Power Sharing, Ethnoliguistic Fractionalization and Government Quality

Nicholas Charron

Abstract

Do power sharing institutions such as federalism and proportional representation (P.R.) mitigate the potentially negative effects of ethno-linguistic fractionalization on quality of government? Numerous empirical studies have shown the negative effects of ethno and linguistic heterogeneity on indicators of government quality, such as corruption, bureaucratic impartiality, and institutionalized democracy. Moreover, many studies have examined the effects of various political institutions, such as federalism and electoral system on government performance and corruption and found mixed results. Yet this study seeks to appropriately join the two sets of empirical studies. Building on Lijphart's (1984) consociational theory of power sharing institutions, I seeks to empirically test the effectiveness of vertical (federalism) and horizontal (P.R.) power sharing in both homogenous and heterogeneous states using a variety of government quality indicators for robustness and generalizability. I employ a sample of over 120 states from 1993-2004 and use a variety of empirical methods and data to test the notion that power-sharing improves government quality when heterogeneity is high. The empirical results demonstrate that while differences in government quality are minimal when comparing federal and unitary states at less fractionalized levels, the institution of federalism proves extremely effective in producing significantly higher scores of government quality in highly fractionalized societies for almost every indicator using a number of multiple data sources. As for horizontal power sharing, while P.R. states report better government scores than countries which employ a method of plurality, this difference is negligible in cases of high fractionalization when controlling for federalism. The findings strongly support one of Lijphart's claims to the effectiveness of federalism in providing better government quality for diverse populations than those of centralized constitutions.

Nicholas Charron
The Quality of Government Institute
Department of Political Science,
Göteborg University
Box 711
SE 405 30 Göteborg, Sweden
nicholas.charron@pol.gu.se

Introduction

Do certain political institutions mitigate the potentially harmful effects that ethnic and linguistic diversity may have on government quality? In recent years, much scholarly attention has been devoted to the determinants of 'good governance'. Though there are numerous intergovernmental and non-governmental organizations that provide oversight to governmental corruption and poor government practices, many states still display poorly functioning governments worldwide. With many states such as Iraq, Afghanistan, Serbia and Ukraine in transition from some type of authoritarian regime seeking a more democratic constitution, the importance of understanding the effect of political institutions on quality of government is paramount for policy-makers. Good governance, or more specifically those states with lower levels of corruption, higher bureaucratic efficiency, higher levels of democratic participation and competition and an impartial rule of law, has been associated with economic growth and overall better welfare for citizens (Mauro 1995; Easterly and Levine 1997; Kaufmann et al 1999; Adesera et al 2003; Rothstein and Stolle 2007). High levels of corruption, inefficient bureaucratic services and biased application of the law can cripple the entire democratization process and hinder a country's growth.

Recent literature has demonstrated that the primary interests in 'quality of government' (QoG) is its effect on phenomena such as economic growth (North 1981; Acemoglu, Johnson, and Robinson 2002; Acemoglu, Johnson, and Robinson 2001; Knack and Keefer 1995; Mauro 1995; Rodrik, Subramanian, and Trebbi 2004) or transitions to democracy (Weingast 1995; Johnson, Kaufmann and Schleifer 1997; Rose and Shin 2001; Zakaria 2003). It is well established empirically that quality government

institutions have a significant effect on such outcomes as economic growth and democratization. This analysis builds on this relatively new and diverse empirical literature of understanding the correlates of government quality, particularly the institutional strand.

A number of recent empirical studies in comparative politics have focused on the determinants of government quality, particularly focusing on the quality of impartial institutions. However, though multiple analyses have examined variation in corruption as determined by the presence or absence of such institutions as district magnitude, presidentialism, parliamentism and federalism to name a few (Persson et al 2003; Adesera et al 2003; Treisman 2000; La Porta et al 1999; Ades and De Tella 1999), there is conspicuously little understanding of how political institutions condition the effects of (or are conditioned by) other variables, such as ethnic or linguistic heterogeneity. This study seeks to add to the literature by initiating a discussion on the conditional effects of political institutions by examining the interaction between two power-sharing institutions and societal fractionalization on QoG – federalism and proportional representation.

Thus the central research question in this study focuses on the comparative impact of power-sharing institutions, conditioned by fractionalization, on government quality. Thus I seek to test whether federalism and proportional representation affect a country's government performance differently depending on whether that country is homogenous or heterogeneous ethnically or linguistically. While it would be a daunting task for a government to alter its linguistic or ethnic demographic make-up, institutions on the other hand can be designed and/ or changed to meet the unique needs of a diverse (or homogenous) citizenry. This study therefore seeks to address the question - are power-

sharing institutions 'better' for a more diverse society in terms of good governance compared with states without such power-sharing? This question has largely gone unexplored in a large-N comparative sense within the literature on federalism and electoral systems. Using multiple empirical indicators for each concept presented, I test this central question empirically on over 140 countries representing each inhabitable continent and at various levels of economic and democratic development using three key indicators of government quality – corruption, bureaucratic quality and level of institutionalized democracy.

Relevant Literature

Fractionalization and Quality of Government

The crux of this analysis relies on the notion that ethnolinguistic fractionalization negatively impacts government performance. Based on the theoretical and empirical literature, there is much reason to believe that a more homogenous society will be associated with better government performance compared with one that is fractionalized by ethnic or linguistic differences. Simply speaking, more diversity can lead to more internal racism, prejudice, de facto segregation and possible conflict. Speaking to the 'micro-foundations' here, there is much theoretical reason to believe that individuals are more trusting of others that share similar ethnic, linguistic or religious traits than those that are different. Grief (1993) demonstrates that in medieval times, traders formed trade pacts with those of a similar ethnic background in order to monitor cheating and enforce fair transactions. When information among actors is asymmetric, La Ferrara (2003) shows that individuals in a market in which contracts cannot be legally enforced will

chose to do a transaction with someone who shares the same ethnic background because de facto reinforcement of a fair transaction is stronger than with someone outside one's own ethnic group.

At the aggregate level, one can argue that Olson's logic of collective action (1965) applies here in that the more groups functioning in a market; the more difficult it is to achieve the goal of the common good. Applied to a political arena, each group will be seeking rents from the public provisions for their own benefit, thus making corruption more likely and overall quality of government will be diminished and the possibility for political instability might increase (Horowitz 1985). Similar sentiments have been made with respect to ethnic, religious and linguistic fractionalization being positive determinants of domestic or international conflict (Fearon and Laitin 1996; Fox 2002; Huntington 1993; 1996). Further, empirical studies analyzing government quality have found that more diverse societies on average have poorer government performance (La Porta et al 1999; Alesina et al 2003). Moreover, Alesina et al (1999) find empirical evidence of economic patronage in U.S. states where there are high levels of ethnic fractionalization. A corollary argument for high diversity resulting in poor government quality is that the majority group seeks to maintain power over other groups and in the process will exploit minority groups through corruptive practices. Moreover, goods and services provided to ethnic or linguistically diverse citizens by government bureaucrats may be of poorer quality relative to more homogenous societies, with those in the majority group not wanting to allocate 'their resources' to individuals in minority groups and potentially could resort to corruptive practices in order to prevent such redistribution. Thus there are many theoretical and practical reasons to believe that more diversity in a

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society has been empirically shown, *ceteris paribus*, to have a negative impact on QoG.

Figure 1 demonstrates some empirical support for this claim using several leading

indicators of 'good governance'.

Table 1 about here

Political Institutions that Lead to better Quality of Government in Diverse Societies:
Federalism and PR

I argue that a conditional effect has been largely overlooked in the literature, in that

power-sharing systems can mitigate the potentially negative impact of cultural diversity

on government quality. I build on the work of Lijphart (1977) who argues that federalism

and proportional representation are two of the key institutions of a 'consensus

democracy', allowing for multiple groups in society to have the opportunity to share

power. On federalism, Lijphart (1984, 1997) postulates that distinct ethnic and linguistic

groups within a heterogeneous society should have corresponding political sub-national

governments in which to conduct a number of policy avenues autonomously. These

fractionalized states promote accommodation of diverse interests by allocating legitimacy

to said heterogeneous groups. Lijphart essentially posits a 'top-down', elite drive theory

in which leaders of diverse social groups that have their own legitimate sub-national

governments work together and with the majority group at the national level. Provided

that local elections and a certain degree of provincial fiscal legislation are allowed, the

cultural and linguistic identities of minority groups remain intact and protected by the

government. For example, the important policy areas include education curriculum and

right to teach a different language and history in schools, taxation levels, and local security and justice laws for example. In order to preserve their status as regional leaders with a degree of legitimate power to lose, such elites persuade their voters to accept the status quo of the federal system. With the consent of the minority and majority group elite members, the legitimacy and content of the systems among the citizenry begins. Over time, a stable, well governed country (relative to unitary states) is expected. In sum, elites of multiple ethnic or linguistic groups will have much less incentive to fight the central government and will instead coalesce together nationally while simultaneously providing better governance locally to 'their people'.

