissenting views to the notion that institutions that aim to protect private property rights are really those that matter for economic development and thus poverty reduction. According to Przeworski (2004), securing property rights is, *inter alia*, just the “consequences of specific institutions, such as patterns of separation of powers, the independence of the judiciary or of central banks, procedures for electing rulers, and the like.” As a result, measures of such institutions do not correspond to the real concept that is relevant to development, as acknowledged by Acemoglu, Johnson, and Robinson (2002). In fact, as argued by Przeworski (2004), key desirable features that institutions may need to display in order to be qualified as *good* include the ability to make rulers accountable, to coordinate investment, and to disseminate information about government’s actions and allow people to sanction bad performance by throwing public officials out of office. In Przeworski’s view, accountability cannot be “directly engineered”; instead only institutional features that are expected to strengthen accountability can be promoted. This illustrates the fact that “good” institutions are the subject of competing definitions, as the one which is adopted in this dissertation in line with Acemoglu et al. (2006) underscores instead the desirability of such institutions to enforce property rights and provide equal opportunities for broad segments of society and mitigate expropriation risks stemming from the elite.

DO ECONOMIC INSTITUTIONS AFFECT POVERTY INDIRECTLY?

Apart from the potential direct impact of some economic institutions on poverty or lack of thereof, there are several instances where improvements in the quality of economic institutions are found to affect poverty indirectly. A review of the literature may suffice to note that a key mechanism by which improved quality of economic institutions is expected to exert an indirect impact on the welfare of the poor is by strengthening economic performance. In theory, economic institutions are deemed to affect economic performance through their effect on the costs of transaction and production (North, 1990; Harriss, Hunter, and Lewis, 1995; Shirley, 2005²¹; and Brousseau and Glachant, 2008). Along the lines of Coase (1960), these transaction costs are viewed as including the costs borne in the process of finding out relevant prices as well as designing, monitoring and enforcing contracts. The argument is that efficient institutions reduce information and transaction costs and provides a formal exchange framework needed for efficient markets to operate. Analogously, inefficient institutions lead to high transaction costs which, in turn, discourage investment in production and innovation and to encourage rent-seeking and corruption. Following this line of argument, poor economic performance tends to persist in developing countries because of the large transaction costs which result notably from existing imperfect markets and an inadequate institutional framework which lacks a formal structure for exchange that supports market efficiency (North, 1990).

²¹ *Institutions and Development*, In Ménard and Shirley (2005).

That said, it is worth noting that the institutionalist literature inspired by Coase's insight underscores that the allocation of property rights to the private sector does not necessarily constitute an improvement, particularly when it does not benefit primarily those who can ensure their most productive use. In the presence of market and state failures in particular, the decision to operate such an allocation may not be optimal if the impact of reassigning property rights on transaction costs is not accounted for, as noted by Stein (1995)²² in the case of Africa.

Empirically, the indirect poverty impact of economic institutions channeling through economic performance is also implied by the conclusions reached by several studies that document a well-evidenced relationship between economic institutions and economic performance on the one hand, and between economic performance and poverty on the other. As regards the economic institutions-performance nexus, empirical research across the literature offers extensive evidence in support of the notion that the quality of economic institutions matters for economic performance. Indeed, a wealth of empirical studies finds that improved quality of economic institutions boost per capita income (Knack and Keefer, 1995; Easterly and Levine, 1997, 2003; Easterly, 2001; Acemoglu, Johnson, and Robinson, 2001; Dollar and Kraay, 2002). For instance, Dollar and Kraay (2002) use the rule of law index constructed by Kaufmann, Kraay, and Zoido-Lobaton (1999) as a measure of institutional quality and find that improvements in the rule of law contribute to raising per capita GDP by about 15 percent.

²² *Institutional Theories and Structural Adjustment in Africa*, in Harriss, Hunter, and Lewis (1995).

Concerning the economic performance-poverty nexus, there is a strong consensus in the literature that improved economic performance as measured by income per capita is critical for reducing poverty. The notion that improved economic performance reduces poverty hinges notably on the presumption that economic growth increases the income of the poor at least proportionately with that of other segments of the population. And in the literature this presumption has received significant supportive evidence.²³ For instance, Ravallion (2001) plots the proportionate changes in the poverty rate—as measured by the proportion of people living below US\$ 1 per day at 1993 PPP exchange rates—against the growth rate in average income for a sample of 47 developing countries in the 1980s and 1990s and finds a negative relationship between poverty and growth in mean household income.

Nevertheless, it is not always clear that improved economic institutions lead ultimately to poverty reduction by improving economic performance. First, it can be argued along the lines of Przeworski (2004) indicators such as rating agencies' measures of expropriation risk that are used in empirical studies as proxy for the quality of economic institutions do not necessarily capture the concept of institutional quality that is theoretically relevant. On top of this argument, it is noteworthy that the relationship between institutions, growth, and improved economic performance is still the subject of a lively debate in the literature even though a significant segment of the literature argues along the lines of North and Thomas (1973) that better institutions of property rights and

²³ See for instance Dollar and Kraay (2002), Ravallion (2001).

good governance may foster per capita income. In particular, while many argue that institutions cause improved economic performance and growth in particular, others are of the view that it is growth itself that lead to improvements in institutional quality. For instance Glaeser, La Porta, Lopez-de-Silanes, and Schleifer (2004) argues that existing studies that find a causality link from institutions to growth tend to face conceptual challenges stemming from the measurement of institutions as well as limitations of econometric techniques. In fact, these authors argue that human capital does a better job than institutions in explaining growth and that poverty reduction has often originated from implementation of sound policies in poor countries, particularly those with a dictatorial leadership.

Moreover, if stronger economic institutions that ensure more secure property rights backed by a strictly enforced rule of law have a positive impact on income per capita as widely documented in the literature, then they can indeed be expected to benefit the poor assuming a neutral or pro-poor pattern of income distribution. Yet, there is abundant evidence in the literature that suggests that actual income distributional patterns are not always favorable to the poorest income quintiles during episodes of growth. For instance, Ravallion (2001) looks at 117 spells between two household surveys covering 47 countries and finds several cases of rising inequality during spells of growth. Although this should not be interpreted as rising inequality being an impediment to higher rate of poverty reduction as cautioned by the author, it is an illustration of the idea that the poor do not necessarily stand to benefit from improved economic performance.

The above discussion surveys a number of findings in the literature that provide some indications that economic institutions as defined in this dissertation may reduce poverty indirectly through their effects on economic performance. However, other studies cast doubt on this conclusion, notably in view of the ability of inequality to offset the potential poverty-reducing effects of stronger economic performance. Possibly, there are other channels through which economic institutions influence poverty outcomes, including gender balance, social inclusion and justice. These channels are particularly explored in the field of rural development economics which heavily emphasizes the poverty reducing effects of more secure property rights at the household level. For instance, institutions that ensure increased security of property rights for women are found to have positive consequences for poverty reduction in the long run by increasing women's bargaining power (Deere and Doss, 2006; Meinzen-Dick, 2009). However, there seems to be only sporadic macro-level evidence in the literature that firmly supports the poverty impact of factors other than economic performance, which explains the sole focus of this study on the indirect poverty effects of institutional quality that channel through economic performance.

KEY FINDINGS ABOUT THE RELATIONSHIP BETWEEN ECONOMIC INSTITUTIONS AND POVERTY

In a nutshell, two sets of key messages emanate from the above literature survey. First, a segment of the literature finds that improved quality of economic institutions including better protection of property and contractual rights and good governance is likely to have direct positive implications for poverty reduction. The key argument made

by this research is that the emergence of such institutions is prone to weaken the power of the elite in favor of other social groups, including the poorest ones, thereby improving the welfare of the latter (Chong and Calderón, 2000*a*; 2000*b*). At the same time, there is lot of theoretical and historical evidence in the literature that suggests that “improvements” in the quality of economic institutions do not necessarily make the poor better off. In fact, if anything, institutional change may simply provide additional opportunities for the elite to capture more rents and to increase their share of the pie.

Second, there is abundant evidence that some other economic institutions such as enforced property rights affect indirectly poverty through their positive impact on economic performance. It is argued that this results notably from the ability of such institutions to reduce transaction costs. Still, in light of other research on economic institutions, performance and poverty, it appears that caution needs to be exercised in interpreting this evidence. Indeed, it is not always clear that *better* economic institutions in the sense of more secure property rights, better contract enforcement, and public sector governance improve systematically economic performance, nor is it certain that episodes of stronger economic performance coincide necessarily with poverty reduction.

My view on this debate is twofold. First, while I concur with authors who argue that increased security of property rights can directly or indirectly contribute to poverty reduction, I am not convinced by their argument that such a development necessarily empowers broader social groups at the expense of the elite. As previously noted, institutional improvement as defined in this paper includes more secure property rights, better contract enforcement, and public sector governance. As such, it is not likely, in my

view, to hurt the interests of the elite. Moreover, my sense is that the argument that the elite is hurt by institutional reform is shaken by the fact that it can oftentimes stall or reverse such reform if it is not in line with its interests. In addition to reducing expropriation risks facing the poor as suggested by a segment of the literature, I would rather contend that better institutional quality contributes to reducing poverty notably by providing the poor with opportunities to escape social exclusion, get more involved in economic activity, and be relieved from the high costs associated with the functioning of weak institutions that tend to be disproportionately borne by the poor, including expropriation risks and bribery.

Second, while institutional development may trigger poverty reduction, it is not, in my view, a precondition for the materialization of such an outcome. History and the present provide vivid illustrations of the fact that countries with democratic economic institutions have not always been those with the strongest performance in terms of growth and poverty reduction. Put another way: there have been several instances in which countries with limited respect for private property rights or weak public sector governance have made major inroads in the fight against poverty. Against this background, it is only fair to acknowledge that better institutional quality is not a panacea for poverty reduction. Other determinants of poverty reduction may play a key role irrespective of whether or not democratic institutions exist and function effectively.

2. 4. POLITICAL INSTITUTIONS AND POVERTY

DO POLITICAL INSTITUTIONS HAVE DIRECT EFFECTS ON POVERTY?

In theory, arguing that political regimes and electoral systems exert direct effects on poverty is to suppose that the nature of such institutions is somehow directly relevant to the welfare of the poor. Hypothetically, this could be the case if these political institutions are deemed to be shaped in line with the interests of some given social groups, including the poor. Under such circumstances, it could be argued that the poor may be either among the winners if their interests are favored or among the losers otherwise. Yet, while the institutionalist literature makes a vibrant case that a country's economic and political institutions, tend to be shaped by opportunistic choices made by the economic and political elite, it is rather rare that in the real world a country's political regime or electoral rule be adopted with the explicit aim at favoring the least influential segments of the population such as the poor.

In view of the literature, a possible explanation for the limited influence of the poor on the design of political institutions is that the poor are not usually well organized enough to induce institutional change through collective action, except during exceptional circumstances such as revolutions. As argued by Olson (1986), "those groups that have access to selective incentives will be more likely to act collectively to obtain collective goods than those that do not, and [...] smaller groups will have a greater likelihood of engaging in collective action than larger ones." But since "the poor do not have either the selective incentives or the small numbers needed to organize" as noted by Olson (1986), it is unlikely that they can participate effectively in any comprehensive

bargaining that would enable a society to achieve either efficiency or equity. As a result, the evolution of a society's policy and institutional framework is likely to be oriented toward satisfying the interests of organized groups, especially since the inherent costs are likely to be borne disproportionately by unorganized ones.

Consistent with this view is also North's (1990) idea that political and economic entrepreneurs stand ready to use their skills, knowledge and organizations to seize opportunities for making profits. In this endeavor, these actors make use of "intermediary organizations"—such as lobbying groups and other interest groups—in which both economic and political bodies interact to help achieve the desired outcomes. Under these circumstances, the most likely way the nature and evolution of specific political institutions could ultimately influence the welfare of the poor would be through their effect on the situation of the elite. But then such an influence would probably be indirect by channeling notably through inequality.

The discussion made thus far in this section presumes that political institutions tend to be shaped by an elite which typically excludes the poor from its membership. Yet, in the real world the elite may transcend the narrow confines of its classic members such as rich entrepreneurs, celebrities, senior government officials, military officers, and land owners to include individuals from the poorest segments of society. For instance, prevailing democratic power-sharing frameworks in some countries allow some representatives of organizations that defend the interests of the poor, notably unions, to be part of the elite and reap the benefits of this status. And among the benefits and privileges accorded to these "representatives of the poor" is the ability to participate in

the design and implementation of the rules of the game. As such, members of the elite broadly defined may ultimately conceive and implement political rules and systems that are not inadvertently but purposely made consistent with the welfare of the poor. In this connection, the literature on social democracy provides some interesting examples. For instance, Przeworski (1985) analyzes how workers and the proletariat in particular may organize themselves as a class and the important role played by political parties in this process. This author contends that social democracy has a historical record of advancing reforms in favor of workers. In this regard, the recent political experience of Brazil is illustrative, as former President Luiz Inácio Lula da Silva who was issued from a modest background and the labor movement is known to have promoted many social projects aimed at improving the conditions of workers and the poor.²⁴

It is not straightforward to argue how the concept of elites-shaped institutions and elite-driven institutional change may explain the way political institutions can directly impact poverty. Moreover, this is all the more challenging that the empirical literature provides little evidence, if any, of the direct poverty impact of political regimes and electoral systems. However, it must be recognized that the eventual failure of this institutional perspective—and for that matter any other theory of institutional change—to explain the direct effects of these institutions on poverty would not be *per se* a proof of inexistence of such effects. Similarly, the lack of empirical evidence should not be interpreted as the proof of non-existence of a direct causality from political institutions to

²⁴ Lula da Silva served two terms as President of Brazil from 2003 to 2010.

poverty. Because the functioning of democracy in a country is affected by the existing regime type and electoral system as noted by Shirley (2005), it is possible but not straightforward to reach definitive conclusions about whether or not political institutions in representative democracies have a negative direct impact on poverty and whether they fare better than autocratic ones in terms of poverty reduction.

DO POLITICAL INSTITUTIONS HAVE INDIRECT EFFECTS ON POVERTY?

Although it makes virtually no reference to actual direct effects of political institutions on poverty, the literature is suggestive of potential indirect effects of political institutions on poverty. Several channels can be identified through which political institutions may ultimately influence poverty, notably by shaping economic policy facilitating or deterring corruption, and affecting growth performance.²⁵ These channels are reviewed in turn hereafter.

POLITICAL INSTITUTIONS, PUBLIC POLICY, AND POVERTY

The notion that political institutions may affect poverty indirectly through their effect on public policy choices is supported by the substantial volume of research that attests of the ability of these institutions to shape economic policy outcomes.²⁶ More

²⁵ There is also a rich literature that analyzes how political institutions contribute to inflation and financial development. However, it is not reviewed in this study as for the most part however it refers to forms of political institutions other than those contemplated here, that is political regimes and electoral systems. Moreover, political institutions may probably affect poverty through inequality, as hinted previously. But the literature is not prolific on this issue.

²⁶ See Persson and Tabellini (2000) for a survey of the literature.

specifically, political regimes and electoral rules are found to exert a certain impact on the size and composition of public expenditure (Persson, 2002; Persson and Tabellini, 2004).

If political institutions admittedly influence public policy and the latter in turn affects poverty, a comparative analysis of the effects of political institutions on poverty needs to address the question of how do government policies that benefit the poor fare under majoritarian systems compared to proportional systems and under presidential regimes compared to parliamentary regimes.²⁷ In order to answer this question, a review of the literature is in order with a view to determining the relative policy impact of specific political institutions. Afterwards, a comparative analysis of their respective effects on poverty can help to determine how the poor fare under each institutional framework.

With regard to the regime type, the institutional literature appears to coalesce around the finding that presidential regimes tend to have smaller governments and lower expenditures on broad social programs than parliamentary regimes (Persson and Tabellini, 2001; Persson, Roland, and Tabellini, 2000). Persson, Roland, and Tabellini (2000) investigate whether differences in political regimes can lead to systematic differences in collective decisions on redistribution, taxation, public good provision, and rent-seeking. They find that, compared to parliamentary regimes, presidential regimes are

²⁷ It is important to note that the focus here is put on government policies benefiting the poor—though not exclusively. For example, public programs that are not targeted to the poor may benefit both the poor and the non-poor.

associated with smaller governments, less redistribution, and low spending on public goods. According to these authors, the rationale is that presidential regimes are likely to allow *more* separation of powers, thereby enabling voters to make elected officials more accountable and thus leading to less wasteful spending and taxation. In contrast, parliamentary regimes generate a larger government and heavier tax burden and foster more provision of public goods and redistribution in favor of a larger group of voters because these regimes exhibit more incentives for *legislative cohesion* than presidential-congressional regimes.²⁸ In addition, most legislators in parliamentary regimes are keen to defend the joint interests of their voters, which explains their support for broad programs such as social security and welfare spending that benefit this electorate. The above discussion suggests that, all things being equal, the positive effects of government spending on the welfare of society as a whole, particularly that of the poor, are likely to be maximized under parliamentary regimes.

