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The impact of political decentralisation on economic growth

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Abstract

This paper aimed to develop a better understanding of political institutions by assessing the direct and indirect impacts of political decentralisation on economic growth. Institutions as the major drivers of economic growth have been studied extensively in the last two decades and within this context, political institutions have been found to significantly influence the so-called economic institutions that are required to attract investment and accelerate economic growth.

The objectives of the study were designed to confirm previous research and determine whether there is a direct relationship between political decentralisation and economic growth or whether there was an indirect relationship mediated through fiscal policy volatility. The study was conducted using a sample of 153 countries that was collected from the World Bank's databases and regression analysis was used to measure the strength of the association between the variables selected to measure political decentralisation, fiscal policy volatility and economic growth. Since there is no single, universally accepted measure for political decentralisation, senators' representation of constituencies, local authority over taxation, spending and legislating and the method of appointing municipal government were used as proxies for political decentralisation.

The results were mixed but suggested that there are more benefits than drawbacks to political decentralisation. The results of the study showed that senators' representation of constituencies and local authority over taxation, spending and legislating helped to reduce fiscal policy volatility and confirmed that lower volatility in fiscal policy was correlated with higher economic growth.

Keywords

Political decentralisation, institutions, policy volatility, economic growth

Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

Teboho Malie

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Date

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CHAPTER 1: INTRODUCTION

Research title

The impact of political decentralisation on economic growth.

Introduction to research problem

The issues of poverty and sluggish growth in developing countries in general, and Africa in particular are well documented (de Sousa, Mayer, & Zignago, 2012; Luiz, 2009). While Africa is being hailed as the next big growth area, there are concerns that the seemingly impressive projected growth may not be sufficient to pull Africa's population out of poverty (Chimhanzi, 2012). In fact, Chimhanzi (2012) emphasises that the recent growth in Africa has not created jobs and the benefits have not been shared equitably.

The views expressed above are mirrored by experiences in South Africa where it has been shown that the unprecedented growth experienced since the end of apartheid has only really benefited a few elites. Even though the South African economy has grown significantly, most of the growth has been consumption-led and fuelled by easy access to credit for consumption spending; credit which was mainly available to people that were already relatively well off (Department of Trade & Industry, 2010). In addition to being unsustainable, most of the benefits of the growth accrued to more affluent members of society and the economy, overall, did not create any new jobs (Department of Trade & Industry, 2010).

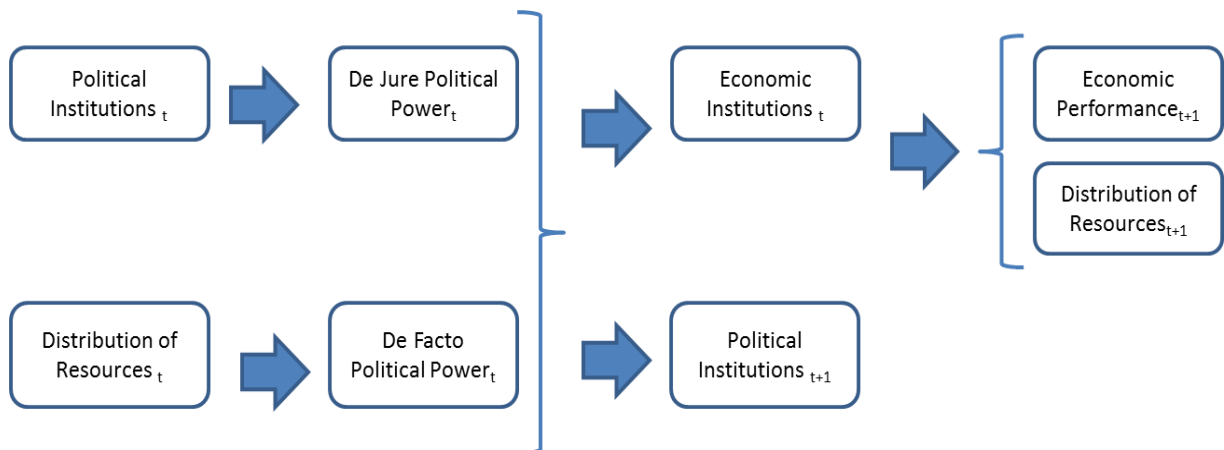
In the quest for sustainable economic growth, institutions have increasingly come into focus in recent years, informed by the view that economic outcomes are the product of the institutional environment within a country (Luiz, 2009). Numerous studies have been conducted into Africa's growth problems and it has become the norm to blame Africa's growth problems on "trade policy, insufficient infrastructure, non-convertibility of currencies, political instability, ethnic, cultural and linguistic diversity" (Naanwaab & Diarrassouba, 2013, p. 668). Corruption, government instability and lack of bureaucratic capacity have also been put forward as possible causes for Africa's slow growth and under-development (Ahmad, Arif, & Mofazzal Mohyuddin, 2012; Dreher & Gassebner, 2012; Luiz, 2009).