Vertical Power Sharing: Federalism

Scholars have devoted much attention to the effects of political institutions on government performance. In particular, federalism has drawn a number of critiques from academics and policy makers alike. The empirical evidence is mixed on whether sharing of power inherent in federalism and PR leads to better governance, with one group of scholars finding that more decentralized states have higher levels of corruption (Treisman 2000; Gerring and Thacker 2004) and others finding empirical support for better governance (Fisman and Gatti 2002; Adesera et al 2003), others find insignificant results (Norris 2005). With respect to the empirical support for proportional representation, most scholars have found that the presence of a more inclusive electoral institution is associated with better government quality (Norris 2005, Persson and Tabellini 2002). However, others have found insignificant results (Isaacson 2006).

Clearly more empirical work is needed to reconcile these findings. This study serves as an extension of this literature.

As for the theoretical developments, some emphasize that federal systems are less likely to attract competent policy makers and bureaucrats at the regional and local levels because the benefits for such positions would be considerably less rewarding than similar positions at the central level. Specifically, some scholars take issue with the notion that decentralized/ federal institutions lead to better political outcomes in heterogeneous societies. Such scholars argue that corruption may be greater at the provincial and local levels possibly due to easier access to such policy makers when sought out by interest groups. This scenario creates an environment where corruption and bureaucratic inefficiency are more likely at the regional levels, thus leading to poorer quality government in decentralized countries (Tanzi 1996; Brueckner 1999; Prud'homme 1995). Another argument along these lines is whether a federal structure could lead to less overall accountability if political decision making is made at multiple levels of government. On one hand, voters have a more difficult time assessing blame for poor quality performance, thus giving some more of an incentive to extract rents. On the other hand, bureaucrats and policy makers could theoretically be less coordinated among the levels of government, and with each level being equally corrupt; there could be a disproportionate amount of rent-seeking relative to more centralized states (Shleifer and Vishny 1993). Other potentially harmful aspects of federalism for good governance are intergovernmental competition, collective action problems, and confusion about decision rules also potentially exacerbates corruption and poor government quality (Gerring and Thacker 2004).

Opponents of decentralized regimes also point to cases where high degrees of violence and subsequent breakdown of government has occurred in minority regions, such as Chechnya in Russia, Kashmir in India or the long history of terrorist strike from the Basque region in Spain. Others will underscore how federalist institutions have failed to keep states intact altogether, such as in the case of the break-up of Singapore and Malaysia in 1965, Czechoslovakia in 1993, and the extreme case of Yugoslavia breaking into an all out civil war in the 1990's. Such critics assert that regionalism only encourages local minority elites to push for more power, not the status quo, thus increasing the likelihood for conflict and possible succession.

Conversely, the other side of the debate includes many facets as to why federalism and/or decentralization would produce better governance. Since the writings of James Madison, proponents have argued that electoral accountability, regional representation serve as a political outlet for multiple distinct ethnic, religious or linguistic groups in a society. On the economic side, the argument posited by Brennan and Buchanan (1980), elucidates the positive aspects of intergovernmental competition along with greater transparency at the local level for citizens. Along the lines of firms operating in a free market, citizens, like customers, can freely choose the region in which they reside. More corrupt provincial governments will pay the price for poor governance when citizens take up residence in better performing regions. The competition creates a more open and efficient atmosphere and reduces the ability for central-level policy makers to collect rents (Weingast 1995). A similar argument is made with respect to interventionist policies into the marketplace in that a federal structure discourages provincial governments from driving away capital from free-moving firms (Jin et al 1999). Based

on this logic, lower levels of corruption from more decentralized governments are expected.

Persson and Tabellini (2000) elucidate the micro-foundations for the notion that decentralization reduces corruption and therefore improves government quality. In unitary states, politicians are responsible for federal as well as a greater scope of local matters relative to federal structures. Central government officials and bureaucrats are held responsible for aggregate results, and oftentimes their poor performance on regional issues could be overlooked. Thus in decentralized countries, where locally elected officials are more directly accountable, we should expect better government performance. The proliferation of power and accountability puts pressure on authorities at all levels to perform better because constituents are closer geographically and issue-wise to their political leaders than those in the federal capital, which may lead to improving government quality in federal countries.

This sentiment is echoed in a theoretical analysis by Ronald Watts (1999), in that he argues that one of the many virtues maintained by the advocates of federalism is that it can provide cultural and linguistic autonomy to various minority groups within a diverse society (Watts 1999). In such a political structure, provincial governments constrain abuses of power at the central level directed at minority groups by offering diverse groups in society the authority to maintain their linguistic or ethnic integrity, as in the case with the Francophone population in Canada residing in Quebec. Federal arrangements thus reduce the likelihood of potential abuses of power by the majority group at the central level by shielding the minority groups from domination. These constitutional designs give individuals and minority groups protection from the center

while simultaneously interlocking decision-making on salient policy areas such as education, where the provincial governments can influence the decisions made at the central level. Such an arrangement can lead to greater satisfaction and less incentive by central authorities to seek rents at the expense of other groups because there are fewer opportunities to do so relative to a more centralized, unitary state (Goodin 1996).

In exploring the emerging federal system in Russia, Simth (2000) argues that a federal democracy provides the most effective antidote to both minority and majority exploitation of diverse groups. He argues that in the case of highly diverse countries, more coherent and legitimate policies will be enacted in a federal system than in one where power is asymmetrically consolidated at the top (Smith 2000). Lijphart (1999) also points out that this was in fact the intention that the British had in establishing a federal system for the diverse population in India, along with the driving force behind the decentralization reforms in the newly federalized Belgian state along Flemish and French line (Lijphart 1999: 196-197). If one of the virtues of federalism is that it increases satisfaction among diverse minority groups because they have more of an ability to govern themselves, all the while constraining actors at the central level from rent seeking at regional and local levels, then it should stand up to numerous empirical tests. If federal constitutions are in fact 'doing their job', one way of assessing this would be to show empirically how heterogeneous states with federal systems have higher government quality and less corruptive behavior than those with unitary ones. I therefore expect that various forms of fractionalization will have a different impact on government quality depending on whether the state is federal or unitary in its constitution. The following hypotheses will thus be tested in this analysis:

H1: *Federal states are expected to be associated with better government quality relative to unitary states.*

H2: *In states with high levels of ethnic or linguistic heterogeneity, federal states are expected to have the most substantial impact on government quality relative to unitary states.*

Horizontal Power Sharing: Proportional Representation (PR)

With respect to the second power-sharing institution in this analysis, proportional representation, said institution has drawn far less criticism in terms of its potentially beneficial impact on consensus-making and good governance. However, the counterarguments have been made (Horowitz 1985, 1993, 2002). First, electoral systems that do not require governments to obtain a clear majority-vote to win power have less incentive to reach out to other ethnic or linguistic groups during electoral campaigns. Conversely, they may in fact have a stronger incentive to 'rally the base' of their core constituents – those with similar cultural ties – thus alienating other groups. Such an atmosphere may have significant negative effects on the legitimacy of a regime if it is perceived as biased in favor of select groups in society and antagonistic toward others.

Second, although PR allows for multiple parties to participate in the legislature, there is reason to believe that less consensus building is necessary relative to majoritarian electoral systems. Ethnic and linguistic differences become reinforced and institutionalized over time by virtue of each group's association with a particular political party. Elite leaders in minority groups could be perceived as 'selling out' the interest of their constituents by bargaining with the majority party. As regards to the electorate,

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voters themselves would have little incentive if any to vote outside of their own ethnic or linguistic group. In contrast, in a majoritarian electoral system, such leaders of ethnic and linguistic minorities would be forced to coalesce with other groups in society to go for 'big tent' political parties, in which many distinct segments of society all work politically under one party name. To obtain and maintain power, elites from various groups would have to work together under one or two single parties, signaling to society their willingness to politically use cooperation and consensus over conflict. Leaders of diverse groups would then have an incentive to signal to their community the legitimacy of, and to participate in, the system, thus reducing potentially harmful social tensions.