As regards electoral rules, the literature underscores the fact that politicians need a higher proportion of the national vote under proportional representation than under plurality rule to win an election. As a result, politicians are forced to seek the policy benefits for a broader segment of the population under proportional representation, which explains the tendency of countries with such systems to have larger broad spending programs (see Persson, 2002; Lizzeri and Persico, 2001). Concretely, Persson (2002) finds that spending on social security and welfare are about 2 percentage points smaller

²⁸ Legislative cohesion refers to disciplined voting by members of a governing coalition.

as a share of GDP under majoritarian elections than under proportional elections. While such spending increases before and after elections in countries with proportional and parliamentary systems, it appears to be subjected to no electoral cycle in countries majoritarian and parliamentary systems and to decline by 0.1-0.2 percent of GDP after elections in presidential regimes. The finding that spending on social welfare is larger under proportional representation is consistent with the fact that countries with parliamentary regimes are more likely to have such type of representation (Persson, Roland, and Tabellini, 2000). Assuming that such spending is well-targeted and effectively benefits the poor, this finding thus suggests that, *ceteris paribus*, the poor are likely to be better off under proportional representation than under majoritarian systems.

POLITICAL INSTITUTIONS, GROWTH, AND POVERTY

That political institutions affect economic performance as evidenced in the literature would suggest that the latter may also be a channel that transmits the indirect effects of these institutions on poverty. While an extensive debate exists in the literature on the relationship between political institutions and economic performance, notably as measured by growth, it refers for the most part to political systems such as democracies and dictatorships and to political factors such as coups, putsches, assassinations, demonstrations and other forms of political instability and not usually to political regimes and electoral systems. Still there are some studies in the literature that touch upon this issue, but these do not seem to conclusive evidence as to whether or not economic performance tends to be stronger in presidential democracies than in parliamentary

democracies. For instance, Przeworski (2000) documents the fact that the growth of income per capita appears to be much faster in parliamentary systems than in presidential systems. In contrast, Persson and Tabellini (2006) estimate the average growth effect of democracy and find that a new presidential democracy grows 1.5 percentage points more than a new parliamentary democracy. In these authors' view, one possible explanation for this finding relates to the fact that government consumption which tends to be larger in parliamentary democracies than in presidential democracies may undermine growth by creating distortions to economic activity.

As regards electoral rules, there does not seem to be robust empirical evidence in support of their impact on growth. Persson and Tabellini (2006) find no evidence that the electoral system affect the growth effect of democracy. Although proportional systems are found by these authors to increase spending by 1 percent of GDP, in contrast to majoritarian elections, it appears that "the spending binge in proportional democracies is smaller and may not show up in the growth rate." Similarly, Przeworski (2000) underscores the possibility that electoral systems affect economic outcomes such as growth but leaves this issue open for future research agenda. It has been argued that the lack of robust empirical evidence of a positive effect of democracy on economic performance may be due to the varying influence of democracy on productivity growth across different sectors (Aghion, Alesina, and Trebbi, 2007). In light of the inconclusive evidence provided in the literature about the growth impact of electoral systems, it is difficult to evaluate and compare the poverty impact of proportional and majoritarian systems.

That said, there is some research that questions the effects of political institutions on economic performance, as measured by the growth of income per capita. The idea is that studies which conclude that political institutions affect economic performance tend to ignore population dynamics. Yet, Przeworski (2004) notes that political institutions appear to be more likely to affect demographic variables than economic performance. To illustrate this, he cites some studies that find systematic effects of political institutions on demographic variables particularly the rate of growth of population.

In light of the above, it appears that some political institutions may affect growth performance although there seems to be dissenting views in the literature. However, there does not seem to be conclusive evidence to conclude that growth performance is stronger or weaker in presidential regimes compared to parliamentary regimes or in proportional systems compared to majoritarian systems. As a result, only additional empirical research can help determine whether the growth effects of political institutions on poverty reduction are larger under presidential democracy or under parliamentary democracy.

POLITICAL INSTITUTIONS, CORRUPTION, AND POVERTY

Many studies document a systematic incidence of electoral rules and political systems on corruption, as broadly defined by any extraction of political rents.²⁹ At the same time, there is evidence that corruption hurts the poor, notably through its direct

²⁹ See Persson (2002); Persson, Tabellini, and Trebbi (2003).

effects on economic and governance indicators.³⁰ These two sets of findings suggest that political institutions may affect indirectly poverty through their effects on corruption. Still, the literature offers only sporadic evidence about how the effects of political institutions on corruption could ultimately affect the welfare of the poor. Yet, such evidence could help determine which political regime or electoral system is more likely to be pro-poor. Available studies give however some indications about the specific and comparative impact of electoral rules and political regimes on poverty. For instance, it is argued that political institutions are likely to facilitate corrupt activities or, more generally, provide opportunities for extraction of political rents by granting political power to some segments of the population or to the elite.³¹ And clearly, such political power usually tends to escape the control of the poor in the absence of reliable mechanisms that ensure accountability of elected officials to them. Against this background, it can be argued that the more a political regime or an electoral system is able to secure accountability, the more likely it is going to be more pro-poor than others. From this perspective, presidential systems could be expected to be more prone to reducing poverty than parliamentary systems, as a number of studies in the literature attribute to the former a sharper focus on accountability than the latter (Shugart and

³⁰ In line with the findings of many studies available in the literature, the World Bank's 2001 *World Development Report* argues that corruption affects the welfare of the poor through several channels, including its adverse effects on the composition of public spending as well as the quality and delivery of public services in the areas of education, health, and infrastructure.

³¹ The ability of political institutions to generate political power has been illustrated by a significant stream of the literature (see for instance Acemoglu, Johnson, and Robinson, 2004).

Carey, 1992). Similarly, some studies stress that a plurality rule in small districts is more likely than a proportional representation in large districts to deter corruption as the former tends to punish incumbents more severely (Persson, Tabellini, and Trebbi, 2003). In this light, corruption should be expected to affect the poor more significantly in countries with proportional systems than in those with plurality systems.

Based on the various findings surveyed above, a number of predictions can be made about the likely effects of political institutions on poverty. While no evidence of direct causal link between political institutions and poverty has been found, a number of potential indirect links have been reported that channel notably through public policy, growth performance, and corruption. However, there are a number of counterarguments against the idea that political institutions can affect poverty indirectly. First, it is worth noting that the indirect effects of political institutions do not materialize systematically. Indeed, there is plenty of evidence in the literature that suggests that each of the possible transmission channels identified thus far may fail to fulfill its expected role. For instance, political institutions do not systematically stimulate growth performance. And when they do, improved growth performance does not necessarily translate into poverty reduction, as discussed in previous sections. Analogously, similar counterarguments can be made against the other indirect effects of political institutions on poverty that channel presumably through public policy and corruption.

Moreover, the notion that political institutions affect economic and governance outcomes such as corruption by awarding political power to some groups and not to others appears to be challenged by the distinction made by some authors such as

Acemoglu and Robinson (2008) between *de jure political power* which, they argue, is granted by political institutions and *de facto political power* which is allocated by the equilibrium investments and organizations of different groups. Indeed, if this distinction actually holds, it could imply that whether political institutions affect economic outcomes is contingent on the interaction between *de jure* and *de facto* political power. And if “there is a natural reason to expect changes in the distribution of *de facto* political power to partially or even entirely offset changes in *de jure* power brought about by reforms in specific political institutions,” as noted by Acemoglu and Robinson (2008), then it could be argued that political institutions do not matter at all in the face of the power granted to some groups based notably on their wealth and weapons. Yet, it is noteworthy that this argument produces only the appearance of a threat to the hypothesis that political institutions affect economic and governance outcomes through their effect on the allocation of power. At least two remarks can be made in this regard. First, *de jure* and *de facto* political powers are in reality hardly dissociable. Second, this distinction is clearly too simplistic and seems to miss the fact that political institutions may play a key role in determining in awarding *de facto* political power; just as wealth and organizations may contribute to shaping *de jure* political power. Both of these remarks are well illustrated by the activities of lobbies and other interest groups which are essentially aimed at allocating political power to economic power.

Finally, some work highlights the shortcomings facing many studies in attempting to assess the impact of political institutions. In this connection, Przeworski (2004) argues that these studies suffer from a number of methodological problems stemming from the

improper way they deal with the endogeneity of institutional variables, notably through the use of instrumental variable techniques. But more fundamentally, this endogeneity itself casts doubt on the ability of political institutions to exert their presumed autonomous causal effects, which makes it difficult to derive their impact on other variables.

SUMMARY OF KEY FINDINGS ABOUT THE RELATIONSHIP BETWEEN POLITICAL INSTITUTIONS AND POVERTY

The literature survey conducted above does not provide clear indications that political regimes and electoral systems exert direct effects on poverty. However, it reveals significant evidence that is suggestive of how these political institutions may indirectly influence poverty through their effects of public policy, economic performance, and corruption. The theoretical and empirical findings surveyed in this section suggest that while majoritarian systems are likely to make the poor worse off than under proportional representation because of their relatively smaller welfare programs, they may benefit them in that they seem to do a better job than other electoral rules in undermining corruption. As a result, the ultimate poverty impact of electoral rules on the welfare of the poor can effectively be determined only after controlling for the effects of these rules on both corruption and public policy.

Furthermore, there appears to be no clear evidence to conclude that presidential regimes fare better than parliamentary regimes—or vice-versa—in reducing poverty when only their respective effect on growth performance is considered. While some studies attribute to one regime the ability to stimulate growth performance more than the

other, others have exactly reached the opposite conclusion. In contrast, parliamentary regimes appear to be more pro-poor than presidential ones when their effects on government spending are the sole barometer that is used to measure their respective impact on the welfare of the poor.

In this light, this dissertation hypothesizes that political institutions may exert an indirect impact on poverty, notably by affecting public policy, economic performance, and corruption. As discussed above, the theoretical and empirical literature provides significant evidence that supports this hypothesis. Indeed, a number of studies referenced in this section find significant effects of political institutions on public policy, growth, and corruption (e.g. Persson, 2002; Persson and Tabellini, 2004; 2006; Persson, Roland, and Tabellini (2000); Przeworski, 2000; 2004; Persson, Tabellini, and Trebbi, 2003). In turn, these factors have been shown by many authors to affect poverty (Mauro, 1995; Ravallion, 2001; Dollar and Kraay, 2002; Fan, 2008). In line with these findings, there is an expectation that political institutions have indirect effects on poverty via public policy, economic performance, and corruption even though the direction of these effects is unclear. And this dissertation attempts to determine the significance and magnitude of these effects.

In this endeavor, while there is no firm evidence in the literature about the signs of these effects, I make two broad conjectures based on the available evidence and my own intuition. The first one is that parliamentary regimes are more pro-poor than presidential regimes because of their larger growth effects. On the one hand, this is supported by the evidence that the latter types of regimes tend to have lower spending on broad social

programs and on public goods. And partly for this reason, parliamentary regimes are also prone to foster growth by inflating government consumption. On the other, this hypothesis lays on my belief—albeit not always supported by available evidence—that parliamentary regimes are more likely than presidential systems to promote broader accountability of elected officials vis-à-vis the electorate. While some segment of the literature makes the opposite claim based on the propensity of presidential regimes to enable more separation of powers, this belief emanates from the fact that voters in general and those with diverse ideological, political and social background in particular can hold more elected officials and their parties responsible for not delivering on their promises in parliamentary regimes than under presidential systems in which executive power lays only on the hands of the president. Thus, by promoting more accountability, parliamentary systems are likely to stimulate economic performance, notably through more efficient policy-making, resource allocation and public spending.

That said, it is important to recognize the hypothesis that countries under parliamentary regime economically outperform those under presidential regime faces some limitations. In particular, more pro-poor spending is not a panacea for growth and poverty reduction, as it needs to be non-distortionary and well-targeted.

The second conjecture that I make in this dissertation is that the poorest segments of the population are better off with proportional rules than non-proportional rules. While proportional representation is found to be associated with more widespread corruption than other types of representation such as plurality rules, the key arguments that support this hypothesis relate notably to the relatively larger spending on social welfare under

proportional representation and the ability of the latter to strengthen political accountability by requiring a relatively higher proportion of the national for candidates to win an election.

2. 5. HYPOTHESES TO BE TESTED

Based on the above discussion, two key hypotheses are made and tested in this paper about the ways economic and political institutions may affect poverty. Firstly, some economic institutions that ensure secure property and contractual rights and good governance are hypothesized to have both direct and indirect implications for poverty reduction, with their indirect effects on poverty originating from their positive impact on economic performance as measured by the level of per capita GDP. In this regard, better quality of economic institutions is thus believed to lead to poverty reduction, suggesting that the sign of the coefficient associated with measures of such institutions is expected to be negative in poverty regressions.

Secondly, political institutions are hypothesized to influence indirectly poverty by affecting the magnitude of pro-poor spending, the incidence of corruption, and economic performance as measured by per capita GDP growth.

In light of the first two hypotheses, the direct and indirect effects of economic and political institutions on poverty can be derived from the following conceptual representation:

$$(Poverty) = f \left\{ \begin{array}{l} \text{Economic Institutions;} \\ \text{Economic Performance;} \\ \text{Social Spending;} \\ \text{Corruption} \end{array} \right\} \quad 2.1$$

where the dependent variable is a poverty rate that measures either the incidence (poverty headcount index) or depth (poverty gap index) of poverty. The expected signs are conjectured as follows:

$$f_1 < 0; f_2 < 0, f_3 < 0 \text{ and } f_4 > 0.$$

Economic institutions are hypothesized to exert direct and indirect effects on poverty, with the indirect ones channeling through economic performance. Political institutions are conjectured to affect poverty by influencing growth performance, the level of pro-poor spending, and the incidence of corruption. More specifically, parliamentary regimes and proportional systems are hypothesized to be more effective than presidential regimes and non-proportional systems in reducing poverty through their positive effects on economic performance. In this light, economic performance can be conceptually written as follows:

$$(Economic\ Performance) = g(Economic\ Institutions; SYSTEM; PR) \quad 2.2$$

where *SYSTEM* is a dummy variable that indicates whether the political regime is presidential (*SYSTEM*=0) and whether it is parliamentary or one in which the Parliament elects the President (*SYSTEM*=1); *PR* is a dummy variable that indicates whether the electoral system is either proportional (*PR*=1) with candidates being elected based on the

fraction of votes received by their party or non-proportional ($PR=0$). The expected signs are the following:

$$g_1 > 0, g_2 > 0 \text{ and } g_3 > 0.$$

Social spending and pro-poor expenditure in particular is hypothesized to depend on political institutions, notably with countries under parliamentary and proportional representation having broader social spending programs than other countries under presidential and non-proportional representation. Thus social spending can be represented as follows:

$$(Social\ Expenditure) = h(SYSTEM; PR) \quad 2.3$$

where $h_1 > 0$ and $h_2 > 0$.

Finally, corruption is conjectured to affect more significantly countries under proportional representation, as evidenced in the literature. Similarly, the incidence of corruption is hypothesized to be larger in countries with parliamentary regimes than in those with presidential regimes. As a result, corruption can be conceptually represented as follows:

$$(Corruption) = i(SYSTEM; PR) \quad 2.4$$

where $i_1 > 0$ and $i_2 > 0$.

Schematically, the above identities are illustrated in Figure 2.1 reported in next page. The figure shows that only economic institutions are hypothesized to have direct effects on poverty on top of their indirect effects that channel through economic

performance. Figure 2.1 also pictures the indirect effects of political institutions on poverty, with the transmission channels being social spending, growth, and corruption.

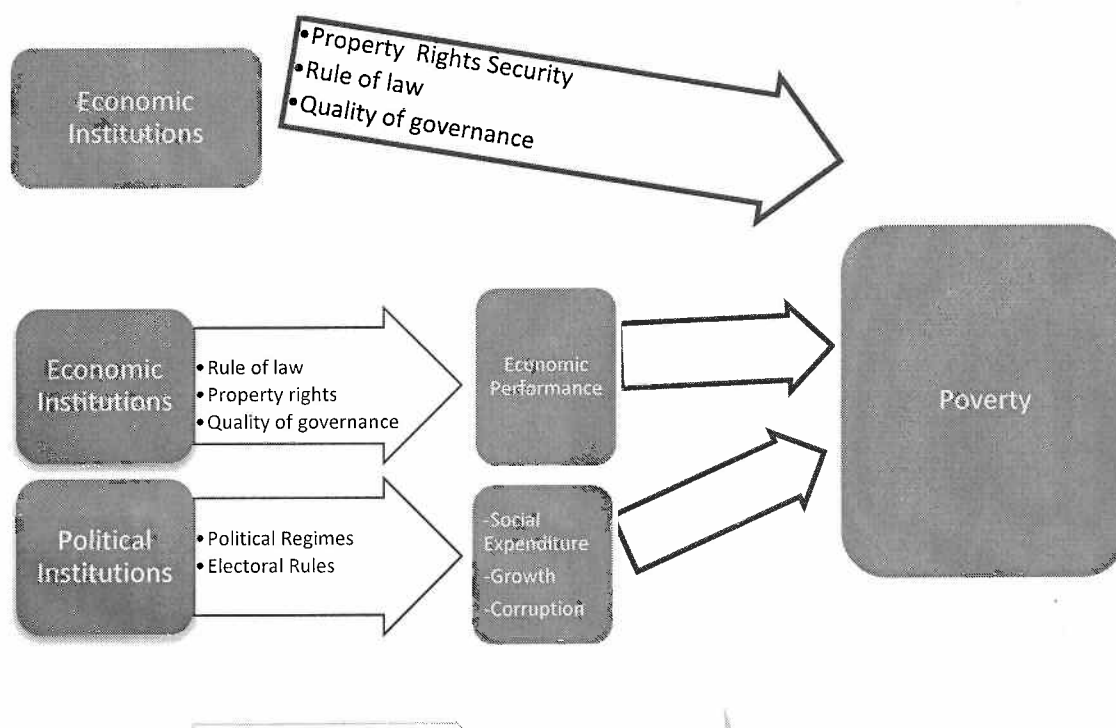


Figure 2.1. Institutions and Poverty

2. 6. RELEVANCE AND VALUE ADDED OF THIS RESEARCH TO THE LITERATURE

Notwithstanding the limited focus of the empirical literature on the topic, the analysis of the relationship between institutions and poverty can lead to a number of desirable outcomes. Indeed, it proves useful to determine the potential role of institutions in improving or undermining the welfare of the most vulnerable segments of a population. Moreover, such research is critical to better understand how institutional

reform affects the welfare of society in general and that of the poor in particular. This is particularly important for policymakers, international organizations and development practitioners especially in the developing world, as they struggle against poverty through institutional reforms. Beyond the purpose of assessing the poverty impact of institutional reform, an equally valuable use of this type of research relates to its importance in helping determine a country's appropriate framework of political and economic governance.