Institutions and economic growth

Acemoglu, Johnson and Robinson (2005) argue that “economic institutions matter for economic growth because they shape the incentives of key economic actors in society” and “influence investments in physical and human capital and technology and the organisation of production” (p. 389). While this view is well articulated and insightful, there is a problem that stems from the fact that economic institutions are not narrowly defined and broadly encompass elements such as security of property rights, access to finance, freedom to trade with foreigners and regulation of credit, labour and business (Acemoglu *et al.*, 2005; Naanwaab & Diarrassouba, 2013). This invariably makes it rather difficult to study economic institutions and their impact on the economy.

In addition to the above, it has been suggested that beyond their influence on a country’s growth potential, institutions also significantly influence other economic outcomes such as the distribution of wealth, policy and output volatility and the effective functioning of markets (Acemoglu *et al.*, 2005; Palepu & Khanna, 2005). This makes it increasingly important to develop a better understanding of the diverse impacts of various institutional settings.

Figure 1: Political Institutions and Economic Performance



Source: Acemoglu *et al.* (2005, p. 392)

Figure 1 depicts the framework presented by Acemoglu *et al.* (2005) which summarises their argument that political institutions impact the distribution of power which, in turn, has an impact on the choice of economic institutions that determine a country’s economic performance. Within this context, political constraints, also referred to as constraints on the

executive have been studied quite extensively and have been found to impact economic growth through various micro and macroeconomic channels (Acemoglu, Johnson, Robinson, & Thaicharoen, 2003; Henisz, 2004).

Under the umbrella of political institutions, and closely related to the concept of political constraints, an area that has generated much interest but has been historically difficult to study is that of political decentralisation (Ezcurra & Rodríguez-Pose, 2013). This is the idea of decentralising administrative functions, delegating decision making authority to lower tiers of government and “giving citizens and their elected representatives more power in public decision making” (World Bank, 2004). This is the area that will be the core focus of this research project.

Research aim and purpose

The aim of this study is to investigate the role of political institutions and political decentralisation in particular, in promoting economic growth and development. Developing this understanding will, hopefully, prove to be useful to policy makers by providing insight into how institutions can be designed for greater economic impact.

To this end, this study will first seek to establish a baseline based on what has been documented in academic literature about political institutions and growth. Building on this foundation, this study will then identify measures that can be used as proxies for political decentralisation and examine their relationship with economic growth.

CHAPTER 2: LITERATURE REVIEW

Welfare & economic growth

The subjects of human welfare and economic development have been topical since Adam Smith's first publication of *An inquiry into the nature and causes of the wealth of nations* in 1776. Given the disparities in the relative levels of welfare between rich and poor nations, the question of how nations can change their fortunes to improve the welfare of their citizens remains as relevant today as it has at any point in history (Naanwaab & Diarrassouba, 2013).

Contemporary growth literature has tried to identify drivers for economic growth from multiple perspectives. While the debate seems reasonably settled as far as the roles of education and healthcare are concerned, there is on-going research and debate into the respective roles of openness and international trade, savings and investment, demographics, trust, culture, religion, economic freedom, institutions, migrant remittances and financial services (Acemoglu *et al.*, 2003; Ahmad *et al.*, 2012; Eggertsson, 2013; Henisz, 2000; Jalles, 2012; Palepu & Khanna, 2005; Pradhan, 2012). This list is by no means exhaustive.

Beyond merely assessing the drivers of economic growth, there is significant effort that is currently being directed towards determining what measures are actually appropriate for measuring levels of human welfare and progress. Gross Domestic Product, or GDP, is the measure that is traditionally used for measuring a country or region's level of economic development or well-being (Boarini & D'Ercole, 2013). It is more formally defined as the "total market value of final goods and services produced within the borders of a nation, even if produced by foreigners in a given period of time" (Wessels, 2006, p. 68) and is usually measured on an annual basis. For the purposes of this study, GDP will be used as the measure for welfare and development.

The remainder of this chapter covers the broad literature on institutions with a particular emphasis on political institutions and examines the literature as it relates to their impact on economic growth.