However, others assert that in this electoral system, groups at the national level have more opportunity to work together in consensus and coalition in proportional representation (PR) systems. In contrast to a 'winner take all', where the majority group in society would have the greatest opportunity to win every election, thus essentially disenfranchising minority groups from politics, PR provides an avenue for diverse participation in federal governance. Here again, Lijpart's 'consociationalist' democracy concept argues that increases in the number of power 'stakeholders' in the legislative and executive branch has a positive impact on good governance. PR with few exceptions is associated with multi-party systems (Duverger 1972, Cox 1997). Without representation, minority elites are prone to expressing dissatisfaction with the system while simultaneously, majority elites in power have more opportunities to exorcise corrupt policies that benefit their core electorate and systematically discriminate against other ethnically or linguistically diverse groups. With the possibility of such representation, the likelihood of executive power sharing increases. Elites will have high turnout and

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strong democratic competition within their community in order to participate in

governing. If successful at winning parliamentary seats, they will be eligible as coalition

partners to larger parties and party heads are potential cabinet members in the ruling

government. Cabinet ministers from multiple groups in society will have the chance to

run bureaucracies, thus governance is directed at the many rather than the few. Lijphart

points to European cases such as Belgium, the Netherlands and Switzerland, in which PR

power sharing has particularly benefited citizens in both the minority and majority in

terms of overall government quality.

H3: *States using proportional representation (PR) are expected to be associated with*
better government quality relative to states with majoritarian or plural electoral systems.

H4: *In states with high levels of ethnic or linguistic heterogeneity, PR's impact is*
expected to be greatest on government quality relative to lesser inclusive electoral
systems.

Presentation of Data and Methods

The Dependent Variables

In order to test the full scope of the effect of power sharing institutions on

government quality, I employ a number of dependent variables in the study. According

to the *Quality of Government Institute*[1], the three core areas that serve as empirical

proxies for 'Government Quality' as a concept are low levels of corruption, high levels of

bureaucratic quality and effectiveness and strong democratic institutions and participation

among a country's citizens. Due to admittedly problematic data a times with such

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[1] The *Quality of Government Institute*, founded by Bo Rothstein and Sören Holmberg, is based out of the
University of Göteborg in Sweden. It is a research organization committed to understand "how and under
what circumstances high quality political institutions can be created". For more information, see:
http://www.qog.pol.gu.se/

concepts as corruption and level of bureaucratic quality, I utilize multiple proxy measures in order to account for any potential aberrations in the empirical findings.

1. Corruption

For the first set of dependent variables, measuring a country's level of *corruption*, I use indicators from two leading sources. The first is taken from the Political Risk Services Group's (PRS) *International Country Risk Guide* (ICRG). The PRS Group, a think tank specialized in economic and political risk assessment internationally, has published monthly data for business and investors on over 140 countries since 1980. The PRS measure is primarily concerned with accounting for "excessive patronage, nepotism, job reservations, 'favor-for-favors', secret party funding, and suspiciously close ties between politics and business."[2] The time period ranges from 1984-2003 and has up to 139 countries. The data in the analysis has a finite range from '0'-'1', with higher scores indicating lower levels of perceived corruption. There are several advantages to this measure. One, it is available for 20 years, which allows for any institutional reform of a country's vertical or horizontal power sharing structure or structural shifts in domestic fractionalization. Second, it includes a wide scope of developed and developing countries so that the results of this analysis are highly generalizable. It has also been used by other recent empirical studies (Ades and Di Tella 1999; Persson, Tabellini and Trebbi 2003).

The second measure employed here to capture *corruption* comes from *Transparency International*, a non-partisan organization that has created the 'Corruptions Perception Index' (CPI), which ranges from 0-10, with higher scores indicating less corruption. For example, in the 2006 rankings, Finland ranks highest (least perceived corruption) with a score of 9.6, while Angola ranks last (#142) with a score of 2.2. The CPI score measures

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[2] See http://www.prsgroup.com/ICRG_Methodology.aspx

the "perceptions of the degree of corruption as seen by business people, risk analysts and the general public"[3]. The CPI ranks more than 150 countries by their perceived levels of corruption in the public sector, as determined by expert assessments and opinion surveys. The data in this analysis ranges from 1996-2006.

2. Bureaucratic Quality

The second set of dependent variables in the analysis seeks to capture the level of bureaucratic quality and effectiveness a state provides to its citizens. Again, one of the two indicators of this concept comes from the PRS Group. Measured from '0'-'1', a country receives a high score when "the bureaucracy has the strength and expertise to govern without drastic changes in policy or interruptions in government services" and a lower score when such a country "lack(s) the cushioning effect of a strong bureaucracy (and) receive(s) low points because a change in government tends to be traumatic in terms of policy formulation and day-to-day administrative functions."[4] This measure has the same number of countries and years in the sample as the corruption measure previously mentioned.

I take the second measure of bureaucratic quality from the *World Bank Governance Indicators.* The World Bank is primarily focused on the ability of governments to produce and provide reliable and quality public provisions to its citizens. Specifically, they code this variable on the basis of "the quality of public service provision, the quality of the bureaucracy, the competence of civil servants, and the independence of the civil servants from political pressures and the credibility of the government's commitment to

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[3] See www.trancparency.org
[4] See http://www.prsgroup.com/ICRG_Methodology.aspx

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policies"[5]. This variable is available from 1996-2005, contains over 190 countries for at least one year and has a total of 1310 observations.

The Independent Variables

There are several primary independent variables in the study that are important in order to test the various empirical hypotheses. The first two are of course power sharing institutional variables – the presence of absence of an electoral system of proportional representation (PR) and federalism. I take both indicators from the *Database of Political Institutions* (DPI, Keifer et al 2005). Pertaining to a country's electoral system, the DPI codes whether the lower house in the legislature elects a majority of its members by plurality vote, a mixed combination of plurality and PR vote or a majority of seats won by proportional vote. I dichotomize this variable (PR), coding all countries '1' that elect a majority of members into their lower house through a PR vote and all other states '0'. Those systems that are coded '1' are Party list (open and closed) and Single Transferable Votes (STV). Majoritarian electoral systems are thus First-Past-the-Post, Run-off-Majoritarian with a second ballot, Block Vote Alternative Vote and Single Non-Transferable Vote (SNTV). Hybrid or 'mixed systems' where a combination of the two systems are used, such as in New Zealand or Germany, are coded '1' if the majority (50%+1) of the seats in the lower house are allocated via PR and '0' if otherwise. The DPI contains this variable from 1975-2004. The second institutional variable in the model is the political structure of a country. This dichotomous variable indicates whether or not a country has a federal or unitary political structure. It is a dummy that is equal to

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[5] See www.worldbank.org/wbi/governance/pubs/govmatters4sra.html

'1' if a country is a federal system and '0' if otherwise. There are several sources from which to take this indicator, (Persson and Tabellini 2003, Gerring et al 2005, Keifer et al 2005) and in order to have the most possible continuity among the institutional variables in this analysis, I again elect to draw from the DPI[6]. The DPI has 5 measures of sub-national government authorities. The measures important to this study are whether a state has provincial legislatures and if in fact they are locally elected rather than appointed by the central government and whether or not such provincial governments have "extensive taxing, spending or regulation authority."[7] These elements follow the standard of what is considered a decentralized or federal country.[8]

The second important aspect of this study pertains to whether or not these power sharing institutions have a lesser or greater effect depending on if a country is heterogeneous or homogenous with respect to ethnicity or language. I employ several measures to capture this effect. The first two, linguistic and ethnic *fractionalization* respectively, are drawn from the study of Alesina et al (2003). This measure made significant improvements over previous indicators of 'ethnolinguistic fractionalization' (Roberts 1962; Muller 1964; Mira 1964), which amalgamated linguistic and ethnic fractionalization into one measure. Alesina et al (2003) distinguish between ethnic linguistic and religious fractionalization. Values are calculated as one minus the

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[6] For missing data I also employ data from Ronald Watts (1999)
[7] See http://econ.worldbank.org
[8] These indicators are selected according to Riker's definition, where there are two key components to a federal state. First, there must exist two or more levels of government (central and provincial, etc.). Second, both (and/or all) levels must have constitutionally or legally recognized policy responsibilities that are independent of other levels of the government.