The approach developed in this dissertation is aimed at overcoming a number of limitations facing existing studies on poverty and institutions. Firstly, it develops a broader analytical framework that embeds the analysis of institutions into the study of poverty, which still seems to be lacking in the literature. While a few studies address the relationship between institutions and poverty, they appear to develop at best a framework that aims to capture the effects of a single dimension of institutions which is typically either economic institutions or political ones. While such an approach appears to have some merit, notably in terms of simplicity, tractability, and specificity, it fails to fully account for the broad implications of the multiple dimensions of institutions defined along the lines of North (1990). And yet, this is nevertheless the pretention of many of the studies that borrow this approach.

Another limitation that this study attempts to address relates to the fact that the overwhelming majority of empirical studies in the economic literature tend to focus on the impact of institutional development on economic performance. Rarely do they extrapolate to look at the potential implications for poverty. Yet, in light of the above, a

strong case can be made for the relevance of the study of institutions to the poverty literature, as institutions appear to have a significant potential to influence the incidence and depth of poverty.

Clearly, this study adds value to the literature by complementing the few studies that attempt to embed the analysis of institutions into the poverty literature. But, the key innovation of this work is to develop a conceptual and analytical framework that accounts for the joint impact of a broad range of economic and political institutions on poverty. To my knowledge, similar encompassing work is yet to be found in the literature. And as suggested above, this approach may help improve the consistency of the estimates of the impact of institutions. It also captures the impact of a broader variety of dimensions of institutions than existing studies by taking into account both economic and political institutions.

That said, it is important to note that although this study makes a useful contribution to the literature, it obviously fails to offer a comprehensive analysis of the determinants of poverty. Clearly, from an institutionalist perspective it could be tempting to make a legitimate case that many of these poverty determinants are affected by institutional quality. Still, it must be acknowledged that while better institutions matter, they are not all that matters for poverty reduction. Their significant implications for the welfare of the poor notwithstanding, institutions do not provide a full account of poverty dynamics. As overwhelmingly evidenced in the poverty literature, there are indeed many other factors at play, including inequality, infrastructure, weather vagaries, as well as individual and household characteristics such as age, employment status, health status, education,

dependency ratio etc. In this light, a worthy endeavor might be to better embed institutions and other poverty determinants into a broader framework for poverty analysis.

CHAPTER 3

DATA AND METHODOLOGY

Testing for the direct and indirect effects of institutional quality on poverty is made difficult by the fact that neither institutions nor poverty lend themselves to easy conceptualization. As a result, the numerous studies undertaken on issues related to institutions and poverty tend to confront a number of challenges stemming notably from conceptual and data limitations. These measurement and data issues are discussed in detail in the first part of this chapter. The second part describes the empirical framework to be adopted in this dissertation.

3. 1. DATA AND MEASUREMENT ISSUES

3. 1. 1. ECONOMIC INSTITUTIONS

Largely on account of data shortcomings, theoretical analyses on institutions have long outperformed empirical research on the topic. In their efforts to determine the role of institutions, scholars who pioneered empirical research on the topic have had recourse to a number of political instability variables, including measures of political freedom and civil liberties, (e.g. Gastil, 1985; 1986), measures of political stability (Barro, 1991). The choice of such political variables as proxy for economic institutions was guided notably by the belief that these variables affect more or less directly the security of property rights. For instance, Barro (1991) who uses measures of political instability such as the

number of revolutions and coups per year and the number of political assassinations per year in his investment and growth regressions interprets these variables as having adverse influences on property rights and thus on investment and growth. More recently some researchers made use of measures of the rule of law (Kaufmann, Kraay, and Mastruzzi, 2003, 2005, 2008; Dollar and Kraay, 2002).

However, since the publication of the 1995 article by Knack and Keefer, measures of political instability used by a number of previous studies have been perceived to fail to adequately capture the quality of institutions that are protective of contractual and property rights. More direct measures of institutions have thus been increasingly constructed based on country data compiled by private investment risk services, notably on expropriation risk, government repudiation of contracts and contract enforceability, rule of law, corruption in government, and bureaucratic quality. In particular, Knack and Keefer (1995) compiled data from two private investment risk agencies—Political Risk Services and Business environment Risk Intelligence (BERI). Political Risk Services' International Country Risk Guide (ICRG) contains variables that are used as proxies for the security of contractual and property rights including indicators of expropriation risk, the rule of law, government repudiation of contracts, government credibility, corruption, and bureaucracy quality. Most notably, the indicators borrowed by the authors from BERI measure contract enforceability, nationalization potential, and bureaucratic quality.³² According to Knack and Keefer (1995), the selection of these ICRG and BERI

³² Although indicators compiled by risk ratings agencies such as BERI and ICRG variables may differ in their label and scope, they all typically aim to assess the severity of risks to private investment—

(continued)

indicators is motivated by their ability to better capture the disaggregated dimensions of property rights closely related to those institutions referred to by North (1990) and other researchers.

Following Knack and Keefer (1995), there has been a renewed and increasing focus on indicators of the quality of economic institutions that are compiled by risk rating agencies such as ICRG and BERI. Thus several studies have had recourse to these data which presumably capture the security of contractual and property rights and the rule of law better than traditional institutional measures such as the Gastil political and civil liberties indexes.^{33 34} As argued by some authors along the lines of Knack and Keefer (1995), measures of political instability such as the Gastil indexes fail to do a good job of capturing many of those threats to property and contractual rights that are deemed relevant to the analysis. And selection of these types of indicators was somehow forced by the unavailability of data on institutions involved in securing property rights.

Besides the indicators from risk ratings agencies and the Gastil indexes, other measures of institutional quality have been used in the literature. For instance, Kaufmann, Kraay, and Zoido-Lobaton (1999; 2010) compiled a *Rule of law* index under the World

particularly expropriation risks—that stem notably from institutional factors. As a result, selecting either type of indicators is, in theory, likely to lead to the same outcomes.

³³ Empirical studies that make use of these data include notably Chong and Calderón (2000a; 2000b), Easterly (2001), and Persson, Tabellini, and Trebbi (2003).

³⁴ The Gastil index is compiled by *Freedom House* and aim to measure the level of democratization. The *Freedom in the World* survey provides annually an evaluation of the state of global freedom enjoyed by people around the world. It contains both analytical reports and numerical political rights and civil liberties ratings assigned to about 192 countries according to a methodology originally developed by Raymond Gastil starting from 1972. The popularity of the Gastil index has to do with its extensive time and country coverage as well as the limited availability of alternative and equally comprehensive measures of institutional quality before the mid-1990s.

Bank's Worldwide Governance Indicators (WGI) project. The *Rule of Law* indicator is among the measures of governance that capture the respect of citizens and the state for the institutions that govern economic and social interactions among them. More specifically, the *Rule of Law* indicator captures "perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence."

The Worldwide Governance Indicators (WGI) project reports aggregate and individual governance indicators for 213 economies over the period 1996–2009, for the following six dimensions of governance: Voice and Accountability, Political Stability and Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption. The aggregate indicators combine the views of a large number of enterprise, citizen and expert survey respondents in industrial and developing countries. The WGI governance indicators are constructed using an unobserved components methodology. The six governance indicators are measured in units ranging from about -2.5 to 2.5, with higher values corresponding to better governance outcomes. According to the WGI project initiators, the indicators are meant to reflect the quality of governance in a country, with governance being defined as "the traditions and institutions by which authority in a country is exercised".

Of interest for this dissertation is the WGI *Rule of Law* measure which is constructed on the basis of indicators that aim to capture subjective perceptions of country residents, entrepreneurs, foreign investors, and civil society at large about the quality of governance in different countries. Most notably, these indicators include country ratings compiled by

risk rating agencies and other organizations and cross-country surveys of residents conducted by international organizations and non-governmental organizations.

Notwithstanding the fact that the compilation of these types of data may involve a dose of subjectivity and arbitrariness, the authors motivate their selection by the importance of the perceived quality of governance, the difficulty of compiling objective measures of governance, and the demonstrated relevance of subjective perceptions to future economic outcomes.

In light of the above, this dissertation makes use of the *Rule of Law* indicator—denoted hereafter *RULEOFLAW*—for the purpose of measuring economic institutions. Indeed, this indicator is the dimension of governance that coincides most closely with the notion of economic institutions, as defined in this study. This indicator has the potential to help assess the quality of economic institutions considered in this dissertation in that it captures people’s perceived confidence in and adherence to institutions or the rules of society, particularly the quality of contract enforcement and others means of guaranteeing the security of property rights and economic transactions. As such, the use of *RULEOFLAW* in poverty regressions can help capture the direct and indirect effects of economic institutions on poverty by accounting for the incidence of people’s assessment on economic uncertainty and thus economic activity.

Table 3.1 reports summary statistics for key economic institutional variables used in this paper. For the full sample, the mean of the *Rule of Law* ratings which is in negative

territory suggests that, on average, sample countries have weak rule of law.³⁵ On average, the data suggest that the rule of law is weaker in Africa and in Latin America than in other regions. In contrast, average ratings indicate that Eastern European countries outperform other selected regional groupings in terms of strength of the rule of law even though they score almost exactly the midpoint of possible range of ratings.

Table 3.1. Summary Statistics of the Indicator of Economic Institutions (*RULEOFLAW*)

Variables	Data type and availability	Coverage	Mean	Std. Dev.	Min.	Max.
Rule of Law	Ratings, scored - 2.5 to 2.5	1996; 1998; 2000; 2002-08	-0.42	0.68	-2.31	1.31
<i>Africa</i>			-0.69	0.63	-2.31	0.65
<i>Asia</i>			-0.27	0.50	-1.29	0.79
<i>Eastern Europe</i>			-0.01	0.73	-1.26	1.26
<i>Middle East</i>			-0.14	0.59	-1.17	0.53
<i>Western Hem.</i>			-0.46	0.64	-1.88	1.31

Region	Africa	Asia	Eastern Europe	Middle East	Western Hem.	Total
Number of Countries	32	12	19	2	20	85

Source: Worldwide Governance Indicators (2010), International Country Risk Guide (2008) and World Development Indicators (2010).

³⁵ Summary statistics for the *free* sample—that is the sample of 69 countries classified as “Free” or “Partly Free” by the 2011 country reports of Freedom House—are quite similar than those reported in Table 3.1. More specifically, the mean of *RULEOFLAW* is -0.34 for the *free* sample whereas the minimum and maximum are the same for both samples.

3. 1. 2. POLITICAL INSTITUTIONS

The types of political institutions that are the focus of this dissertation are analyzed by several studies using dummy variables to distinguish between presidential and parliamentary regimes as well as proportional and non-proportional systems. In this endeavor, datasets are usually constructed on the basis of a number of references and classifications made available by various researchers and organizations, including the CIA World Factbook which latest update is dated in 2011.

In this dissertation, the key source of data on political regimes and electoral rules is the Database of Political Institutions (DPI). This dataset which is originally published by Beck et al. (2001) is a key reference in the literature on political institutions. Since its original publication in 2001 in the *World Bank Economic Review*, the DPI has been frequently updated, with the latest update conducted in April 2010. The main interest in this database resides in its broad country coverage and its ability to allow consistency and comparability across countries. In contrast to previously mentioned indicators, it also provides a set of indicators that reflects specifically the types of political institutions considered in this study—that is political regimes and electoral rules.

Data on political institutions have thus been extracted from the 2010 update of the Database of Political Institutions (DPI, 2001). In order to match them with data on economic institutions, the focus has been put on the same coverage period 1985-2008. The following two DPI variables are selected as proxies for the types of political institutions scrutinized in this dissertation, namely political regimes and electoral systems:

- *SYSTEM* which identifies whether the system is presidential (*SYSTEM*=0) and whether the system is either parliamentary or one in which the Assembly elects the President (*SYSTEM*=1).³⁶
- *PR* where *PR*=1 indicates that proportional representation takes place with candidates being elected based on the fraction of votes received by their party and *PR*=0 determines otherwise.

The use of these two dummy variables can help capture the indirect effects of political institutions on poverty by determining whether different types of political regimes and electoral systems affect differently selected poverty determinants such as economic performance, corruption, and pro-poor spending. Indeed, the indirect effects of political institutions on poverty could be easily derived if indicators of political institutions are found to have a differential impact on these variables and the latter in turn are found to affect poverty.

Table 3.2 reports the summary statistics for the selected indicators of political institutions using the base sample.³⁷ From the Database of Political Institutions, I selected the political regime and electoral for each country in the sample as of 2008 which is the most recent year covered by this dissertation. The data covers a total of 69 countries for electoral systems and 71 countries for political regimes, excluding those for which no data is available for none or one of these two variables. The data show that two-third of

³⁶ In the original DPI classification, parliamentary systems are assigned a rating 2 while those in which the Parliament elects the President are rated 1. In this paper, the rating 1 is assigned to both types of systems whereas the rating 0 is assigned to presidential systems in line with the original classification.

³⁷ The summary statistics reported in Table 3.2 do not change significantly when the *free* sample is used.

countries in the base sample have presidential regimes and proportional systems with the rest being those with parliamentary regimes and electoral rules other than proportional ones.³⁸ Regional distribution of political institutions shows proportional electoral systems predominate across Eastern Europe and Latin America and match the number of non-proportional systems in other regions. As regards political regimes, Table 3.2 discloses that more than two-third of sample countries in Africa and Western Hemisphere has presidential regimes whereas Eastern European and Asian countries have about the same number of parliamentary and presidential systems.

3. 1. 3. POVERTY MEASUREMENT AND DATA

Two measures of poverty widely used in the poverty literature are also employed in the empirical analysis of this article: the poverty headcount index and the poverty gap index. The poverty headcount index is the estimated fraction of individuals or households whose consumption or income is below the poverty line of their country of residence. It is generally used to measure poverty *incidence* within a given country. The poverty gap index is the mean income shortfall of the poor from the poverty line as a proportion of this line (with the households above the poverty line considered as having zero shortfall). It is the income gap ratio (or average consumption distance of the poor from the poverty line) times the poverty headcount index. It gives an idea of the *depth* of poverty within a country. Compared to the headcount index, it captures better changes in average living

³⁸ It is noteworthy that during the study period, a number of countries have changed either their political regime or electoral system or both. This explains why the total count of 102 countries which have had either proportional or non-proportional systems during that period exceeds the number of countries included in the full sample.

standards among the poor. However, a key limitation of both the poverty headcount and poverty gap indices is that they are unable to reflect distributional changes among poor households who earn less than the poverty line.

Foster, Greer and Thorbecke (1984) suggest a class of poverty measures with desirable properties such as decomposability, monotonicity and transfer axioms. The FGT measures can be formulated as follows:

$$P_{\alpha}(y; z) = \frac{1}{n} \sum_{i=1}^q \left(\frac{z - y_i}{z} \right)^{\alpha}$$

where z is the predetermined poverty line, $z - y_i$ is the income shortfall of the i th poor household, q is the number of poor households whose income is below the poverty line, and n is the total number of household. If $\alpha=0$, the FGT measure, $P0$, is simply the poverty headcount index and if $\alpha=1$, the FGT measure, $P1$, represents the poverty gap index. Thus the poverty headcount and poverty gap indices which are used in this dissertation respectively as measures of the incidence and depth of poverty are thus among the FGT measures which are proven to possess properties that are deemed desirable for poverty measures.

Poverty data used in this article are extracted from the April 2010 version of the World Bank's World Development Indicators and include poverty headcount and poverty gap indices at both \$1.25 and \$2 a day (PPP). There are a number of motivations for the use of both of these indicators. First, the recourse to these two poverty measures will help assess the effects of institutional quality on both the incidence and depth of poverty. In other words, the use of these measures also facilitates the analysis of how absolute and relative poverty may vary according to the level of institutional development.

Table 3.2. Summary Statistics of Political Institutions

Political Institutions	Data type and availability	Africa		Asia		Europe		Middle East		Western Hem.		Total	
		#	In %	#	In %	#	In %	#	In %	#	In %	#	In %
Electoral Systems													
PR	Dummy variable; 1985-2008	11	55	4	44	2	11	1	100	2	10	20	29
		Non-proportional (PR=0)											
		9	45	5	56	17	89	0	0	18	90	49	71
Proportional (PR=1)													
		20	100	9	100	19	100	1	100	20	100	69	100
Political Regimes													
SYSTEM	Dummy variable; 1985-2008	17	81	5	50	9	47	1	100	18	90	50	70
		Presidential (S=0)											
		4	19	5	50	10	53	0	0	2	10	21	30
Parliamentarian (S=1)													
		21	100	10	100	19	100	1	100	20	100	71	100

Source: Database of Political Institutions (2009)

In addition, the fact that poverty measures at both the \$1.25 and \$2 poverty lines are considered makes the analysis relevant to both low-income and middle-income countries.

The data reported in Table 3.3 show that, on average, a little bit less than one-fifth of the total population of the 85 countries selected in the base sample is estimated to live below the \$1.25 poverty line.³⁹ This proportion rises to about 30 percent when the \$2 poverty line is used as a reference. Furthermore, the data convey significant differences in the incidence and depth of poverty across countries. In this regard, the \$1.25 and \$2 poverty headcount indices range from levels as low as 2 percent to levels as staggering as about 92 percent and 98 percent respectively. On balance, this suggests that, while the proportion of the population living in households earning less than the poverty line is negligible in some of these countries, in some others up to 9 people out of 10 are estimated to live in extreme poverty (less than \$1.25 a day) and virtually everyone with less than \$2 a day.⁴⁰ For all countries in the sample the estimated fraction of individuals whose consumption or income is below the \$1.25 and \$2 poverty lines is about 18 percent and 30 percent respectively.

As is the case with the poverty headcount ratios, estimates of the poverty gap indices vary widely across the countries in the sample. In some countries the fraction of the population with a mean income shortfall from the \$1.25 and \$2 a day poverty line is negligible, as the poverty gap index at \$1.25 and \$2 a day is almost zero. This implies that the average income shortfall of the poor as a proportion of these poverty lines is

³⁹ Similar statistics are obtained when using the *free* sample.

⁴⁰ For seven countries in the sample, the poverty headcount ratio at \$1.25 a day is greater than 80 percent. In nine countries the \$2 a day poverty headcount index is higher than 90 percent.

virtually zero at some point in time. In contrast, in others more than half of the population experiences the difficult situation of earning an income short of the poverty line. On average the fraction of the population in all selected countries that live under the \$2 a day poverty line is twice higher than the proportion of the population living below the \$1.25 a day poverty line.

The selection of countries included in the sample is dictated by the need to ensure simultaneous availability of data on both institutions and poverty. While data on economic and political institutions are available from the 2010 World Governance Indicators and from the 2009 update of the Database of Political Institutions for all income-based groups of countries from least developed to most advanced ones, the 2010 version of the World Bank's WDI database from which poverty data are extracted only covers developing and transition economies. For this reason, this dissertation limits the analysis of the effect of these institutions on poverty to developing and emerging market countries. For the purpose of the analysis, this restricted sample is not a shortcoming but rather it allows the focus to be put primarily on countries where poverty issues are the most relevant. It is also worth noting that the selected sample excludes dictatorships although some of the selected countries may arguably be considered as controversial democracies at best.⁴¹

Given that the focus of this study is only on the poverty impact of political regimes and electoral rules and not that other forms of political institutions, countries are included in the sample according to whether they have a parliamentary or presidential regime and

⁴¹ See appendix for a list of selected countries.

whether they run a proportional or majoritarian electoral system, in line with the DPI classification.

Table 3.3. Summary Statistics of Poverty Variables

Region	Africa	Asia	Eastern Europe	Middle East	Western Hem.	Total
Number of Countries	32	12	19	2	20	85

Variables	Data type and availability	Number of obs.	Mean	Std. Dev.	Min.	Max.
Poverty Headcount Ratio at \$1.25 a day PPP (% of population)	Unbalanced panel data, 1985-2008	489	17.88	21.70	2.00	92.55
Poverty headcount ratio at \$2 a day PPP (% of population)	Unbalanced panel data, 1985-2008	489	30.13	28.36	2.00	98.45
Poverty Gap at \$1.25 a day PPP (% of population)	Unbalanced panel data, 1985-2008	489	6.82	10.20	0.38	63.34
Poverty Gap at \$2 a day PPP (% of population)	Unbalanced panel data, 1985-2008	489	13.24	15.78	0.50	75.64

Source: World Bank's World Development Indicators (2010).

3. 1. 4. DESCRIPTION AND SOURCE OF OTHER DATA

On top of selected indicators of institutions and poverty, the following variables are included in the list of regressors:

- PPP GDP per capita in current international dollars which is included in the regressions both as a measure of economic performance and key poverty determinant (Source: World Development Indicators, 2010);

- Subsidies and other transfers in percent of government expenditures which proxies for pro-poor spending influences the level of poverty and is affected by political institutions; this series refers to subsidies, grants, and other social benefits, including all required, nonrepayable transfers on current account to private and public enterprises; grants to foreign governments, international organizations, and other government units, social security, social assistance benefits, and employer social benefits (Source: World Development Indicators & Global Development Finance, 2010);⁴²
- Corruption which affects the welfare of the poor; this variable assesses the extent of corruption within the political system. The form of corruption that it aims to measure represents an obstacle to foreign investment and includes for instance nepotism, patronage, job reservations, and suspiciously close ties between politicians and entrepreneurs (Source: ICRG 2008).

Other variables are also used in the regressions as instruments for the quality of economic institutions, including:

- The mortality rates expected by the first colonial settlers in the colonies (Source: Acemoglu, Johnson, and Robinson, 2001);
- The legal origin of countries selected in this dissertation is obtained from La Porta et al. (1999). Although these authors classify countries into five types of legal

⁴² See for instance Persson and Tabellini (2001). These authors use two measures for the composition of government expenditures that are comparable to the indicator selected in this paper: social security and welfare spending (by central government) as a percentage of GDP and as a ratio to spending on goods and services. Although some subsidies and transfers may not directly benefit the poor, especially when these are not well-targeted, their ultimate impact on poverty (either positive or negative) is hardly questionable, notably because of their effects on aggregate demand.

origin—English, Socialist, French, German, and Scandinavian—all countries in the sample considered in this study belong only to three of them (that is English, Socialist and French).

- Latitude which controls for the effects of geography on economic performance (Hall and Jones, 1999).

Summary statistics of all of these variables are reported in Table 3.4. A number of patterns are noteworthy. Overall, per capita income appears to be evenly distributed across the sample, as average per capita GDP measured at current international dollars is approximately at equal distance between the lowest and highest per capita income levels registered by countries in the sample. Moreover, subsidies and other transfers in percent of total expenditures are subject to a large dispersion across the sample. Indeed, this ratio can amount to as little as less than 1 percent to almost 80 percent. Corruption in the political system seems to be an issue since countries in the sample score on average less than 3 out of a maximum of 6 which indicates the lowest risk arising from corrupt activities. Finally, it worth noting that half of the countries in the sample are classified as being of French legal origin whereas the other half are considered as of English or Socialist origin.

3. 2. EMPIRICAL FRAMEWORK

Based on Equations 2.1 to 2.4, a unique empirical framework is developed in this dissertation to capture the poverty impact of both types of institutions considered in this dissertation, namely economic and political institutions. More specifically, the framework

aims to assess the direct effects of economic institutions as well as the indirect effects of economic and political institutions.

Table 3.4. Summary Statistics of Other Variables and Instruments

Variables	Data type and availability	Number of obs.	Mean	Std. Dev	Min.	Max.
Log of GDP Per Capita	Unbalanced panel data, 1985-2008	2125	7.83	1.09	4.81	10.24
Subsidies and other transfers in percent of government expenditures	Unbalanced panel data, 1985-2008	699	37.58	19.62	0.45	78.65
Corruption	Ratings, Scored 0 (worst)-6 (best); 1985-2008	1667	2.76	1.01	0	6
Settlers' Expected Mortality Rates	Cross-sectional data, 1985-2008	1080	4.82	1.13	2.74	7.99
Latitude	Cross-sectional data, Scale 0-1; 1985-2008	1944	0.40	0.27	0	1
Legal origin						
English	Dummy variable; 1985-2008	2208	0.26	0.44	0	1
French	Dummy variable; 1985-2008	2208	0.50	0.50	0	1
Socialist	Dummy variable; 1985-2008	2208	0.24	0.43	0	1
Regional variables						
Africa	Dummy variable; 1985-2008	2208	0.34	0.47	0	1
Asia	Dummy variable; 1985-2008	2208	0.14	0.35	0	1
Europe	Dummy variable; 1985-2008	2208	0.23	0.42	0	1
Middle East	Dummy variable; 1985-2008	2208	0.03	0.18	0	1
Western Hem.	Dummy variable; 1985-2008	2208	0.26	0.44	0	1

Source: World Bank's World Development Indicators (2010). International Country Risk Guide (2008); Acemoglu, Johnson, and Robinson (2001); Hall and Jones (1999); La Porta et al. (1999)

In order to capture the direct effects of economic institutions on poverty, the framework uses panel data and regresses alternatively measures of the incidence and depth of poverty—that is respectively poverty headcount and poverty gap indices—on

the selected measure of economic institutions, *RULEOFLAW*. The indirect effects of economic institutions on poverty are derived from the estimation of the key equation of interest, Equation 2.1, taking into account the effects of economic institutions on economic performance, as provided by the estimation of Equation 2.2.

The indirect effects of political institutions on poverty can be also obtained from the key specification Equation 2.1 and other equations. Along with Equation 2.1, Equation 2.2 helps determine whether political regimes and electoral rules indirectly affect poverty through economic performance. When combined with Equation 2.3, Equation 2.1 gives an answer to whether these political institutions influence poverty by shaping pro-poor social spending. Finally, the indirect effects of these political institutions on poverty that channel through corruption can be derived from Equations 2.1 and 2.4.

From the conceptual Equations 2.1 to 2.4, the following system of simultaneous equations is developed:

$$Pov_{it} = \alpha_0 + \alpha_1 RULEOFLAW_{it} + \alpha_2 GDPPC_{it} + \alpha_3 SUBSIDIES_{it} + \alpha_4 CORRUPTION_{it} + \varepsilon_{Pit} \quad (3.1)$$

$$GDPPC_{it} = \beta_0 + \beta_1 RULEOFLAW_{it} + \beta_2 PR_{it} + \beta_3 SYSTEM_{it} + \varepsilon_{Git} \quad (3.2)$$

$$SUBSIDIES_{it} = \lambda_0 + \lambda_1 PR_{it} + \lambda_2 SYSTEM_{it} + \lambda_3 GDPPC_{it} + \varepsilon_{Sit} \quad (3.3)$$

$$CORRUPTION_{it} = \delta_0 + \delta_1 PR_{it} + \delta_2 SYSTEM_{it} + \delta_3 GDPPC_{it} + \varepsilon_{Cit} \quad (3.4)$$

where i and t index countries and years respectively; Pov denotes the logarithm of the poverty rate,⁴³ as measured alternatively by the poverty headcount and poverty gap indices; $RULEOFLAW$ is the selected measure of the quality of economic institutions; $GDPPC$ is the logarithm of per capita GDP; $SUBSIDIES$ measures the logarithm of the amount of subsidies and other transfers in percent of government expenditures; $CORRUPTION$ assesses the extent of corruption within the political system; PR is a dummy variable that indicates whether the rules are non-proportional ($PR=0$) or proportional ($PR=1$); $SYSTEM$ is a dummy variable that indicates whether the political regime is presidential ($SYSTEM=0$) or parliamentary ($SYSTEM=1$).

This basic framework may be extended to include other variables that may affect poverty, per capita GDP, pro-poor spending; and corruption. In some regressions conducted as part of the robustness checks, proxies for the level of education and health conditions are included in the model to capture their effects on income and poverty.

Equation 3.1 is estimated using three-stage least squares (3SLS) estimation techniques. There are a number of reasons why the use of 3SLS is appropriate in the case at hand. First, since it is an instrumental variables (IV) estimator, it can help address problems of endogeneity of economic institutions. Clearly, there are a number of reasons why economic institutions could be endogenous. Such endogeneity may arise notably as a result of measurement errors or reverse causality. In this latter respect, there could be reverse causality in the sense that some dependent variables affect some regressors in the

⁴³ The use of logarithm or level of poverty variable in the regressions is not grounded on any given theory, but in this paper the choice of the logarithm is made for practical convenience and to smooth out data such as poverty with potentially large variations.

system. For instance, it could be argued that poverty and poor economic performance could lead to weak institutions.

Second, while both the 2SLS and 3SLS estimators are consistent IV estimators, two additional considerations led to the choice of the 3SLS over the 2SLS. On the one hand, the 3SLS estimator is asymptotically more efficient, as confirmed by the test of overidentifying restrictions reported in next chapter. On the other hand, the data compiled for this study point to some evidence of the presence of heteroskedasticity. I computed the Bartlett test statistic to test the null hypothesis of equal variance of the residuals across the four equations to check whether there is evidence of the presence of heteroskedasticity. Under the joint null hypothesis that the variances of these four series of residuals are equal and that the sample is normally distributed, the Bartlett test statistic is approximately distributed as chi-square with one degree of freedom. In view of the value of the computed Bartlett test statistic which is equal to 65.08 and a p-value equal to zero, the null hypothesis is rejected, consistent with the presence of heteroskedasticity.

Finally, the 3SLS procedure is chosen over the Full Information Maximum Likelihood (FIML) procedure partly because it is not found to be asymptotically less efficient than the latter when the model is linear in the endogenous variables and parameters, as is the empirical developed in this paper.⁴⁴

SELECTION OF INSTRUMENTS FOR ECONOMIC INSTITUTIONS

⁴⁴ See Amemiya (1977) and Greene (2003).

As previously suggested, the use of instrumental variable techniques to estimate the impact of economic institutions is prevalent in the literature because of their potential endogeneity. Regarding the selection of instruments for the quality of economic institutions, it is noteworthy that researchers have utilized various instruments for institutional quality and among these instruments the mortality rates expected by the first colonial settlers in the colonies have gained precedence in the institutional literature after being first used by Acemoglu, Johnson, and Robinson (2001). These authors' basic argument for using this variable as an instrument for current institutions is that potential settler mortality could be a plausible determinant of former colonies' current economic performance assuming that the subsequent colonization policies generated various types of institutions and that colonial state and institutions persisted to the present.⁴⁵ According to these authors, this is not to say however that current institutions are predetermined by colonial policies and thus unchangeable, as colonization was only one among many other factors that shape institutions. Moreover, the idea is not to assess the impact of colonization *per se* on the quality of institutions in former colonies but rather to determine the effect of different colonization policies conditional on being colonized.

Chong and Calderón (2000*a*; 2000*b*) instrument for institutional quality by using the black market premium on foreign exchange, government spending on defense in percent of GDP, and the legislative tradition of the country. The logic behind this selection of instruments is that (i) a higher black market premium on foreign exchange provides more

⁴⁵ A number of other scholars have also claimed that many developing inherited poor institutions from colonial masters, including North (1990) and Shirley (in Ménard and Shirley 2005, pp.616-621).

opportunities for corruption, bureaucratic delays, red tape, and other types of institutional problems; (ii) the legislative tradition of a country are a key determinant of institutional quality, and (iii) higher defense spending, particularly in developing countries reflects a diversion of resources that could have helped strengthen the country's institutions. This selection of instruments inspires a few observations.

The first two variables appear to instrument adequately for institutions. Indeed, the literature offers extensive evidence on the two-way relationship between black market premiums on one hand and corruption and institutional quality on the other hand and the important role played by colonial heritage on institutional development (Mauro, 1995, Easterly, 2001, Bahmani-Oskooee and Goswami, 2005). However, the desirability of black market premiums as an instrument in a regression in which a poverty measure is the independent variable is complicated by the potential correlation of this variable with poverty. Indeed, a segment of the literature on black market for foreign exchange seems to provide supportive evidence for such correlation by establishing a robust link between the black market and other poverty determinants such as growth, corruption, and income distribution (Bahmani-Oskooee, Goswami, and Mebratu, 2006; Bahmani-Oskooee and Goswami, 2005).

In addition, the origin of a country's legal system is found to be a potential determinant of institutional quality and government efficiency in particular.⁴⁶ However, it

⁴⁶ La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1999) classify legal traditions into common law, French civil law, German civil law, Scandinavian law, and socialist law. These authors find that the identity of the former colonizers has a bearing on government performance and economic development. In their view, government efficiency can be expected to be high in common law, Scandinavian, and German civil law countries thanks to their professional bureaucracies and civil servants. In contrast, government efficiency is likely to be intermediate in French civil law countries because of their powerful and largely

(continued)

is not clear that an easy case can be made for using defense spending for that purpose. For instance, it is difficult to argue that the allocation of larger budgetary resources to security sectors at a time of perceived domestic or external threats to peace and stability in a country reflects its authorities' insensitiveness to institutional development.