Herfindahl index of ethnic[9], linguistic and religious group shares of the total annual

population. The figure essentially represents the probability that two randomly selected

individuals from a country will belong to two different ethnics, linguistic or religious

groups. The index ranges from '0' to '1' with higher values equating to higher

fractionalization. The data is available from 1979-2001 and each of the three measures is

computed for over 180 countries. In order to avoid potential biases from one source of

data, I include a third measure of a country's level of heterogeneity from the study by

James Fearon (2003), in which he creates a similar measure of "ethnic fractionalization"

in which he identifies the probability of two randomly draw people belonging to two

different ethnic groups. Fearon codes this variable for 160 countries and restricts ethnic

minorities in such countries as holding at least one percent of that country's population.

Similar to previous studies empirical findings (Alesina et al 2003; La Porta et al 1999), I

anticipate that higher fractionalization will relate negatively with quality of government

ceteris paribus. However, the key to this analysis is that I intend to demonstrate the

contextual impact of these power sharing institutions, meaning that when heterogeneity is

high, the impact of federalism and PR are anticipated to being associated with better

government quality than those of unity states with similar ethnic and linguistic

heterogeneity. I thus construct an interaction term with both institutional variables and

ethnolinguistic fractionalization to test for this effect.

　　A number of control variables are also included in the model to account for rival

hypotheses. Some studies have shown that states that are more developed economically

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[9] The standard Herfindahl index is:
$$H = \sum_{i=1}^{n} s_i^2$$

and that are more open to trade have higher levels of government quality. I include *GDP*

from the *Penn World Tables* (Heston et al 2002) to account for economic development

and trade openness, which is calculated as a country's annual imports plus exports over

its GDP. I take country's *GDP* per capita and lag it by one year. I also account for a

country's level of democratic strength, using the measure for democracy from the Polity

IV dataset (Marshal and Jaggers 2002). The variable ranges from 0-10 with higher scores

representing higher levels of democratic institutions. I anticipate that *democracy* will be

positively related to the dependent variable. A number of empirical studies have found

lower degrees of corruption in states with a free press (Brunetti and Weder 2003, Ahrend

2002). I use the Freedom House measure of press freedom, which scores states on a scale

of 0-100. I reverse the index so that higher scores indicate higher levels of press

freedom. Finally, a number of area dummies are included in the analyses. All are

dichotomous (0/1) indicators as to whether or not a country is located in Africa, Latin

America or the Middle East[10]

Research Design

    The research design of this analysis is separated into two parts. The first part is

designed as a preliminary analysis, designed to elucidate the bivariate effects of the two

power sharing institutions on the quality of government dependent variables using each

country's level of linguistic and ethnic heterogeneity as an intervening variable. Thus I

divide my entire sample into three parts according to each state's relative level of ethnic

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[10] Additionally, I run all of the statistical models with country dummies of "developing" federal states in order to test the sensitivity of the institutional variables in the models, such as India, Malaysia, Columbia, Argentina and Brazil. For a lack of space in the primary tables, their coefficients are often omitted, yet can be obtained by contacting the author.

and linguistic fractionalization – low, medium and high. Then, the various aggregate

levels of government quality indictors are compared between federal/ unitary and P.R./

non-P.R. states respectively at different levels of state-year heterogeneity. For the sake of

space, I compare the horizontal and vertical power sharing (or lack there of) at only low

and high levels of linguistic and ethnic heterogeneity and subsequently provide difference

of means (1-sided) to demonstrate if there is a statistical pattern found in the data among

states that have chosen these power sharing institutions and their level of government

quality. In order to avoid problems of bias by relying on only one data source for

linguistic and ethnic fractionalization, I employ two in this study. Both measures

(Alesina et al 2003, Fearson 2005) are widely accepted in the empirical comparative

politics literature and have been employed in other published works (Norris 2005,

Pellegrini and Gerlagh 2007, Alesina and Spolare 2003). Thus in this first section of the

empirical analysis, I divide all of the state years in the sample into two groups – federal

or unitary, and I do the same for P.R. or non-P.R. electoral systems. I then compare

scores of each of the 4 dependent variables at high and low levels of three different

sources of cultural fractionalization – ethnic and linguistic fractionalization (from Alesina

et al 2003) and ethnic fractionalization (from Fearon 2005) between the power sharing

institutions. This type of analysis is beneficial in a number of ways. It demonstrates a

basic understanding of how government quality relates to linguistic and ethnic

heterogeneity. Second, it is parsimonious and allows for simple difference of means

testing. Finally, it provides an interesting means with which to test preliminarily the true

implications of what Lijphart and others have been advocating with respect to

consociacialism, meaning whether these institutions provide elites of culturally

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heterogeneous states legitimate mechanisms for cooperation and potentially better governance than compared with unitary or non-PR states.

After having established a basic empirical relationship between the effect of the two power sharing institutions at low and high levels of heterogeneity, I then move on to a time series, panel analysis for each of the dependent variables in the study, including interaction terms with the two power-sharing institutions and fractionalization. This allows for a number of control variables to be included so as to account for rival hypotheses of what impacts 'good governance'. Though each of the quality of government indicators have different number years coded in the data, for example, the measure of corruption provided by Transparency International is from 1996-2006, while the PRS group provides the measures of corruption and bureaucratic quality from 1984-2003, each of the dependent variables includes some element of diachronic variance, yet for the later I use 1993 as a the starting year due to data limitations and better comparison with the TI measure. Therefore, autocorrelation needs to be considered in the analysis. I accordingly run a Prais Winston model with panel corrected standard errors (PCSE's) for each of the four dependent variables in the analysis in order to best avoid problems with serial correlation, which could bias the coefficients. Following the advice of Ray (2005), I provide a baseline for each model, using only the key independent variables and economic development (log fog GDP per capita), before reporting the full models which include control variables. Lastly, I take a stratified sample which includes only heterogeneous states in the analysis. Here again, I seek to demonstrate that federalism and proportional representation have the most impact good governance when they are employed by a state with a fractionalized population.

Results

Table 2 reports a series of difference of means tests, with the number of state-year observations in parentheses, on government quality variables between federal and unitary states at low and high levels of ethnic and linguistic fractionalization. Table 3 reports similar difference of means testing, yet compares electoral systems rather than veridical power sharing. One caveat that needs brief discussion is that in table 3 the number of observations for federal states are substantially fewer in number than those of unitary states. However, there is little that can be done to remedy this issue, being that the majority of states in the world are, and have been, unitary ones. I address this point only to alert the reader to proceed with some degree of caution in comparing the mean differences of the two samples in table 3.

Based on the results of these two tables, I find three noteworthy patterns. First, my findings support previous empirical analyses (Alesina et al 2003, La Porta et al 1999), which suggest that fractionalization is negatively related with good governance. Indeed, upon examination of corruption, bureaucratic quality and democracy scores between low and high levels of linguistic and ethnic fractionalization (electoral institutions aside), it appears that the greater the diversity of these two measures, the lower the quality of government, ceteris paribus[11]. A second discovery in the data reveals that the impact of power sharing institutions is overall a positive effect on good governance. For example, in each of the two tables, one finds only one comparison case in which the absence of on of the two poser sharing institutions receives a higher score on any one of the six good

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[11] There is one exception found in the data. The score for PRS corruption is higher in federal states than in unitary ones in Table 2.

governance indicators[12]. The rest of the comparisons demonstrate higher government quality scores for state-year samples containing federalism and proportional representation, which demonstrates some initial empirical support for the hypotheses that power sharing, has a positive impact on government quality.

Third, while both power sharing institutions seem to have a positive effect on the four measures of good governance relative to their absence, the strongest effects are found at different levels of heterogeneity. For each of the difference of means comparisons, a %-differences is reported to elucidate the gap between the two scores (federal vs. unitary, PR vs. non-PR). Here we observe a distinct difference in which type of society each of these two power sharing institutions has the greatest impact. While states that have adopted PR as their electoral system for the lower house have much stronger government quality scores at low levels of linguistic and ethnic fractionalization, the gap narrows quite significantly for high levels of such fractionalization. Most importantly, such differences between electoral systems fail to reach the 95% level of significance in all of the comparisons of corruption and bureaucratic quality. For example, with respect to bureaucratic quality in terms of either the PRS or World Bank measures, there appears to be a minimal difference at most between countries with PR electoral systems compared with those PM or mixed-systems at high levels of either linguistic or ethnic heterogeneity. Further, there does not appear to be any systematic bias in the results between the two sources of fractionalization (either Alesina or Fearon), leading to the initial conclusion that PR's most effective and largest impact on government quality

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[12] Unitary states with low linguistic fractionalization have higher T.I. corruption scores than federal ones, yet this relationship is not statistically different, while non-PR states that are linguistically heterogeneous have a higher PRS bureaucracy score than PR states, yet similarly, this difference fails to reach statistical significance.

relative to states without PR is found in states with lower levels of linguistic and ethnic heterogeneity.

Conversely, the strongest comparative impact of federalism on the measures of good governance relative to unitary states is found at high levels of linguistic and ethnic fractionalization. Though Fearon's data produces slightly weaker results for this discovery, when comparing the relative difference of government quality between federal and unitary states at low and high levels in either type of heterogeneity, the gap widens and the statistical difference between federal and unitary states becomes stronger in the Alesina et al (2003) sample in every case when fractionalization is high. In sum, according to these initial results, I find that while fractionalization would appear to have a overall negative impact on government quality, two institutions may mitigate this potentially negative effect. However, the two power sharing institutions impact government quality strongest at different levels of ethnic and linguistic fractionalization, with PR having the strongest comparative effect on lower levels within homogenous states (relative to PM and mixed systems), while federalism's impact (relative to unitary systems) is greatest in highly diverse states.

Insert Table 2 Here

Insert Table 3 Here

Tables 4 and 5 report the coefficients from the Prais Winston regressions for corruption, and bureaucratic quality respectively with standard errors in parentheses. H1

and H3 are tested in each of the 'full models', while H2 and H4 are tested for by using an interaction term between the power-sharing institutions and fractionalization. Upon initial examination, the preliminary analyses seem to be corroborated by these data. While they vary in statistical significance, each of the coefficients produced in the pooled, time series regression models for corruption, bureaucratic quality and institutionalized democracy is in the predicted direction, meaning that the power sharing institutions have an overall positive effect on government quality. Table 4 lists regression analyses using the two different measures of corruption as the dependent variable, with each regression containing over 120 countries in their sample. The baseline results, controlling for only economic development, are strong, in particular for proportional representation, which is strongly significant in the baseline models over the 95% level of confidence. The strength of the results diminish somewhat however, as the coefficient and significance level shrink when controls are added in the PRS group full model and the coefficient for PR drops to the 90% level of significance in the full model using the *Transparency International* data in the full model with controls. Federalism, with weaker results than those of PR in the full sample models for corruption, is significant at the 95% level of confidence in the *PRS* data in the baseline model, but drops out in both of the full models for each of the dependent variables.

Looking at the interaction terms, it is clear that while the impact of fractionalization on the dependent variables is not conditioned by PR based on these results, the conditional effect of federalism is strong, with each interaction term significant at the 95% level of confidence. The effect of ethnolinguistic fractionalization is also in the predicted (negative) direction and significant in all but models 4 and 8, where it is

interacted with PR. Thus when considering the conditional effect of federalism, the impact of ethnolinguistic fractionalization is negative and significant in unitary states. However, based on model 3 with the PRS data, this negative effect is strongly mitigated in federal systems, and is actually *positive* when taking into account the effect of the coefficients from federalism and the interaction term based on the results from the *Transparency International* data.

For both the PRS and TI data on corruption, the control variables are robust throughout the two full models, reducing the likelihood that there are significant measuring differences or biases between the two sets of time period and coding rules used by the *PRS Groups* and *Transparency International*. As expected, free press and economic growth are associated with lower corruption throughout. Surprisingly, though consistently in the expected direction, only two of the six coefficients for democracy are significant at the .05 level.

Table 4 Here

Table 5 Here

The baseline models in Table 5, which switch to bureaucratic quality as the dependent variable, are similar to those displayed in Table 4. Though the results of the two power-sharing variables are stronger in both of the baseline and full models in Table 5. The coefficients reported in the baseline models are positive, significant and robust throughout the two sets of data. In the full model using the economic, political and

geographic control variables, federalism is strongly robust, and is associated with improved bureaucratic quality, *ceteris paribus*. For example from models 2 and 6, holding all other variables in the model constant, a country that is federal is likely to have a 0.094 higher PRS rating and a .116 World Bank rating for bureaucratic quality and services relative to a unitary state. Conversely, the measure for PR has a weaker effect in the full models on bureaucratic quality.

The models with the interaction terms again display the negative impact of fractionalization in unitary and non-PR states as being strongly significant and robust. Yet only federalism appears to offset this negative impact when bureaucratic quality is the dependent variable. Similarly to Table 4, the result in table 5 suggest that the impact of higher degrees of fractionalization in federal state is significantly mitigated, while the additive effect is positive based on the results from the World Bank data. Again, neither interaction term in the PR models are significant at even the 90% level of confidence, which suggests that in cases of higher fractionalization, instituting federalism as a power-sharing institution is a much more effective way of producing better government performance than instituting PR.

As in the preceding models in Table 4, the controls in Table 5 are as expected, with again, free press and economic growth positively affecting the dependent variables throughout each of the regressions, while some other area dummies, such as the Middle East and Latin America, show a negative impact on bureaucratic quality, all things being equal.

Table 6 Here

Table 6 serves to empirically examine hypotheses (2 & 4) from a different angle by including only those state years that are coded as ethnically or linguistically heterogeneous[13]. Also, this table is used to test the robustness of the results by employing a number of different measures of fractionalization. In these models, the same estimates are made as in models 2 and 6 ('full models') from tables 4 and 5, with each being a Prais Winston time series models with standard errors in parentheses. Though they contain the full set of control variables used in Tables 4 and 5, yet to save space they have been omitted from the presentation[14]. Judging by the significance of the coefficients for all three types of government quality, it is quite clear that based on the time period and the diverse data sources employed in this analysis that the institution of federalism is much more effective at producing the opportunity for 'good governance' at high levels of linguistic and ethnic heterogeneity relative to the institution of proportional representation. Regarding corruption, the predicted increase in the dependent variables when a shift to a federal design is implied ranges from 9.5%-14-6% for the PRS data and between about 22.5%-35% based on the data from *Transparency International*. Conversely, none of the coefficients on behalf of PR reach even the 90% level of confidence, meaning they are statistically indistinguishable from plurality or mixed-systems when they are used in a heterogeneous state, *ceteris paribus*. Similar results follow when the two sources of bureaucratic quality are used as the dependent variable. Federalist states on average outperform their unitary counterparts when heterogeneity is

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[13] Following the coding rules of Norris (2005) I code all state-years that receive a fractionalization score above .5 as 'heterogeneous' in both the Alesina and Fearon data. This implies that the odds of picking two random citizens of different linguistic or ethnic background respectively is 50% or greater. An additional benefit to this coding rule is the addition of a number of extra state-years that might be omitted if the threshold were to be higher.

[14] For a list of the full results, contact the author.

high irrespective of the data used for fractionalization or the dependent variable. The predicted difference between unitary and federal states for diverse countries according to the PRS sample is between 13%-18%, while based on the World Bank data is between 31%-44%.

Conclusion

Studying the determinants of government quality is imperative for political scientists, economists and policy-makers alike. 'Good governance' has been associated with greater satisfaction and participation among the citizenry, economic growth and more foreign investment. This analysis has examined the effects of two power-sharing institutions, federalism and proportional representation and their effect on government quality indicators. Upon final review, the data show strong support for the predications of Lijphart and others that advocate the benefits of consociational institutions for quality governance. Of particular importance, this study has thoroughly examined four leading government quality variables while testing the effects of the primary institutional variables when ethnic and linguistic diversity is at a relatively high level, using two sources of fractionalization. The empirical findings of this analysis imply a number of interesting conclusions. First, the empirical results demonstrate that higher levels of both linguistic and ethnic heterogeneity are associated with lower government quality, according to almost every test conducted using each of the indicators for corruption and bureaucratic quality. This finding is also consistent with most other empirical analyses that explore the relationship between fractionalization and good governance variables (La Porta et al 1999; Alesina et al 2003, Adsera et al 2003; Rothstein and Stolle 2005). As

not all fractionalized states govern poorly, it is incumbent for researchers to determine what may lead these societies to better quality governance.