Easterly (2001) analyzes whether good institutions mitigate the negative effects of ethnic fragmentation on policy choices, using instrumental variable techniques. Using OLS techniques, this author regresses measures of policy choices on a measure of ethnic diversity and an interaction term *Institutions x Ethnic Diversity*. Noting that policies may in turn affect institutions, he also runs these regressions using instrumental variable techniques, adding this interaction term to the list of instruments in order to address this potential reverse causality. Other key instruments selected by this author include (i) the length of time a country has been independent which he interprets as the time period that is available to a country for institutional development to take place; (ii) the product of the measures of ethnic diversity and initial income, with this interaction term being used as an instrument under the assumption that institutional development is contingent on economic development as measured by income; (iii) natural endowments such as natural resource abundance indicators, population size and land area. Easterly (2001) borrows this latter instrument from Sachs and Warner (1995). However, it is noteworthy that these authors use the share of mineral production in Gross National Product (GNP), the ratio of

unconstrained bureaucracies while it is deemed to be the lowest in socialist law countries as a result of their corrupted bureaucracies stemming from the extreme power of the state.

total land area to population, and the ratio of the investment deflator to the GDP deflator as instruments for investment and not institutions.

In light of the above review of the literature on instruments for economic institutions, an effort has been made in this dissertation to select a set of instruments that are deemed adequate for economic institutions. In carrying out this effort, it has been kept in mind that to be valid these instruments must have no direct effect on poverty while being correlated (preferably highly so) with institutional quality. As a result, the following variables are used in the regressions performed in this dissertation as instruments for economic institutions:

- (i) The origin of a country's legal system which is a key determinant of the quality of economic institutions such the rule of law and property rights security framework. The inclusion of this variable in the list of instruments selected in this paper is in line with the approach developed by Mauro (1995) and La Porta et al. (1999).
- (ii) The mortality rates expected by the first colonial settlers in the colonies which may have an incidence on institutional quality under the assumption of institutional persistence (Acemoglu et al., 2001). While there is some criticism about the relevance of these two measures to the analysis of institutional quality, their use as an instrument is widespread in the literature. Thus their inclusion in the list of instruments selected in this paper is consistent with this approach and helps compare respective results.

- (iii) Latitude which is considered as an adequate instrument for institutions in a number of empirical studies (see for instance Acemoglu et al., 2001, and Rodrik, Subramanian, and Trebbi, 2002).⁴⁷

To this list of instruments are added regional dummies, political institution variables *SYSTEM* and *PR*, and a constant, as exogenous variables in a simultaneous equations model are found in the theoretical literature to be all good candidates for instrumental variables.

TESTING THE VALIDITY OF INSTRUMENTS

In general, instruments are viewed as valid if two requirements are met:

- (i) Instrumental exogeneity which implies that instruments are uncorrelated with the error term.
- (ii) Instrumental relevance which means that instruments should be highly correlated with the endogenous regressors.

For the instrumental exogeneity condition to be deemed satisfied, it is useful to show how the instruments affect the endogenous regressor(s), fail to exert any direct effects on the dependent variable (*exclusion restriction*), and are unaffected by the dependent variable. Since this condition cannot be tested in general, specific tests try in practice to check whether all instruments are exogenous assuming that at least one of the instruments

⁴⁷ As noted by Acemoglu *et al.* (2001), a measure of latitude is used as a regressor to control for the distance from the equator and thus the climate which are found in the literature to have an effect on economic performance. Following Hall and Jones (1999), the absolute value measure of latitude scaled between 0 and 1 is used in the regressions. This measure is also used by Hall and Jones (1999) as an instrument for social infrastructure because, in these authors' view, it is correlated with "Western influence" which generates to good institutions.

is exogenous. In this paper, a Hausman test of overidentifying restrictions is used to test instrumental exogeneity. The results which are reported in Table 4.3 show that expected settler mortality (*MORTALITY*) is exogenous. Equivalently, this test does not reject at a 5-percent significance level the null hypothesis that both the 2SLS and 3SLS estimators are consistent and the 3SLS estimator is asymptotically efficient, and *MORTALITY* exogenous.

As regards instrumental relevance, tests that are performed in this connection help determine whether the selected instruments suffer from a *weak instruments* problem which arises when instruments are weakly correlated with endogenous regressors. In the event such a problem surfaces, it is likely that the IV estimator will lead to poor estimates. In practice, estimates from the first-stage regressions are used to test the relevance of instruments. In line with this approach, this paper uses the first-stage estimates for the perceived endogenous regressor *RULEOFLAW* to compute the *F*-statistic of a joint test of whether all instruments excluding political variable dummies are significant.

The results of the *F*-test are reported along with first-stage estimates for *RULEOFLAW*. The *F*-test results reported in Table 4.1 suggest that the instrumental relevance requirement is satisfied when the variable *MORTALITY* is excluded from the list of instruments. In this latter case, the reported *F*-test statistic is greater than 10 which is in line with the rule of thumb according to which a *F*-statistic of this magnitude is consistent with instrumental relevance. When *MORTALITY* is included in the list of arguments, the *F* is equal to 3.99, which fails to comply with the rule of thumb. While this rule of thumb is not a theorem and thus not fully reliable, care is taken nevertheless

to compute and report both sets of 3SLS estimates that are obtained using in turn a set of instruments that includes and excludes *MORTALITY*.

SOME REMARKS ABOUT THE EMPIRICAL FRAMEWORK

A number of observations can be made about the methodological approach adopted in this dissertation. First, the instrumental variables approach adopted in this paper is standard in the empirical studies of institutions (e.g. Acemoglu, Johnson and Robinson, 2001; 2002; 2004; Easterly, 2001; Sachs, 2003). The recourse to instrumental variables techniques relates to their ability to deal with potential sources of estimation bias arising from the endogeneity of institutions, omitted variables, and measurement errors. In order to assess the validity of the approach adopted in this paper, a number of robustness checks and tests of the validity of instruments are performed.

Second, by adopting a cross-country approach, this dissertation also follows the lines traced by existing studies on institutions and on poverty.⁴⁸ It thus provides some indications about whether cross-country differences in institutional development account for differences in poverty rates across countries. Beyond the fact that the bulk of empirical studies that feed the economic literature on institutions have recourse to cross-country evidence, the recourse to this approach is in part dictated by the very nature of the questions addressed in this dissertation, including how the effects of institutions on poverty in some countries with specific political regimes and electoral rules compares

⁴⁸ See for instance Acemoglu, Johnson and Robinson (2001); Easterly (2001); Agénor (2002a; 2002b).

with those experienced by other countries with different institutions. Data limitations in individual developing countries provide additional support for this approach.

While the methodological approach followed in this dissertation follows existing studies in some respects, it attempts to overcome the key limitation facing these studies. As discussed in the previous chapter, these studies make use of indicators of institutional quality that often fail to capture adequately relevant dimensions of institutions. In this connection, it is noteworthy that the literature tends to put an uneven and separate focus on institutions that ensure the security of property and contractual rights among economic institutions and on political regimes among political institutions and to place no emphasis on their potential poverty impact.⁴⁹ Notwithstanding the evidenced patterns of correlation between these institutions, a very limited number of existing studies tries to assess the effects of economic and political institutions on poverty using a unique modeling framework, as is done in this paper. That said, even though the analysis conducted in this dissertation takes innovative steps to address perceived shortcomings in available studies, it remains subject to a number of critiques, particularly those that are usually made in relation to cross-country analyses, instrumental variable techniques, and institutional measurement issues. These include the difficulty of finding valid instruments, taking into account country-specific circumstances, and fully capturing countries' institutional differences.

⁴⁹ Acemoglu, Johnson, and Robinson (2002) acknowledge that their selected institutional indicators may “correspond poorly to the concept that is relevant to development.” More generally, some researchers wonder whether institutional quality that is theoretically relevant is adequately reflected by the various indicators that are used for this purpose and more specifically whether the overwhelming focus of the neo-institutionalist literature on institutions that ensure the security of property rights is adequate (see Aron, 2000, Przeworski, 2004, and Ménard and Shirley, 2005).

CHAPTER 4

EMPIRICAL EVIDENCE: THE RELATIONSHIP BETWEEN POVERTY AND ECONOMIC AND POLITICAL INSTITUTIONS

Prior to estimating the empirical model developed in Chapter 3, it may prove useful to conduct a preliminary analysis of the selected data sample in order to derive potential key messages from the patterns of evolution of selected poverty and institutional indicators. The first section of this chapter is devoted to that exercise while the second section discusses the regression results.

4.1. GRAPHICAL ANALYSIS OF POVERTY AND INSTITUTIONS

4.1.1. POVERTY AND ECONOMIC INSTITUTIONS

Figure 4.1 illustrates the negative relationship between the quality of economic institutions and poverty, as measured respectively by WGI's *Rule of Law* variable, *RULEOFLAW*, and poverty headcount and poverty gap indices. As higher institutional ratings are assigned to countries with better quality of economic institutions, the downward slopes of the regression lines thus suggest that such countries tend to be associated with lower poverty rates. However, it could be argued that the inclusion of countries with the lowest poverty rates—typically middle-income countries—in the full sample may play a big role in explaining the steepness of the slopes, as shown in Panel A of Figure 4.1.

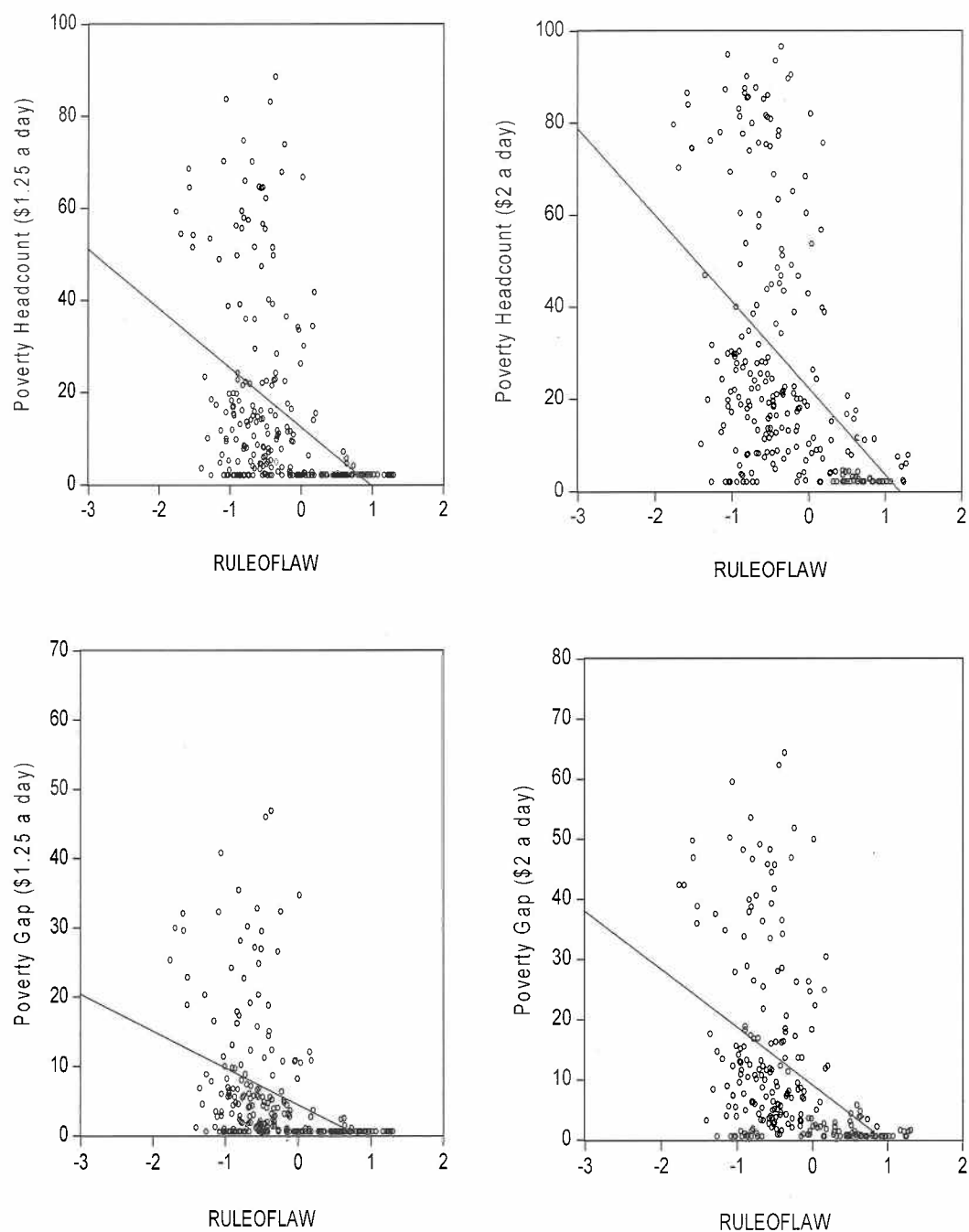
In order to address this issue, the same graphs are plotted using an adjusted sample that excludes these countries, as reported in Panel B of Figure 4.1. Here again, the slopes remain negative and steep, reflecting the negative relationship between poverty rates and the quality of economic institutions. Simple OLS regressions of the indices of poverty headcount and poverty gap at \$1.25 and \$2 a day on *RULEOFLAW* shows that these slopes are significant at a 1-percent significance level with estimated coefficients ranging between -1 and -1.3. This suggests that the negative correlation that exists between poverty and the quality of economic institutions does not depend neither on the rate of poverty nor on the level of economic development.

Such a correlation can be interpreted at least in two different ways. First, it may indicate that countries with better outcomes of institutional arrangements seem to fare better in reducing the incidence and depth of poverty. This interpretation assumes that institutional quality may have positive effects on poverty reduction either directly or indirectly. Second, the correlation between poverty and the quality of economic institutions may suggest that countries with high poverty rates are intrinsically associated with weak economic institutions. This implies that poor countries may find it difficult to afford themselves with sound institutions that protect property rights and ensure good governance in the public sector.

The above two possible interpretations of the negative correlation between poverty and the quality of economic institutions seem to imply that a causal link exists between these two concepts. Yet, it is noteworthy that the graphs reported in Figure 4.1 illustrate only a negative relationship when another variable is controlled for. The econometric

analysis conducted in the next section will examine this relationship more thoroughly, controlling for other determinants of poverty.

Panel A—Full Sample



Panel B--Adjusted sample (excluding countries with minimum poverty rates)

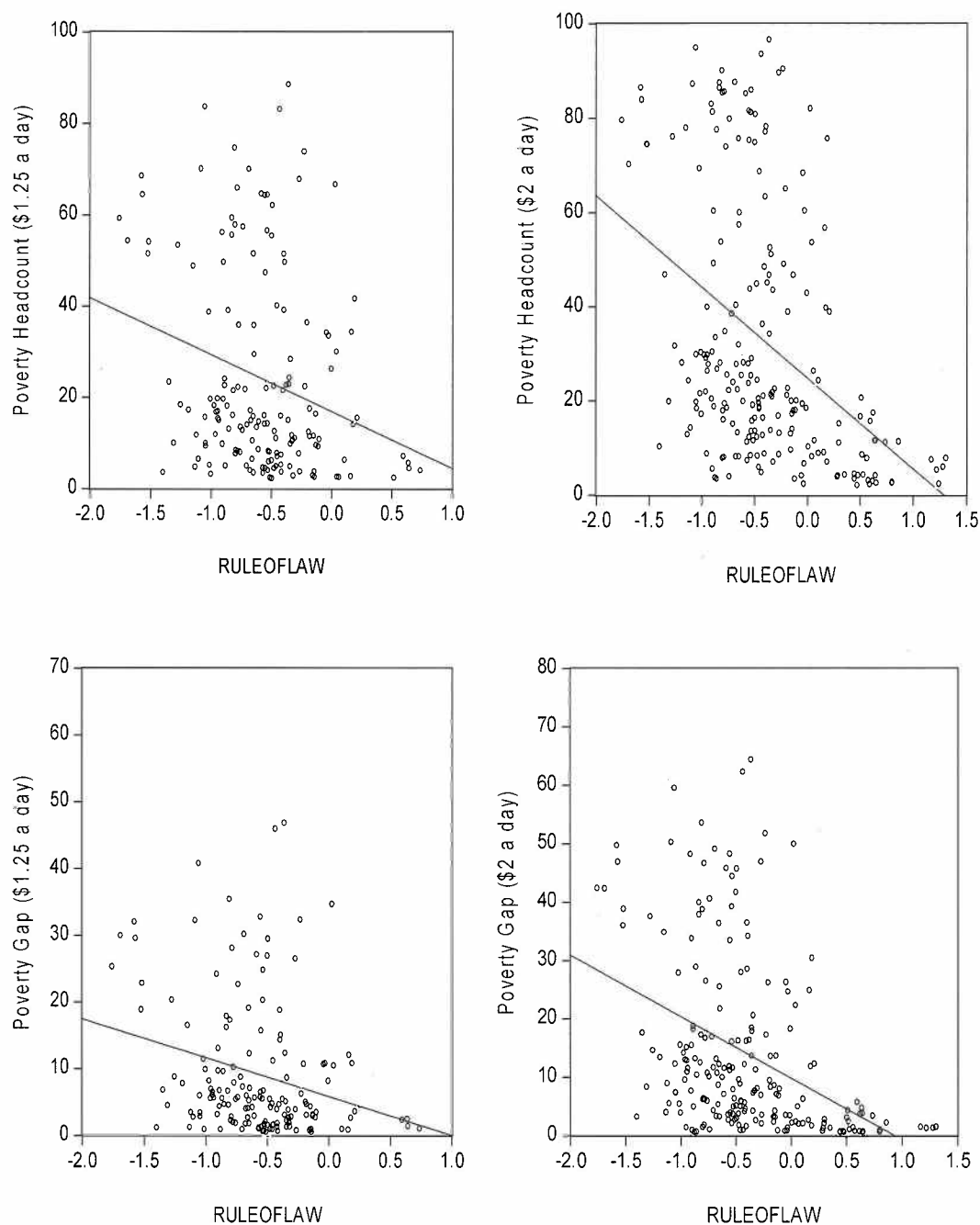


Figure 4.1—Economic Institutions and Poverty

4.1.2. POVERTY AND POLITICAL INSTITUTIONS

Although limited evidence is available in the literature on the relationship between political institutions and poverty, an empirical analysis of this relationship may prove useful to shedding the light on whether and how poverty rates could vary depending on specific political regimes or electoral systems. In this endeavor, annual averages of \$1.25 and \$2 a day poverty headcount ratios and poverty gap indices are averaged for each of the four groups of countries that have in common a given political institution, namely parliamentary regimes, presidential regimes, proportional systems, and non-proportional systems. For each of the two types of political institutions that are considered in this study, these averages are plotted for the period 1991-2005 and reported in Figure 4.2.