Second, the results show that power sharing institutions have varying effects depending on the level of societal fractionalization. Judging by the regression models with no interaction terms, using the full sample of states (tables 4-5); it appears as though PR has a greater impact on improved government quality. The results demonstrate similar conclusions when comparing the PR to the majoritarian electoral system scores of both types of government quality in table 6 for low levels of ethnic and linguistic fractionalization. This implies that states with more homogenous populations are, and would be, more likely to have governance than those homogenous states with more restrictive electoral systems. Thus is appears that consensus building by elites at the central level through multiple political parties encourages better governance in more homogenous populations.

Conversely, the vertical power sharing institutional, federalism, is much more effective in producing better governance at high levels of ethnic and linguistic fractionalization. In each of the tests – whether difference of means, the interaction terms or in the stratified samples – it is clear that the data show federalism to being an effective institution for better governance at high levels of heterogeneity compared with unitary states. PR was not found to have a substantial impact on quality of government indicators when comparing PR to majoritarian electoral systems in more heterogeneous states. While this finding was apparent in the preliminary results in Table 2 with no control variables, it held up strongly in the other tables when controlling for economic, democratic, free press and regional dummies. Interestingly, both power-sharing

institutions are associated with better governance scores for each type of 'quality' indicator, yet their effect appears to be conditioned on the context of societal heterogeneity. While there are certainly questions regarding data reliability in measures of any one of the three abstract concepts analyzed as the dependent variables in this study, the results are robust when testing the institutional variables using a number of reputable sources as well as using diverse measures of fractionalization.

The implications of these findings certainly have bearing for policy-makers and academics alike. As for future academic scholarship on how political institutions affect economic, political and social outcomes, this analysis recommends a serious consideration of the impact of context – be it in the diversity of a country's demographics, its location geographically or potentially other factors as well. For example, a number of previous empirical studies displayed mixed results on the effects of federalism and its relationship to 'good governance' variables yet overlooked the intervening variable explored here. For policy makers, choosing the correct political institutions that will encourage leaders to govern in the most effective and least corrupt way is obviously something to be desired. For plural societies, the evidence strongly suggests that federalism improves government quality from its more inclusionary aspect of local autonomy for distinct ethnic and linguistic groups and the elite consensus building that it encourages at the central level. Allowing minority groups a sense of autonomy while keeping the federation intact certainly seems to produce higher quality outcomes than unitary institutions. Yet, however tempting it would appear that PR and federalism could provide a panacea to poorly performing governments with low and high levels of heterogeneity respectively, other factors surely were significant in influencing

the quality indicators as well. Regionalism for example, plays a significant part – states embedded in regions without strong democratic traditions certainly proved to be lacking in overall government quality. However, there is little that can be done about changing a country's position geographically. Other factors that can be improved upon are economic growth and human capital along with strong democratic competition need to be encouraged as well. Though political institutions such as those analyzed here can filter behavior of elites and encourage better governance, quality government performance will most likely be effectively achieved through a number of social and economic policies that encourage cooperation and prosperity for a wider scope of the citizenry.

Table 1 - The Relationship Between Ethnic Fractionalization and Quality of Government

Governance Quality Indicator	Level of Ethnic Fractionalization		
	Low	**Moderate**	**High**
Corruption *(n=2470)*	.612	.566	.434
Bureaucratic Quality *(n=2470)*	.645	.584	.386

note: Aggregate state-year scores with number of state-year observations for each

level of ethnic fractionalization. Corruption and Bureaucratic quality

measures come from the PRS Group. Higher scores of all three

indicators signify 'better governance' for each variable (i.e. lower corruption, etc.)

Fractionalization values taken from Alesina et al (2003) and divided equally into low,

moderate and high levels.

Table 2 - Difference of Means Comparsions Between Federal and Unitary States at Low and High Levels of Ethnic and Linguistic Fractionalization

	Frac. Lvl.	Linguistic Fractionalization (Alesina et. al)				Ethnic Fractionalization (Alesina et. al)				Ethnic Fractionalization (Fearon)			
		Unitary	Federal	% Diff.	T-Statistic	Unitary	Federal	% Diff.	T-Statistic	Unitary	Federal	% Diff.	T-Statistic
1) Corruption -													
PRS	Low	.600 (759)	.607 (176)	1.5	0.54	.600 (710)	.728 (117)	12.3	5.04	.589 (730)	.720 (128)	22.2	5.64
(0-1)	High	.401 (630)	.621(82)	54.8	9.93	.419 (809)	.636 (60)	55.1	9.08	.418 (759)	.455 (63)	8.9	1.60
T.I.	Low	5.15 (285)	5.01 (85)	2.7	0.45	5.28 (308)	6.69 (57)	18.9	3.91	4.92 (371)	6.39 (67)	29.8	4.64
(0-10)	High	3.03 (226)	4.87 (38)	60.7	6.21	2.92 (244)	5.17 (26)	77.0	7.89	2.91 (276)	3.01 (28)	3.4	.48
2) Bureaocracy -													
PRS	Low	.566 (759)	.725 (176)	12.7	6.63	.606 (710)	.876 (117)	44.5	9.01	.568 (730)	.865 (128)	52.2	10.50
(0-1)	High	.349 (630)	.685 (82)	96.2	11.10	.369 (809)	.694 (60)	88.1	10.04	.359 (759)	.591 863	64.6	7.36
W.B.	Low	2.62 (348)	2.90 (63)	10.7	2.19	2.67 (387)	3.48 (45)	30.3	5.08	2.61 (324)	3.72 (45)	42.5	7.08
(0-5)	High	1.87 (353)	2.79 (33)	49.2	6.75	1.87 (393)	2.82 (24)	50.8	6.53	1.78 (347)	2.21 (21)	24.2	3.07

Note: $*p>.10$, $**p>.05$, $***p>.01$. Fractionalization measured were divied into thirds - high, medium and low, with high and low state-year comparisions reported.

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Table 3 - Difference of Means Comparisons Between PR and Non-PR Electoral Systems at Low and High Levels of Ethnic and Linguistic Fractionalization

	Frac. Lvl.	Linguistic Fractionalization (Alesina et. al)				Ethnic Fractionalization (Alesina et. al)				Ethnic Fractionalization (Fearon)			
		Non-PR	PR	% Diff.	T-Statistic	Non-PR	PR	% Diff.	T-Statistic	Non-PR	PR	% Diff.	T-Statistic
1) Corruption -													
PRS	Low	.523 (447)	.666 (458)	27.3	9.22	.509 (429)	.734 (398)	44.2	13.83	.531 (446)	.639 (412)	20.3	10.24
(0-1)	High	.425 (593)	.436 (119)	2.5	0.55	.427 (645)	.453 (215)	6.1	1.71	.409 (634)	.461 (188)	12.6	3.70
T.I.	Low	4.80 (183)	5.42 (187)	12.9	2.51	4.67 (199)	6.51 (166)	39.4	7.29	4.58 (247)	5.85 (193)	27.7	5.60
(0-10)	High	3.07 (209)	4.18 (55)	36.1	4.19	3.07 (201)	3.33 (70)	8.4	1.24	2.80 (237)	3.32 (67)	18.5	3.51
2) Bureaocracy -													
PRS	Low	.539 (447)	.655 (458)	21.5	6.61	.539 (429)	.759 (398)	40.8	10.65	.527 (446)	.705 (412)	14.2	8.61
(0-1)	High	.394 (593)	.356 (119)	10.6	1.33	.385 (645)	.393 (215)	2.1	0.36	.368 (634)	.407 (188)	10.4	1.88
W.B.	Low	2.47 (261)	3.01 (150)	21.8	5.12	2.54 (249)	3.41 (138)	34.2	9.82	2.52 (209)	3.03 (162)	20.2	4.63
(0-5)	High	1.89 (313)	2.18 (73)	14.7	2.82	1.91 (326)	1.99 (91)	4.1	1.10	2.42 (241)	2.71 (109)	11.8	2.31

Note: *p>.10, **p>.05, ***p>.01. Fractionalization measured were divied into thirds - high, medium and low, with high and low state-year comparisons reported.