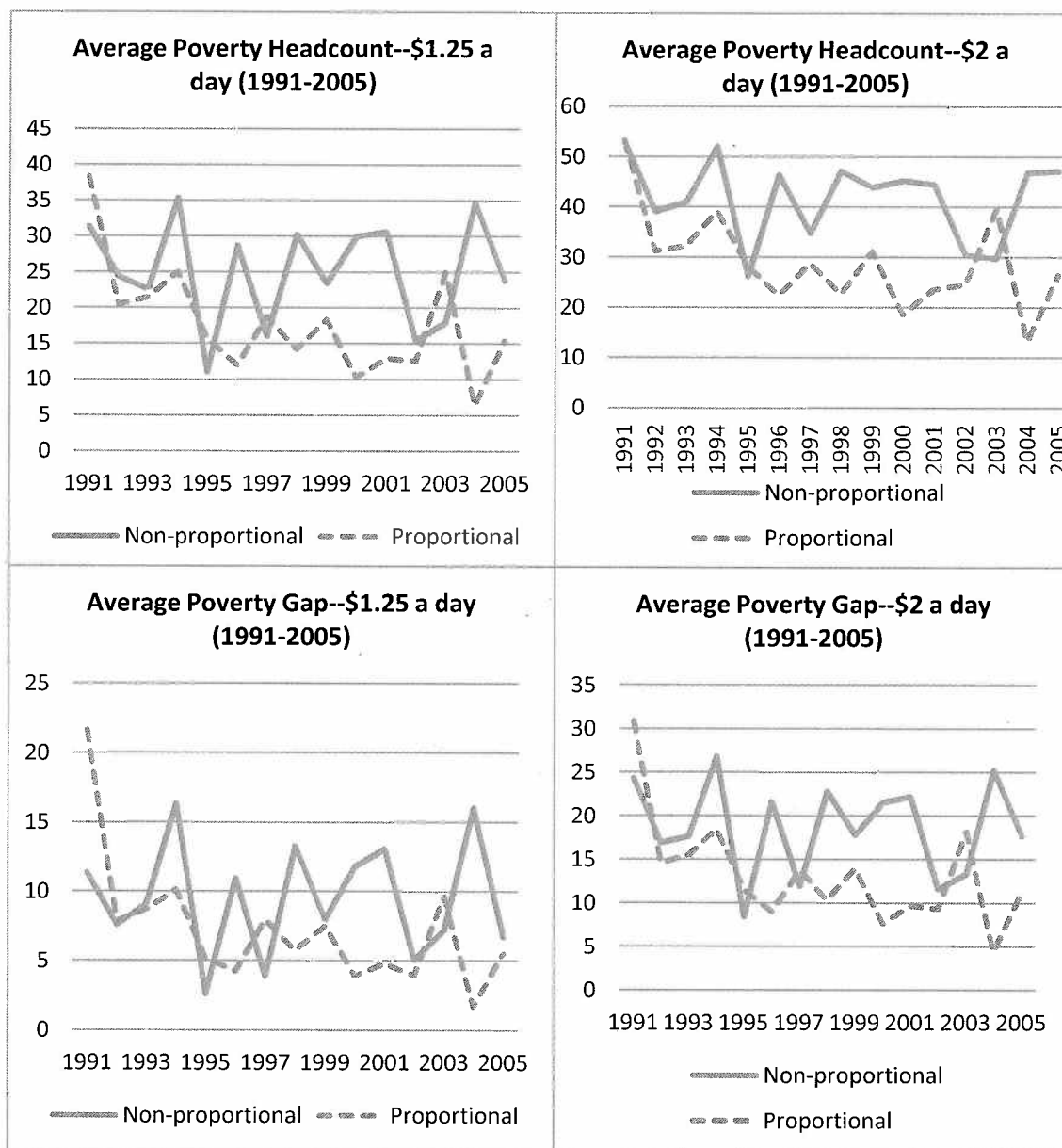
With regard to electoral rules, the graphs reported in Panel A of Figure 4.2 display a clear tendency of sample countries with proportional electoral systems to register, on average, lower poverty rates than countries with non-proportional systems. Indeed, except for a few years average poverty headcount ratios and poverty gap indices at \$1.25 and \$2 a day are typically greater the latter group of countries.

For the two groups of political regimes, similar graphs are plotted and reported in Panel B of Figure 4.2. These graphs show that for most of the selected time period countries with presidential regimes appear to have on average a larger incidence and depth of poverty than other countries with parliamentary regimes.

In light of the above, it is tempting to conclude that parliamentary regimes are more pro-poor than presidential regimes and proportional rules are more so than non-proportional rules. However, while the graphs provide useful preliminary evidence about the issue at stake, they need to be interpreted cautiously since they illustrate only a one-

to-one correlation which is not a complete analysis. Further econometric analysis will be enlightening in this regard.

Panel A--Poverty in Proportional and Non-proportional Systems



Panel B--Poverty in Presidential vs. Parliamentary Regimes

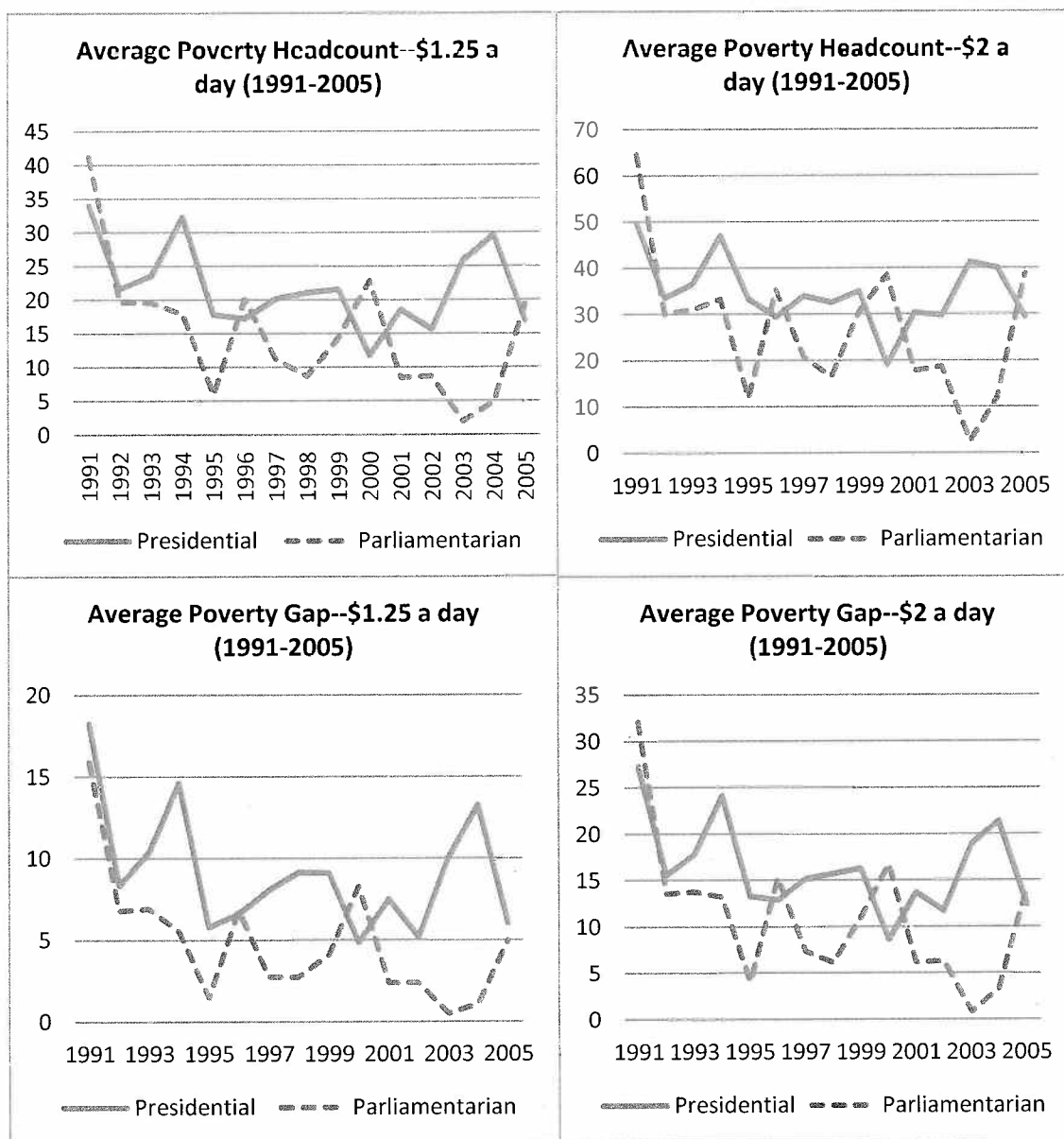


Figure 4.2—Evolution of Poverty according to Political Institutions

4.2. EMPIRICAL EVIDENCE

As previously noted, three-stage least squares (3SLS) is used in this paper as the estimation technique. This section reports and discusses in a detailed manner the 3SLS estimates obtained from the use of this procedure.

4.2.1. INSTITUTIONS, ECONOMIC PERFORMANCE, AND POVERTY

Table 4.1.A and Table 4.1.B report the results of the 3SLS estimation of the empirical model developed in Chapter 3 using respectively the *base sample* which includes all countries for which selected measures of poverty and institutions are available and the *free sample* which excludes from the base sample countries classified as “not free” by the Freedom House.⁵⁰ With regard to the relationship between poverty and economic and political institutions, the messages conveyed by the results obtained with these two samples are exactly the same. The first key message that emanates from the regressions results is that improved quality of economic institutions has direct positive effects on poverty reduction. Indeed, columns 1 to 4 of both tables show that the estimated coefficients for *RULEOFLAW* are significant and negative regardless of the poverty rate selected as dependent variable in Equation 3.1—that is either one of the World Bank’s poverty headcount and poverty gap indices at \$1.25 and \$2 a day. These results thus suggest that better quality of economic institutions exerts direct positive effects on the incidence and severity of poverty. In this connection, it appears that institutional development reduces more significantly the severity than the incidence of poverty, as the magnitude of the estimates associated with poverty headcount indices is

⁵⁰ See the Appendix for a list of countries and years covered by these two samples.

smaller in absolute value than those associated with poverty gap indices. Moreover, as expected, stronger economic institutions lead to sharper reduction in absolute poverty than relative poverty. This is illustrated by the fact that for either the poverty headcount index or the poverty gap index the estimated coefficients are larger for the \$1 a day poverty line than for the \$2 a day poverty line.

A second important message that can be drawn from the empirical evidence reported in Table 4.1.A and Table 4.1.B is that stronger economic performance—as measured by the log-level of per capita GDP—significantly reduces the incidence and severity of poverty (columns 1-4). Like with stronger economic institutions, improved economic performance affects more significantly the depth of poverty and absolute poverty than the incidence of poverty and relative poverty. Most importantly for the purpose of this study, economic performance appears to channel the indirect effects of economic institutions on poverty. Indeed, columns 1-4 along with column 5 show that economic institutions are a key determinant of economic performance which in turn reduces poverty. These results support the hypothesis that economic institutions indirectly foster poverty reduction by stimulating economic performance.

Another key message conveyed by Table 4.1.A and Table 4.1.B is that political regimes and electoral rules indirectly affect the incidence and severity of poverty through their effects on economic performance. In this regard, column 5 of both tables shows that countries under parliamentary regime register different economic performance than countries under presidential regime, with the negative sign of the coefficient for *SYSTEM* suggesting that the effect of parliamentary regimes on economic performance is smaller

than the effect of presidential regimes.⁵¹ Coupled with the finding that economic performance reduces poverty, this evidence suggests that countries under presidential regime seem to fare better than those under parliamentary regime in reducing poverty, as they stimulate economic performance more significantly.

Similarly, the positive sign of the coefficient for *PR* indicates that the effect of proportional rules on economic performance is larger than the effect of non-proportional rules. As improved economic performance leads to poverty reduction, this result thus implies that countries with proportional systems should register sharper poverty reduction than those with non-proportional systems given that they enjoy stronger economic performance.

4.2.2. INSTITUTIONS, CORRUPTION, AND POVERTY

Table 4.1.A and Table 4.1.B convey a number of interesting findings about the relationship between political institutions, corruption and poverty. Key among them is the lack of robust empirical evidence to support the hypothesis that political regimes and electoral rules indirectly affect poverty through corruption. Indeed, the evidence fails to support the hypothesis that corruption directly affects the incidence of poverty, as the estimated coefficient for this variable remains insignificant when the poverty headcount index is selected as dependent variable (columns 1-2).⁵² Moreover, there is no conclusive

⁵¹ It is worth noting that the estimated coefficient for *SYSTEM* is significant at a 5-percent significance level when the base sample is used and only at 10-percent significance level when the *free* sample is used.

⁵² It is noteworthy that when *MORTALITY* is excluded from the list of instruments, then *CORRUPTION* is found to have a direct effect on the depth of poverty, as measured by the poverty gap index. As this result is not supported by both sets of regressions with and without *MORTALITY* among the instruments, it is thus not emphasized among the key findings of this paper.

evidence that either a presidential or parliamentary regime affects corruption more significantly than the other, as illustrated by the statistical insignificance of the variable *SYSTEM* in column 6 of both tables. This is at odds with the hypothesis made in this dissertation and the widely documented view that the incidence of corruption is larger in countries with parliamentary regimes than in those with presidential regimes.

However, it is noteworthy that, in spite of their statistically insignificant indirect impact on poverty, electoral rules appear to have noticeable effects on corruption. As corruption scores from zero to six risk points with higher points assigned to countries where the political system is least affected by corruption, the positive sign of the estimates reported in columns 5 to 7 suggest that proportional electoral rules are associated with less corruption than other types of rules. Here again, this finding refutes the hypothesis made in this dissertation and the evidence usually reported in the literature, notably by Persson, Tabellini and Trebbi (2003), that corruption affects more significantly countries with proportional electoral rules than countries with other rules such as plurality rules. One of the key arguments made in the literature to explain the tendency of proportional systems to be more corrupt is embodied in the Persson, Tabellini, and Trebbi's view that a higher proportion of candidates elected from party lists tends to be associated with weaker individual accountability. However, the finding reported in this paper suggests that weak accountability cannot fully account for the high incidence of corruption in countries under proportional representation. Still, it is possible that the apparent tension between these authors' results and those reported in this study might be due to differences in selected sample of countries. In this connection, it is noteworthy that this dissertation focuses only on low- and middle-income countries

whereas Persson, Tabellini and Trebbi (2003) include many advanced economies in their analysis.

In light of the above, there does not seem to be any evidence that corruption affects directly either the incidence or depth of poverty, nor is there any significant support to the hypothesis that the types of political institutions considered in this dissertation influence poverty outcomes through their influence on corruption in the political system. Care must however be taken in interpreting this result. The lack of direct effects of corruption and indirect effects of political institutions on poverty could indeed be attributable to a number of factors not explored in this paper. For instance, it is possible that such effects are mitigated by existing informal institutions such as social norms and self-imposed codes of conducts. Further investigation of these issues would prove necessary to provide conclusive evidence about the poverty impact of political institutions and corruption.

4.2.3. INSTITUTIONS, PUBLIC POLICY, AND POVERTY

The estimated coefficients for *SUBSIDIES* reported in columns 1 to 4 of Table 4.1.A and Table 4.1.B indicate that selected measures incidence and severity of poverty are not significantly influenced by pro-poor spending. As a result, electoral rules seem to have no indirect effects on poverty even though they are found to have significant effects on pro-poor spending, notably with proportional systems being associated with larger pro-poor spending programs than non-proportional systems, as illustrated in column 7. Similarly, while differences in political regimes appear to have no significant effects on poverty, they affect the magnitude of pro-poor spending in *democratic* countries, as illustrated by Table 4.1.B. More precisely, parliamentary representation is found to be associated with

broader social programs compared to presidential regimes, which is consistent with the finding reached by a significant segment of the literature. The propensity of parliamentary regimes to favor broader social programs compared to presidential regimes is interpreted by Persson, Roland, and Tabellini (2000) as being the consequence of stronger accountability of elected officials in the presidential regimes which helps avoid wasteful public spending.

Overall, the empirical evidence reported in this paper provides no firm support to the hypothesis that political regimes and electoral rules indirectly affect poverty through public policy. However, caution needs to be exercised in interpreting these findings. Clearly, if well-targeted, pro-poor spending could improve the welfare of the poor and thus lead to lower incidence and depth of poverty. Under these circumstances, political institutions could indirectly affect poverty by shaping pro-poor public policy. There are a number of reasons that could explain why pro-poor spending fails to affect poverty in the model developed in this study. A particular one is that the selected indicator of pro-poor spending may fail to be an adequate measure of such spending. Indeed, there is plenty of evidence that stresses that subsidies and transfers are not usually well-targeted and thus do not necessarily benefit the poor. For instance, a legitimate case can be made about whether the poor actually benefit—at least directly—from fuel consumption subsidies in many developing countries, as most of them do not typically own a motorized vehicle. Another possible reason relates to the possibility that per capita income mitigates the effect of such spending on poverty. This is supported by results in column 7 that show that pro-poor spending is significantly affected by per capita GDP.

It is noteworthy that the abovementioned findings apply not only to countries that were former colonies but also to others that were not. Indeed, very similar results are obtained when the model is estimated using the base sample and 3SLS techniques irrespective of whether or not settlers' mortality is included in the list of instruments.⁵³ This suggests that the effects of institutions on poverty are neither necessarily nor exclusively shaped by the colonial or non-colonial identities of countries included in the base sample.

4.2.4. ROBUSTNESS CHECKS

A number of tests are performed to check the robustness of the 3SLS estimates reported in this paper.

Comparing Three-Stage Least Squares and Ordinary Least Squares

I use the OLS procedure to estimate the same model developed in Chapter 3 and the results are reported in Table 4.2. Compared with the 3SLS estimates, the OLS results convey a number of similar patterns. First, there are no differences in the signs of the estimates obtained from both estimators and both OLS and 3SLS procedures broadly provide the same set of robust estimates at a 5-percent significance level. However, the estimated coefficients obtained with OLS are smaller in absolute value than those that are obtained with 3SLS.

⁵³ Appendix Table A.2 reports the regression results that are obtained when *MORTALITY* is excluded from the list of instruments.

In this light, the predicted effects of institutions on poverty are unchanged from one procedure to another. Most of the messages that were discussed in relation with the 3SLS also emanate from OLS estimates: (i) economic institutions have direct and indirect effects on poverty; (ii) political institutions affect indirectly poverty through economic performance; (iii) different political institutions do not affect differently poverty through corruption and pro-poor spending in general, although at a \$2 a day poverty line proportional and non-proportional electoral systems appear to have different effects on poverty via public policy.

Testing the Validity of Instruments

Given the 3SLS procedure used in this paper makes use of instruments, an important way of starting robustness checks is to test whether these instruments are valid. In order to determine whether the instruments selected in this paper are valid, I test the exogeneity of instruments using a test of overidentifying restrictions and the relevance of instruments using a *F*-test.

Test of overidentifying restrictions

To this end, I perform a Hausman test of the overidentifying restrictions, as follows. As discussed in Greene (2003, p. 414), this test is based on the 2SLS and 3SLS estimators such that under the null hypothesis that the selected exogenous variable, say *MORTALITY*, is exogenous both estimators are consistent and the 3SLS is asymptotically efficient. Under the alternative hypothesis, that it *MORTALITY* is endogenous—the 2SLS estimator is consistent but the 3SLS estimator is inconsistent. Concretely, I first estimate Equation 3.1 using the 2SLS procedure. Then, I estimate the same equation using the

3SLS procedure and adding mortality as exogenous regressor. The test statistic which is the Wald statistic based on the difference between the two estimators is distributed as chi-squared with one degree of freedom.

I report the results of these regressions on Table 4.3. Panel A reports the 2SLS estimates of Equation 3.1. Panel B gives the 3SLS estimates of the same equation, with *MORTALITY* being added among the regressors. The selected test of overidentifying restrictions asks whether the coefficients obtained from these two regressions are significantly different. Panel C provides the computed chi-square statistic and its *p*-value. The results reported in this panel show that, for any of the selected dependent poverty variables, the null hypothesis that both the 2SLS and 3SLS estimates are equal cannot be rejected at 5-percent significance level. Equivalently, both estimators are found to be consistent, the 3SLS asymptotically efficient, and *MORTALITY* exogenous. In all of the models that are estimated *MORTALITY* is not statistically significant, suggesting that it has no direct effects on the incidence and depth of poverty.

F-Tests

As discussed in Chapter 3, the first-stage estimates for *RULEOFLAW* are used to compute the *F*-statistic of a joint test of whether all instruments excluding political variable dummies are significant. The results of the *F*-test which are reported in Table 4.1.A and Table 4.1.B suggest that the selected instruments appear to be relevant whether the base sample or the free sample is used. Indeed, the *F*-statistic computed from the first stage is greater than 10 in both cases irrespective of whether or not *MORTALITY* is included.

When the sample is refined to include only observations for which data are available on all variables of interest, including poverty, economic and political institutions, subsidies and transfers in percent of total expenditure, and settler mortality, then the F is much lower than 10 (see Appendix Table A1). The regression results obtained with this *reduced* sample convey however the same broad messages as those emanating from the base and *free* samples, which confirms that these results are robust to differences in sample selection.⁵⁴

Excluding settler mortality

Following the publication of Acemoglu et al.'s papers that use European settler mortality *MORTALITY* as instrument for institutions, a number of authors have voiced their skepticism about this approach. For instance, Albouy (2004) claims that the Acemoglu et al.'s dataset on *MORTALITY* suffers from a number of questionable and objectionable judgments and measurement errors and gives rise to weak-instrument problems.

In this light and as previously discussed, I also checked whether the estimates provided by the model are robust to the exclusion of *MORTALITY* from the list of instruments. The results which are reported in Table 4.1.B do not appear to change drastically. All coefficients that were significant in the original poverty equation remain so. Those that were found to be insignificant remain so as well, except for estimates

⁵⁴ The *reduced* sample covers 24 countries classified as "Free" or "Partly Free" by the Freedom House for which data on all variables of interest for the poverty equation, including *MORTALITY*, are available.

associated with *CORRUPTION*. In poverty gap regressions reported in columns 3 and 4, the latter estimates are now significant at a 5-percent significance level. A possible interpretation is that the corruption indicator could be correlated with *MORTALITY*. The plausibility of this interpretation appears to be supported by the fact that *MORTALITY* is significant when added as a regressor in the *CORRUPTION* equation, as reported in column 6' of Table 4.1.B.

Additional Controls

I also test whether the 3SLS estimates are robust to the inclusion of additional controls. Specifically, I added to the per capita GDP equation proxies for the level of education and health conditions, thus assuming the latter affect poverty by increasing productivity and income. Once again the results which are presented in Table 4.4 remain virtually the same.

**Table 4.2. Institutions, Economic Performance, Corruption, and Public Policy
(OLS Regressions)**

	Base smpl	Base smpl	Base smpl	Base smpl	Base smpl	Base smpl	Base smpl
	Dependent Variables						
	Log of Poverty Headcount Index		Log of Poverty Gap Index		Log of GDP per capita	CORRUP TION	SUBSI DIES
	\$1.25 a day	\$2 a day	\$1.25 a day	\$2 a day			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Ordinary Least Squares							
RULEOFLAW	-0.31 (0.01)	-0.35 (0.00)	-0.45 (0.00)	-0.50 (0.00)	0.75 (0.00)		
GDPPC	-0.98 (0.00)	-1.01 (0.00)	-1.02 (0.00)	-1.17 (0.00)		0.17 (0.00)	0.41 (0.00)
SUBSIDIES	-0.13 (0.25)	-0.27 (0.02)	-0.24 (0.09)	-0.32 (0.03)			
CORRUPTION	0.11 (0.20)	-0.02 (0.78)	0.18 (0.08)	0.05 (0.65)			
PR (<i>PR=1</i> for proport. and <i>PR=0</i> for non- proport.)					0.69 (0.00)	0.15 (0.02)	0.29 (0.00)
SYSTEM (<i>SYSTEM=1</i> for Parliam. and <i>SYSTEM=0</i> for Presid.)					0.13 (0.09)	0.09 (0.13)	0.06 (0.30)
Constant	10.35 (0.00)	12.01 (0.00)	9.64 (0.00)	12.21 (0.00)	7.92 (0.00)	1.29 (0.00)	-0.24 (0.37)
Number of observations	128	128	128	128	574	1180	514

Source: Worldwide Governance Indicators (2010); World Development Indicators (2010), Database of Political Institutions (2009). Estimates in bold are significant at a 5-percent significance level. In parentheses are p-statistics.

Table 4.3. Tests of Overidentifying Restrictions

	Base Sample	Base Sample	Base Sample	Base Sample
Panel A--Two-Stage Least Squares for Dependent Variables				
	Log of Poverty Headcount Index		Log of Poverty Gap Index	
	\$1.25 a day	\$2 a day	\$1.25 a day	\$2 a day
	(1)	(2)	(3)	(4)
RULEOFLAW	-1.11 (0.00)	-0.58 (0.00)	-1.52 (0.01)	-1.12 (0.00)
GDPPC	-1.46 (0.00)	-0.91 (0.00)	-1.63 (0.01)	-1.25 (0.00)
SUBSIDIES	0.53 (0.41)	0.39 (0.14)	0.16 (0.86)	0.44 (0.35)
CORRUPTION	1.11 (0.26)	-0.08 (0.84)	1.94 (0.18)	0.55 (0.44)
Constant	9.73 (0.00)	9.34 (0.00)	9.11 (0.01)	9.34 (0.00)
Panel B--Three-Stage Least Squares for Dependent Variables				
	Log of Poverty Headcount Index		Log of Poverty Gap Index	
	\$1.25 a day	\$2 a day	\$1.25 a day	\$2 a day
	(1)	(2)	(3)	(4)
RULEOFLAW	-1.11 (0.01)	-0.59 (0.01)	-1.52 (0.01)	-1.13 (0.00)
GDPPC	-1.56 (0.00)	-1.20 (0.00)	-1.69 (0.03)	-1.51 (0.00)
SUBSIDIES	0.40 (0.62)	-0.13 (0.77)	0.06 (0.96)	-0.01 (0.99)
CORRUPTION	1.28 (0.25)	0.43 (0.48)	2.03 (0.22)	0.99 (0.32)
Constant	11.02 (0.02)	13.85 (0.00)	9.94 (0.16)	13.18 (0.00)
MORTALITY	-0.09 (0.77)	-0.33 (0.05)	-0.06 (0.89)	-0.28 (0.31)
Panel C--Results from Overidentification Test				
Chi-squared statistic	0.08	3.86	0.02	1.03
p-value	[1.00]	[0.70]	[1.00]	[0.98]

Source: Worldwide Governance Indicators (2010); World Development Indicators (2010), Database of Political Institutions (2009). Regressions are performed with three-stage least squares procedure, instrumenting for MORTALITY, LATITUDE, PR, SYSTEM, the English legal origin, regional dummies AFRICA, ASIA, WESTHEM, and the constant. In parentheses are p-statistics. Estimates in bold are significant at a 5-percent significance level.

Table 4.4. Institutions, Economic Performance, Corruption, and Public Policy (Additional Controls)

Table 11: Multivariate Performance, Corruption, and Policy Parameter Estimates												
	Base Sample		Base Sample		Base Sample		Base Sample		Base Sample		Base Sample	
	Base Sample		Base Sample		Base Sample		Base Sample		Base Sample		Base Sample	
	Base Sample		Base Sample		Base Sample		Base Sample		Base Sample		Base Sample	
	Dependent Variables											
	Log of Poverty Headcount Index		Log of Poverty Gap Index		Log of GDP per capita		CORRUPTION		SUBSIDIES			
	\$1.25 a day	\$2 a day	\$1.25 a day	\$2 a day								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)					
RULEOFLOW	-1.11 (0.00)	-0.57 (0.00)	-1.53 (0.01)	-1.12 (0.00)	0.78 (0.01)							
GDPPC	-1.48 (0.00)	-0.91 (0.00)	-1.62 (0.01)	-1.26 (0.00)		0.15 (0.02)	0.40 (0.00)					
SUBSIDIES	0.55 (0.37)	0.41 (0.10)	0.16 (0.86)	0.45 (0.31)								
CORRUPTION	1.14 (0.23)	-0.08 (0.83)	1.94 (0.18)	0.56 (0.41)								
PR (PR=1 for proport. and PR=0 for non-proport.)					0.30 (0.17)	0.18 (0.02)	0.60 (0.00)					
SYSTEM (SYSTEM=1 for Parliam. and SYSTEM=0 for Presid.)					-0.48 (0.00)	-0.12 (0.15)	0.16 (0.13)					
Constant	9.73 (0.00)	9.33 (0.00)	9.03 (0.01)	9.34 (0.00)	0.85 (0.62)	1.40 (0.00)	-0.57 (0.30)					
EDUCATION					3.87 (0.00)							
HEALTH					0.48 (0.46)							
Number of observations	51	51	51	51	97	736	258					

Source: WGI (2010); WDI (2010), DPI (2009). Three-stage least squares regressions are performed, instrumenting for MORTALITY, LATITUDE, PR, SYSTEM, the English legal origin, AFRICA, ASIA, WESTHEM, and the constant. In parentheses are p-statistics. Estimates in bold are significant at a 5-percent significance level. EDUCATION is the log of the literacy rate of youth in percent of people aged 15-24. HEALTH is the log of the number of hospital beds per 1,000 people.

CHAPTER 5

CONCLUSION

This dissertation endeavored to assess the effects of economic and political institutions on poverty. While a number of findings discussed in this section are consistent with the predictions of the literature and the hypotheses tested in this dissertation, some others are innovative, as limited empirical evidence is available the literature on the comparative effects of economic and political institutions on the incidence and depth of poverty.

With regard to the relationship between institutions, economic performance and poverty, a number of messages are derived from the empirical evidence reported in this chapter. First, improved quality of economic institutions (rule of law) and economic performance are found to direct positive effects on the incidence and severity of poverty regardless of the selected poverty line. In other words, better quality of economic institutions makes the poor living with less than either \$1.25 a day or \$2 a day better off. It reduces the proportion of these poor as well as their average income shortfall from the poverty line. This conclusion is in line with the findings of Chong and Calderón (2000a) that institutional development affects negatively the incidence and severity of poverty.

Second, in line with the conclusions reached by many empirical studies, better quality of economic institutions is also found to indirectly reduce poverty by fostering economic performance. This conclusion is line with the notion that increased security of

property rights and better enforcement of the rule of law contribute to fostering economic performance, notably by reducing transaction costs and the degree of economic uncertainty facing the poor, as argued by North (1990) and Chong and Calderón (2000*a*; 2000*b*). It is also at odds with the view that the poverty-reducing effects of better economic performance could be undermined by the existence of unequal patterns of income distribution.

Third, this dissertation innovatively concludes that different types of electoral rules and political regimes affect indirectly and differently poverty through economic performance. Countries with proportional electoral systems seem to perform better economically and to reduce poverty more significantly than countries with non-proportional systems. While contradicting Persson and Tabellini's (2006) finding that "the spending binge" in proportional democracies does not affect the rate of economic growth, this supports Przeworski's (2000) insight that electoral systems may influence growth.

Similarly, countries with presidential systems appear to register a faster pace of poverty reduction than countries with parliamentary systems because they have stronger economic performance. Yet, in line with a significant segment of the literature, this study provides some evidence that parliamentary regimes allocate more budgetary allocations to pro-poor spending than presidential regimes. That parliamentary regimes register weaker economic performance and poverty reduction than presidential regimes despite

their larger share of pro-poor spending seems to support the argument made by Persson and Tabellini (2006) that larger government expenditure in parliamentary democracies could be distortionary, thereby undermining growth.

Finally, this study finds no robust evidence that the types of political regimes and electoral systems that are considered in this paper affect differently the incidence and depth of poverty by influencing public policy or the extent of corruption in the political system. Here again, prudence is needed in interpreting this finding, as unidentified mitigating factors may be at play. In this connection, the ultimate effects of pro-poor public policy and corruption on poverty could be mitigated by better economic performance, especially since the latter is found to be a significant determinant of corruption. It is also possible that stronger economic institutions—particularly stricter enforcement of the rule of law—undermine the adverse effects of corruption on poverty.

This study provides a number of interesting answers to how economic and political institutions affect poverty. Since these questions have received little attention in the literature so far, most of the findings reported in this paper are innovative. As such, this dissertation provides an important and original contribution to this debate. For this very reason, it calls for further research which would provide additional evidence in relation to the relevance of institutions for poverty reduction. Various robustness checks are performed in this paper, including tests of the relevance of instruments, overidentifying restrictions, and robustness of the 3SLS estimates to the inclusion of additional controls.

These robustness checks confirm that the selected estimator and instruments for economic institutions are adequate for the purpose of this study.