Table 4 - Effect of Power Sharing Institutions on Government Corruption

	Corruption 1 (PRS Group)				Corruption 2 (Transparency Int'l)			
	Baseline	*Full Model*	*Fed*Frac*	*PR*Frac*	*Baseline*	*Full Model*	*Fed*Frac*	*PR*Frac*
Power Sharing Institutions								
Federalism (0/1)	.028***	.014	.032**		.060	.030	.031	
	(.007)	(.011)	(.011)		(.048)	(.021)	(.021)	
Proportional Rep. (0/1)	.073***	.047***		.089***	.680**	.439*		.605*
	(.004)	(.011)		(.004)	(.261)	(.233)		(.349)
Fed*Fractionalization			.051**				.839**	
			(.023)				(.382)	
PR*Fractionalization				-.155				-.559
				(.089)				(.779)
Control Variables								
Fractionalization		-.163**	-.135***	-.119		-.923**	-.535**	-.673
		(.072)	(.012)	(.102)		(.474)	(.234)	(.528)
Institutionalized democracy		.003	.004	.003		.067**	.030	.071**
		(.002)	(.027)	(.025)		(.033)	(.038)	(.033)
Press Freedom		.001***	.004***	.002***		.014***	.022***	.015***
		(.0004)	(.0002)	(.0003)		(.004)	(.005)	(.004)
GDP Per Capita	.067***	.059***	.069***	.065***	.552***	.774***	.751***	.747***
	(.001)	(.018)	(.008)	(.013)	(.057)	(.078)	(.078)	(.079)
Middle East		-.045***	.032	-.042*		.592	.886	.209
		(.018)	(.122)	(.022)		(.315)	(.183)	(.316)
Africa		-.016	.007	-.041		-.007	.229	.228
		(.024)	(.009)	(.220)		(.031)	(.169)	(.283)
Latin America		-.147***	-.043***	-.083***		-.812***	-.285**	-1.101***
		(.017)	(.010)	(.015)		(.272)	(.140)	(.258)
Constant	-.030***	.629***	.751***	.604***	-.561	3.835***	4.981***	-1.514**
	(.007)	(.043)	(.023)	(.098)	(.389)	(.382)	(.491)	(.719)
Obs.	1801	1160	1160	1180	1138	654	654	654
# of Countries	136	125	125	127	161	122	122	122
Rsquared	.36	.51	.55	.54	.45	.65	.64	.64

note: Prais Winston Model with Panel Corrected Standard Errors (in parentheses).

*p<.10, **p<.05, ***p<.01

Table 5 - Effect of Power Sharing Institutions on Government Bureaucratic Quality

	Bureaucracy 1 (PRS Group)				Bureaucracy 2 (World Bank)			
	Baseline	Full Model	Fed*Frac	PR*Frac	Baseline	Full Model	Fed*Frac	PR*Frac
Power Sharing Institutions								
Federalism (0/1)	.066***	.094***	.081***		.153***	.116**	.283***	
	(.017)	(.009)	(.008)		(.047)	(.054)	(.089)	
Proportional Rep. (0/1)	.060**	.025***		.008	.147***	.057		.124
	(.031)	(.008)		(.016)	(.051)	(.045)		(.077)
Fed*Fractionalization			.019**				.299**	
			(.009)				(.151)	
PR*Fractionalization				.024				.160
				(.036)				(.154)
Control Variables								
Fractionalization		-.123**	-.108**	-.102**		-.258**	-.222**	-.374***
		(.045)	(.037)	(.043)		(.099)	(.106)	(.113)
Institutionalized democracy		.001	.002	.002		.005	.003	.005
		(.002)	(.002)	(.003)		(.013)	(.012)	(.013)
Press Freedom		.012***	.011***	.012***		.012***	.011***	.011***
		(.002)	(.002)	(.002)		(.001)	(.001)	(.001)
GDP Per Capita	.093***	.101***	.099***	.111***	.448***	.409***	.404***	.417***
	(.007)	(.005)	(.005)	(.004)	(.015)	(.024)	(.018)	(.018)
Middle East		-.131***	-.122***	-.129***		-.104	-.098	-.122
		(.025)	(.031)	(.036)		(.087)	(.073)	(.075)
Africa		-.011	-.051	-.012		.095*	.084	.126**
		(.051)	(.044)	(.059)		(.058)	(.061)	(.061)
Latin America		-.207***	-.199***	-.208***		-.459***	-.471***	-.435***
		(.009)	(.013)	(.007)		(.061)	(.060)	(.061)
Constant		-.228***	-.271***	-.295***	-3.511***	-2.413***	-2.401***	-2.42***
		(.043)	(.068)	(.046)	(.111)	(.259)	(.238)	(.237)
Obs.	1801	1190	1160	1180	1219	746	746	741
# of Countries	136	128	125	127	169	151	151	150
Rsquared	.34	.71	.73	.73	.50	.73	.74	.74

note: Prais Winston Model with Panel Corrected Standard Errors (in parentheses).

*p<.10, **p<.05, ***p<.01

Table 6 - The Effect of Power Sharing Institutions on Government Quality in Heterogeneous Countries with Predicted Change in Government Quality

Dependent Variable		Ind Var.	*Linguistic*		*Ethnic*		*EthnoLinguistic*	
			1	Pr. % Chg 0' to '1'	*2*	Pr. % Chg 0' to '1'	*3*	Pr. % Chg 0' to '1'
1. Corruption								
PRS Group	765, 960	Federal	.055**	10.0%	.079**	14.6%	.053**	9.5%
(N=42, 50)			(.024)		(.311)		(.025)	
		P.R.	.046	n/a	.049	n/a	.064	13.5%
			(.033)		(.034)		(.032)	
Trans Int'l	105, 125	Federal	1.029**	25.1%	1.199***	35.2%	.984***	22.4%
(N=56)			(.452)		(.363)		(.356)	
		P.R.	-.463	n/a	-.108	n/a	.063	n/a
			(.451)		(.530)		(.493)	
2. Bureaucratic Quality								
PRS Group - Obs.	765, 960	Federal	.063	13.31%	.092*	17.7%	.070**	13.3%
(N=42, 50)			(.033)		(.051)		(.036)	
		P.R.	.007	n/a	.013	n/a	.004	n/a
			(.023)		(.021)		(.012)	
World Bank	378, 398	Federal	.732***	43.9%	.846***	37.6%	.702***	31.1%
(N=53)			(.151)		(.106)		(.126)	
		P.R.	.039	n/a	.017	n/a	.033	n/a
			(.062)		(.073)		(.040)	

note: Prais Winston time series model accounting for autocorrelation employed. Coefficient reported with standard deviations in parentheses

Number of observations (Alesina et al, Fearon) are listed by the data source followed by the total number of countries in each model (N=…)

Pr. % Chg. '0' to '1' implies the predicted change in the dependent variable from unitary to federal and plural to PR respectively and is listed if the coefficient is statistically significant above the 90% level of confidence

References

Adserà, Alícia, Carles Boix, and Mark Payne. 2003. Are You Being Served? Political Accountability and Quality of Government. *The Journal of Law, Economics, & Organization* 19 (2):445-490.

Aghion, P., A. Alesina and F. Trebbi 2002. "Endogenous Political Institutions", NBER Working Paper

Ahrend, Rudiger 2002. Press Freedom, Human Capital and Corruption. Working Paper 2002-11 at *Delta London School of Economics.*

Alesina, A., R. Baqir and W. Easterly 1999. Public Goods and Ethnic Divisions, *Quarterly Journal of Economics*, 114 (4), 1243-1284.

Alesina, Alberto, Arnaud Devleeschauwer, William Easterly, Sergio Kurlat, and Romain Wacziarg. 2003. Fractionalization. *Journal of Economic Growth* 8:155-194.

Brunnetti, Aymo and Beatrice Weder 2003. A Free Press is Bad for Corruption. *Journal of Public Economics,* 87: 1801-1824.

Collier P. 2000. Ethnicity, Politics and Economic Performance *Economics and Politics* 12, 225-45.

Easterly W. and R. Levine 1997. Africa's Growth Tragedy: Policies and Ethnic Divisions, *Quarterly Journal of Economics*, 111(4), 1203-1250.