Further research could build on the framework developed in this study to respond to the same set of issues addressed here as well as other left unaddressed. In this connection, while the modeling framework developed in Chapter 3 helped reach the interesting abovementioned findings, it leaves a number of questions unanswered although it could be easily extended to address them. Among them is the question about whether and how corruption and public policy affect potential determinants of poverty if not through political institutions. For instance, the literature provides plenty of evidence about how economic performance may influence both corruption and public policy and allowing the model to capture such links could probably have unveiled potential indirect effects of political institutions on poverty that channel first through corruption and public policy and then through economic performance.

Another unaddressed issue that could be further explored with the modeling framework developed in this paper is whether the lack of significant effects of corruption on poverty is not due to better quality of economic institutions. If that is the case, it is likely that even though political institutions affect corruption, the ultimate effects on poverty could be mitigated by improvements in the quality of economic institutions.

That said, a word of caution is warranted. While the model can provide a number of useful answers on the link between poverty and institutions, it is subject to a number of

limitations that warrant the use of caution in interpreting its findings. Like any cross-country approach, the analysis conducted in this paper is unable to account for country-specific implications of institutional quality for poverty. As such, it could be usefully supplemented by country-case studies on institutions and poverty.

Furthermore, while an effort is made in this dissertation to broaden the range of institutions considered and to include them in the same framework for poverty analysis, it must be acknowledged that an even wider variety of institutions have been left aside. Key among these are informal institutions such as social norms which along with formal institutions can intuitively be deemed to have significant effects on poverty. That said, it is worth repeating that regardless of how exhaustive is the list of institutions selected in this type of poverty analysis, institutions alone cannot provide a full account of poverty dynamics. Many other factors play a critical role in explaining poverty, including the characteristics of individuals and households trapped in this state of deprivation and exclusion. In this light, future research could usefully explore how to develop a broader framework for poverty analysis that would account for both institutions and other key poverty determinants.

Finally, another issue worthy of further investigation relates to the drivers of institutional change, how they relate to poverty dynamics, and how they involve the political and economic elite. While a number of theories have been developed to explain the mutation of societal institutions, a consensual view on the key determinants of

institutional transformation remains to be found in the institutional economics literature.

Yet, if institutions are proven to have an impact on the welfare of the poor, either directly or indirectly, then a better understanding of what triggers their transformation would matter by helping maximize the inherent positive effects on poverty reduction.

APPENDIX

INSTITUTIONAL DATA

Institutional measures used in this paper are constructed with extracted from the World Governance Indicators (WGI) and *International Country Risk Guide (ICRG)* databases.

The WGI dataset reports aggregate and individual governance indicators for 213 economies over the period 1996–2009 and for six dimensions of governance, including *Rule of Law*. The *Rule of Law* indicator ranges from about -2.5 to 2.5, with higher values corresponding to better outcomes. According to the WGI project initiators, this indicator is meant to capture the respect of citizens and the state for the institutions that govern economic and social interactions among them and more specifically the “perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.”

The ICRG database covers about 140 countries and comprises 22 variables grouped in three subcategories of risk: political, financial, and economic. Country analyses in ICRG include descriptive assessments and economic data. It is produced by the PRS Group and updated monthly.

For each of the following institutional factors which are selected for the empirical analysis made in this paper, monthly data provided by this dataset are averaged into annual data. From the ICRG dataset, the corruption index is extracted. This variable is available from January 1985 and scores from zero (high risk) to six (low risk) risk points. It assesses the extent of corruption within the political system. The form of corruption that this variable aims to measure represents an obstacle to foreign investment and includes for instance nepotism, patronage, job reservations, and suspiciously close ties between politicians and entrepreneurs.

For all countries, ICRG data are available on a monthly basis for all institutional variables of interest. In this paper, these data are converted into annual averages for the purpose of matching their frequency with that of data on poverty and other choice variables. Monthly data on Corruption are available from January 1985 to February 2006.

POVERTY DATA

The poverty data are extracted from the World Bank's World Development Indicators (WDI 2010). The poverty variables extracted from this dataset include:

- Poverty headcount ratio at \$1 a day PPP (in percent of total population);
- Poverty headcount ratio at \$2 a day (PPP) (in percent of total population);
- Poverty gap at \$1 a day (PPP) (in percent);
- Poverty gap at \$2 a day (PPP) (in percent);
- Poverty headcount ratio at national poverty line (in percent of total population).

Other series from WDI 2010 that are used in this dissertation include:

- GDP per capita at PPP exchange rates;

- The ratio of subsidies and other current transfers in percent of government expenditure;
- The log of the literacy rate of youth in percent of people aged 15-24;
- The log of the number of hospital beds per 1,000 people.

Other variables include:

- A series on the legal origin of countries which is obtained from La Porta et al. (1999);
- Latitude data which are originally from Hall and Jones (1999).

SAMPLE SELECTION

The sample used in this dissertation and its country and time coverage were determined by the availability of poverty and institutional data. Data from World Governance Indicators (WGI) on the *Rule of Law* variable are available for all of the selected countries for the years 1996; 1998, and 2000, and from 2002 to 2008. Data on political institutions which are compiled from DPI are available from 1975 to 2009.

In light of the above, poverty data were then extracted from the April 2010 version of the World Bank's World Development Indicators (WDI 2010), with an effort being made to match them with available institutional data. Given the availability of poverty and institutional data, the selected sample which is referred to in the paper as *base sample* comprises the following 85 transition and developing countries and years: Albania (2004; 2005), Angola (2000), Argentina (1996; 1998; 2002; 2004-06), Armenia (1996; 2002-03; 2007), Azerbaijan (2005), Bangladesh (1996; 2000; 2005), Belarus (1998; 2000; 2002; 2005; 2007), Benin (2003), Bolivia (2002; 2005; 2007), Brazil (1996; 1998; 2002-07),

Bulgaria (2003), Burkina Faso (1998; 2003), Cameroon (1996), Chile (1996; 1998; 2000; 2003; 2006), Colombia (1996; 1998; 2000; 2003; 2006), Democratic Republic of Congo (2006), Republic of Congo (2005), Costa Rica (1996; 1998; 2000; 2003; 2005; 2007), Cote d'Ivoire (1998; 2002), Croatia (1996; 1998; 2000; 2005), Czech Republic (1996), Dominican Republic (1996; 2000; 2003; 2005-07), Ecuador (1998; 2003; 2005; 2007), Egypt (1996; 2000; 2005), El Salvador (1996; 1998; 2000; 2002-03; 2005; 2007), Estonia (1998; 2000; 2002-04), Ethiopia (2000-05), Gabon (2005), Gambia (1998; 2003), Ghana (1998; 2006), Guatemala (1998; 2000; 2002; 2006), Guinea (2003), Guinea-Bissau (2002), Guyana (1998), Honduras (2003; 2005-06), Hungary (1998; 2000; 2002; 2004), India (2005), Indonesia (2005; 2007), Iran (1998; 2005), Jamaica (1996; 2002; 2004), Jordan (2003; 2006), Kazakhstan (1996; 2002-03; 2007), Kenya (2005), Latvia (1996; 1998; 2002; 2004; 2007), Liberia (2007), Lithuania (1996; 1998; 2000; 2002; 2004), Madagascar (2005), Malawi (1998; 2004), Malaysia (2004), Mali (2006), Mexico (1996; 1998; 2000; 2002; 2004; 2006; 2008), Moldova (2002; 2004; 2007), Mongolia (1998; 2002; 2005; 2008), Morocco (2000; 2007), Mozambique (2003), Nicaragua (1998; 2005), Niger (2005), Nigeria (1996; 2004), Pakistan (2002; 2005), Panama (1991; 1996; 2000; 2002; 2004; 2006), Papua New Guinea (1996), Paraguay (1998; 2002; 2005; 2007), Peru (1996; 2002; 2005-07), Philippines (2000; 2003; 2006), Poland (1996; 1998; 2000; 2002; 2005), Romania (1998; 2000; 2002; 2005; 2007), Russia (1996; 2002; 2005; 2007), Senegal (2005), Sierra Leone (2003), Slovakia (1996), Slovenia (1998; 2002; 2004), South Africa (2000), Sri Lanka (1996; 2002), Tanzania (2000), Thailand (1996; 1998; 2000; 2002; 2004), Togo (2006), Tunisia (2000), Turkey (2002; 2005-06), Uganda (1996; 2002; 2005), Ukraine (1996; 2002; 2005; 2008), Uruguay (1996; 1998; 2000; 2003;

2005-07), Venezuela (1996; 1998; 2003; 2005-06), Vietnam (1998; 2002; 2004; 2006), Zambia (1996; 1998; 2003-04), Zimbabwe (1996).

While the majority of the countries included in this sample are classified as “Free” or “Partly Free” by the 2011 Edition of Freedom House’s country reports, some are however classified as “Not Free”, including Angola, Azerbaijan, Belarus, Cameroon, Democratic Republic of Congo, Republic of Congo, Cote d’Ivoire, Egypt, Ethiopia, Gabon, Iran, Jordan, Kazakhstan, Tunisia, Vietnam, and Zimbabwe. From the base sample, I exclude these countries to obtain the *free* sample which thus includes 69 countries which are classified by the Freedom House either as “Free” or “Partly Free”. At large, the Freedom House’s classification gives some indications that political rights, civil liberties, and press freedom are granted and respected, thereby signaling the existence of functioning democratic institutions. The *free* sample can thus be viewed—albeit arguably—as a sample of *democratic* countries.

It is noteworthy that while countries that are included in the base sample have data on poverty and economic institutions, many do not have concurrent data on subsidies and transfers in percent of government expenditures (*SUBSIDIES*) and on settler mortality (*MORTALITY*). As the selected estimation procedures include only observations for which all data are available, the estimation of the poverty equation makes use of a much smaller sample than the base sample. This sample includes the following 25 countries that combine for a total of 51 poverty observations: Argentina (2002; 2004), Bangladesh (2005), Bolivia (2002; 2005), Brazil (2005-07), Chile (2000; 2003; 2006), Colombia (2003; 2006), Dominican Republic (2005-07), Egypt (1996; 2005), El Salvador (2002-03; 2005; 2007), Ghana (2006), Guatemala (1998; 2000; 2002; 2006), Honduras (2003;

2005-06), India (2005), Jamaica (2004), Mali (2006), Morocco (2007), Nicaragua (1998; 2005), Niger (2005), Pakistan (2005), Panama (1996; 2000), Paraguay (2005), Peru (1996; 2002; 2005-07), Sierra Leone (2003), South Africa (2000), Venezuela (1998; 2003; 2005).

All countries in this sample but Egypt are classified as Free or Partly Free by Freedom House. I exclude Egypt from this sample and referred to it as the *reduced* sample. This sample thus covers 24 countries for a total of 49 poverty observations. The poverty regression results obtained using the *reduced* sample are reported in Appendix Table A1 and give similar results as those that are obtained from the base sample. This suggests that the relationship between poverty and institutions, as estimated with the base sample, appears to be robust to the inclusion of non-democracies defined as those that fail to provide a minimum of political rights, civil liberties, and press freedom according to the Freedom House.

When *MORTALITY* is excluded from the list of instruments, the regression results which are reported in Appendix Table A2 remain broadly similar to those obtained with that variable used as an instrument. In addition to the countries and years included in the *reduced* sample, the following 25 countries are also included in the estimation of the poverty equation that excludes *MORTALITY* from the list of instruments: Albania (2002; 2004); Armenia (2003; 2007); Bulgaria (2003); Czech Republic (1996); Estonia (2000; 2002-04); Hungary (1998; 2000; 2002; 2004); Kazakhstan (2002-03); Latvia (1998; 2002; 2004; 2007); Lithuania (2000; 2002; 2004); Moldova (2004; 2007); Mongolia (1998; 2002); Papua New Guinea (1996); Philippines (2003; 2006); Poland (2002; 2005); Romania (2002; 2005; 2007); Russia (2002; 2007); Sri Lanka (1996; 2002); Thailand

(2004); Togo (2006); Turkey (2006); Uganda (2002; 2005); Ukraine (2002; 2005; 2008); Uruguay (1996; 1998; 2000; 2003; 2005; 2007); Zambia (1998; 2003-04); Zimbabwe (1996).

While the WGI and ICRG dataset include countries from all categories of income group, it is noteworthy that the WDI database excludes poverty data for advanced economies. As a result, the abovementioned sample used in the regressions comprises only middle- and low-income countries.

Appendix Table A1. Institutions, Economic Performance, Corruption, and Public Policy (Reduced Sample)

	Dependent Variables										Reduced sample		
	Reduced sample										First-Stage for RULEOFLAW		
	Three-Stage Least Squares												
	Log of Poverty Gap Index		Log of Poverty Gap Index		Log of GDP per capita		CORRUPTION		SUBSIDIES				
	\$1.25 a day (1)	\$2 a day (2)	\$1.25 a day (3)	\$2 a day (4)	Log of GDP per capita (5)								
RULEOFLAW	-0.97 (0.00)	-0.85 (0.00)	-1.39 (0.01)	-1.37 (0.00)	-1.77 (0.00)						MORTALITY	-0.13 (0.16)	
GDPPC	-1.31 (0.00)	-1.30 (0.00)	-1.39 (0.03)	-1.58 (0.00)			0.54 (0.00)	0.42 (0.01)			LATITUDE	1.04 (0.00)	1.32 (0.00)
SUBSIDIES	0.48 (0.29)	0.83 (0.02)	-0.21 (0.79)	0.76 (0.19)							PR	-0.47 (0.00)	-0.07 (0.55)
CORRUPTION	0.78 (0.34)	0.60 (0.34)	1.75 (0.21)	1.20 (0.26)							SYSTEM	-0.18 (0.49)	0.25 (0.02)
PR ($PR=1$ for proport. and $PR=0$ for non-proport.)					1.14 (0.00)		-0.23 (0.32)	-0.06 (0.81)			ENGLISH	-0.07 (0.76)	0.14 (0.36)
SYSTEM ($SYSTEM=1$ for Parliam. and $SYSTEM=0$ for Presid.)					-0.20 (0.55)		0.03 (0.91)	0.21 (0.52)			AFRICA	-0.06 (0.38)	0.12 (0.54)
Constant	9.45 (0.00)	9.39 (0.00)	8.80 (0.01)	9.25 (0.00)	8.32 (0.00)		-1.88 (0.07)	-0.10 (0.94)			ASIA	-0.15 (0.73)	0.27 (0.14)
											WESTHEM	0.09 (0.32)	0.40 (0.01)
											Constant	0.21 (0.77)	-1.11 (0.00)
Nber of observations	49	49	49	49	115		116	51			R-squared	0.21	0.27
											Nber of obs.	119	213
											F-Test	3.99	11.84

Source: WGI (2010); WDI (2010), DPI (2009). Three-stage least squares regressions are performed, instrumenting for MORTALITY, LATITUDE, PR, SYSTEM, the English legal origin, regional dummies AFRICA, ASIA, WESTHEM, and the constant. In parentheses are p-statistics. Estimates in bold are significant at a 5-percent significance level.

Appendix Table A.2. Institutions, Economic Performance, Corruption, and Public Policy (Base Sample without MORTALITY as Instrument)

	Dependent Variables						
	Base smpl	Base smpl	Base smpl	Base smpl	Base smpl	Base smpl	Base smpl
	Log of Poverty Headcount Index \$1.25 a day	Log of Poverty Index \$2 a day	Log of Poverty Gap \$2 a day	Log of GDP per capita	CORRUPTION	SUBSI DIES	First-Stage for RULEOFLAW
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Three-Stage Least Squares without MORTALITY among Instruments							
RULEOFLAW	-1.96 (0.03)	-1.45 (0.02)	-2.30 (0.03)	-1.98 (0.01)	1.64 (0.00)		MORTALIT -0.08 (0.07)
GDPPC	-1.49 (0.00)	-1.06 (0.00)	-1.49 (0.01)	-1.26 (0.00)		0.57 (0.00)	AFRICA -0.11 (0.66)
SUBSIDIES	1.37 (0.33)	0.04 (0.97)	1.16 (0.47)	0.14 (0.91)			ASIA -0.16 (0.51)
CORRUPTION	1.50 (0.06)	0.93 (0.08)	1.85 (0.04)	1.35 (0.05)			WESTHEM -0.06 (0.82)
PR (PR=1: proport. and PR=0 : non-proport.)					0.60 (0.00)	0.29 (0.00)	PR -0.06 (0.46)
SYSTEM (SYSTEM=1 for Parliam and 0 for Pres.)					-0.21 (0.08)	0.04 (0.60)	SYSTEM 0.18 (0.13)
Constant	5.59 (0.13)	8.81 (0.00)	4.15 (0.32)	7.90 (0.01)	8.33 (0.00)	-1.48 (0.00)	Constant -0.31 (0.40)
MORTALITY							LATITUDE 0.84 (0.00)
							ENGLISH 0.10 (0.28)
Number of obs.	108	108	108	108	543	468	R-squared 0.15
							Nb of obs. 326
							F-test 18.93

Source: WGI (2010); WDI (2010), DPI (2009). Regressions are performed with 3SLS procedure, instrumenting for MORTALITY, LATITUDE, PR, SYSTEM, the English legal origin, regional dummies AFRICA, ASIA, WESTHEM, and the constant. In parentheses are p-statistics. Estimates in bold are significant at a 5-percent significance level.

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