Fearon, J. and D. Laitin 1996. Explaining inter Ethnic Cooperation, *American Political Science Review*, 90, 715-29.

Fisman, Raymond, and Roberta Gatti. 2002. Decentralization and corruption: evidence across countries. *Journal of Public Economics* 83:325-345.

Fox, Jonathon. 2002. *Ethnoreligious Conflict in the Late Twentieth Century: A General Theory*, (Lanham, MD: Lexington Books, 2002).

Gerring, John, and Strom C. Thacker. 2004. Political Institutions and Corruption: The Role of Unitarism and Parliamentarism. *British Journal of Political Science* 34:295-330.

Greif, A. 1993. "Contract Enforceability and Economic Institutions in Early Trade: The Maghribi Traders' Coalition", *American Economic Review*, 83(3), 525-548.

Horowitz, D.L. 1985. Ethnic Groups in Conflict, Berkeley, CA: University of California Press.

Huntington, Samuel 1996. *Clash of Civilization and the Remaking of the World Order*. Simon and Schuster.

Jin, H., Qian, Y., and Weingast, B., 1999. Regional decentralization and social incentives: Federalism, Chinese style, mimeo, presented at the Nobel Symposium on Transition, September

King, Gary, Michael Tomz, and Jason Wittenberg (2000). ``Making the Most of Statistical Analyses: Improving Interpretation and Presentation." *American Journal of Political Science*, no 44 (2) April: 347-61.

Knack, Stephen. 2001. Aid Dependence and the Quality of Governance: Cross-Country Empirical Tests. *Southern Economic Journal* 68 (2):310-329.

La Ferrara, E. (2003a), Kin Groups and Reciprocity: A Model of Credit Transactions in Ghana, *American Economic Review*, December.

La Ferrara E. (2003b) "Solidarity in Heterogeneous Communities" in Cultural Diversity versus Economic Solidarity, Francqui Scientific Library, Brussels Deboeck Universite'

La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert Vishny. 1999. The Quality of Government. *Journal of Law, Economics and Organization* 15 (1):222-279.

Lindstadt, Catharina and Daniel Naurin 2005. Transparency and Corruption. The Conditional Significance of a Free Press. *Quality of Government working paper*

Lijphart, A. (1977), *Democracy in Plural Societies: A Comparative Exploration*, New Haven: Yale University Press.

Lijphart, Arend 1999. *Patterns of Democracy: Government Forms and Performance in Thirty-Six Countries.* Yale University Press.

Montinola, Gabriella R, and Robert W. Jackman. 2002. Sources of Corruption: A Cross-Country Study. *British Journal of Political Science* 32:147-170.

Mauro, Paolo. 1998. Corruption: Causes, Consequences, and Agenda for Future Research. *Finance & Development* (March):11-14.

Atlas Narodov Mira. (1964). Moscow: Miklukho-Maklai Ethnological Institute at the Department of Geodesy and Cartography of the State Geological Committee of the Soviet Union

Norris, Pippa 2005. Stable Democracy and Good Governance in Divided Societies: Do Power-Sharing Institutions Work? Unpublished paper
Norris, Pipps 2008. *Driving Democracy* (forthcoming)

Olson, M. 1965. *The logic of collective action*, Harvard University Press, Cambridge, MA.

Persson, Torsten, Gerard Roland, and Guido Tabellini. 1997. Separation of Powers and Political Accountability. *The Quarterly Journal of Economics* 112 (4):1163-1202.

Persson, Torsten, Gérard Roland, and Guido Tabellini. 2000. Comparative Politics and Public Finance. *Journal of Political Economy* 108 (6):1121-1161.

Persson, Torsten, and Guido Tabellini. 2003. *The Economic Effects of Constitutions*. Cambridge, MA: The MIT Press.

Persson, Torsten, Guido Tabellini, and Francesco Trebbi. 2003. Electoral Rules and Corruption. *Journal of European Economic Association* 1 (4):958-989.

Putnam, Robert. 1993. *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton: Princeton University Press.

Ray, James Lee. 2005. "Constructing Multivariate Analyses." *Conflict Management and Peace Science*, 22:277–292,

Rothstein, Bo and Dietland Stolle 2007. The Quality of Government and Social Capital: A Thoery of Political Institutions and Generalized Trust. *Quality of Government* Working Paper 2007:2

Smith, Graham 2000. "Sustainable Federalism, Democratization, and Distributive Justice", in *Citizenship in Diverse Societies*. By Will Kymlicka and Wayne Norman. Oxfor University Press

Teorell, Jan and Axel Hadenius 2006. Does Type of Authoritarianism Affect the Prospectsof Democracy? Exogenous Shocks and Contingent Democratization. *Quality of Government* working paper 2006:3

Teorell, Jan, Sören Holmberg & Bo Rothstein. 2006. The Quality of Government Dataset, version 15Nov06. Göteborg University: The Quality of Government Institute, http://www.qog.pol.gu.se

Treisman, Daniel. 2000. The Causes of Corruption: A Cross-national Study. *Journal of Public Economics* 76:399-457.

Watts, Ronald L. *The Spending Power In Federal Systems: A Comparative Study.* Kingston: Institute of Intergovernmental Relations, Queen's University, 1999.

Watts, Ronald L Comparing Federal Systems, 2nd Ed. Queen's University and McGill-Queen's University Press, 1999.

Weingast, Barry. 1997. The Political Foundations of Democracy and the Rule of Law. *American Political Sceince Review* 91 (2):245-263.

List of States

Albania	Costa Rica†	Indonesia	Mongolia	Spain**†
Algeria†	Cote d'Ivoire	Iran	Morocco	Sri Lanka†
Andorra	Croatia†	Iraq	Mozambique	Sudan
Angola†	Cuba	Ireland†	Myanmar	Suriname
Argentina*†	Cyprus†	Israel†	Namibia†	Swaziland
Armenia	Czech Republic†	Italy**†	Nepal	Sweden†
Australia*	Czechoslovakia	Jamaica	Netherlands†	Switzerland*†
Austria*†	Denmark†	Japan	New Zealand††	Syria
Azerbaijan	Dominica	Jordan	Nicaragua†	Taiwan
Bahamas	Dominican Republic†	Kazakhstan	Niger	Tajikistan
Bahrain	Ecuador	Kenya	Nigeria*	Tanzania
Bangladesh	Egypt	Korea, North	Norway†	Thailand
Barbados	El Salvador	Korea, South	Oman	Timor-Leste
Belarus	Equatorial Guinea	Kuwait	Pakistan*	Togo
Belgium*†	Eritrea	Kyrgyzstan	Panama††	Trinidad and Tobago
Belize	Estonia†	Laos	Papua New Guinea*	Tunisia
Benin	Ethiopia	Latvia†	Paraguay†	Turkey†
Bhutan	Fiji	Lebanon	Peru†	Turkmenistan
Bolivia†	Finland†	Lesotho	Philippines**	Uganda
Bosnia & Herzegovina**	France	Liberia†	Poland†	Ukraine
Botswana	Gabon	Libya	Portugal†	United Arab Emirates**
Brazil*†	Gambia	Liechtenstein†	Qatar	United Kingdom
Brunei Darussalam	Georgia	Lithuania	Romania†	United States*
Bulgaria†	Germany*††	Luxembourg†	Russian Federation**	Uruguay†
Burkina Faso†	Ghana	Macedonia	Rwanda	Uzbekistan
Burundi	Greece†	Madagascar	Sao Tome & Principe†	Venezuela*††
Cambodia†	Grenada	Malawi	Saudi Arabia	Vietnam
Cameroon	Guatemala	Malaysia*	Senegal	Yemen
Canada*	Guinea	Maldives	Serbia & Montenegro	Zambia
Central African Republic	Guinea-Bissau	Mali	Seychelles	Zimbabwe
Chad	Guyana†	Malta†	Sierra Leone	
Chile**†	Haiti	Mauritania	Singapore	
China	Honduras	Mauritius	Slovakia†	
Colombia†	Hungary††	Mexico*	Slovenia†	
Congo	Iceland†	Micronesia	Somalia	
Congo, Democratic Republic	India*	Moldova†	South Africa*†	

*Indicates a federally coded state

**Coded as federal in robustness check

†Indicates state with a PR electoral system

††Coded as PR in robustness check