Institutional theory

There is a growing body of academic literature that strongly suggests that institutions, including political systems, cultural norms and the state significantly influence economic growth and development (Luiz, 2009; Naanwaab & Diarrassouba, 2013). From the global institutions such as the World Bank and WTO to regional institutions such as the EU and NAFTA and domestic institutions that define the constraints and incentives at a local level, institutions matter for growth. Luiz (2009) expresses the view that developing countries, especially in Africa, are saddled with dysfunctional and under-developed domestic institutions that invariably affect the poorest people disproportionately since they are the least able to access infrastructure, health care, education and other public services. Institutions are typically designed to support the interests of their masters and some thought needs to go into how they can be designed to be more inclusive in order to accelerate and sustain growth and development (Luiz, 2009).

Peng, Sun, Pinkham and Chen (2009) loosely define institutions as “the rules of the game” (p. 64) and more formally as “the humanly devised constraints that structure human interaction” (Peng *et al.*, 2009, p. 64). Institutions are supported by three pillars namely, regulative, normative and cultural-cognitive structures (Scott, 2008). Regulative elements are concerned with “rule setting, monitoring and sanctioning activities” and may encompass policies, laws, rules and regulations (Peng *et al.*, 2009; Scott, 2008, p. 428). Normative elements represent acceptable norms in social life while cultural-cognitive elements essentially encompass the lens through which a society interprets reality and finds meaning (Scott, 2008). As such, normative elements may include softer components such as culture, religion and ethics (Peng *et al.*, 2009).

Luiz (2009) emphasises that the informal means through which people engage with each other, which are typically embedded in normative and cultural practices, are important since they are the mechanisms through which trust and confidence, which underpin the economic landscape, are established. While institutions are largely symbolic, they serve the prime purpose of reducing uncertainty and providing meaning (Peng *et al.*, 2009; Scott, 2008).

It is clear from this brief introduction to institutional theory that institutions can be studied from multiple perspectives. The focus of this study is on developing a deeper understanding of political institutions and their ultimate impact on economic performance.

Political institutions

The literature on political institutions has historically focused on building theory that links a “government’s ability to provide a credible commitment to the returns to private property” and a country’s economic performance (Henisz, 2000, p. 1). Some of the factors that have been assessed include, but are not limited to rule of law, likelihood of expropriation or contract repudiation as well as perceptions of corruption and bureaucratic competence (Acemoglu *et al.*, 2003, p. 55). Henisz (2000) states that “a government’s ability to credibly commit not to interfere with private property rights is instrumental in obtaining the long-term capital investments required for countries to experience rapid economic growth” (p. 2). This is an idea that is relatively well established in the literature and forms the basis of much of the research into political institutions and their impact on economic performance.

Acemoglu *et al.* (2005) outline the theoretical underpinnings for the importance of political institutions, which ultimately explain the model depicted in Figure 1. Acemoglu *et al.* (2005) argue that there will “typically be a conflict of interest amongst various groups and individuals over the choice of economic institutions” (p. 390) due to differences over the preferences and perceived consequences of the choices that are made. Consequently, the selected (or implemented) set of economic institutions becomes a function of political power, with the group that wields the most political power being more likely to “secure the set of economic institutions that it prefers” (Acemoglu *et al.*, 2005, p. 390). The political power, in turn, stems from the political institutions that exist within a country. These political institutions, by definition, define the incentives and constraints imposed upon the actors within the political arena (Acemoglu *et al.*, 2005).

Measuring political institutions

Several variables and metrics for measuring or assessing political institutions have been proposed and tested with varying degrees of success. As previously stated, these have included assessments of political systems, rule of law, likelihood of expropriation and perceptions of corruption and bureaucratic competence (Acemoglu *et al.*, 2005). More recent studies have assessed institutional elements such as government stability (Ahmad *et al.*, 2012), governance, social capital, polarisation within society (Luiz, 2009) and even the Fraser Institute’s Economic Freedom of the World Index (Naanwaab & Diarrassouba, 2013) in an attempt to establish the extent to which various institutional settings may influence economic performance and development. This list is merely illustrative and

mainly serves to highlight the multitude of lenses through which political institutions have been, and continue to be studied.

In his seminal work, Henisz (2000) highlighted four faults that typically afflict empirical measures of political institutions:

1. Many empirical measures of political institutions are “not closely linked to a government’s ability to credibly commit not to interfere with private property rights” (p. 3);
2. The variables are often measured subjectively, a case in point being *perceptions of corruption*;
3. The measures utilised are often only available for limited time periods or for a limited set of countries; and
4. The variables utilised are “often employed in an atheoretical manner” (p. 3).

It was the definition of these criteria by Henisz (2000) that led to the construction of the *political constraints (POLCON)* variable and helped to create a more solid foundation for further study of political institutions and their impact on economic performance.

Political constraints (on the executive)

Several early researchers have established that a government’s ability to make a credible commitment not to interfere with private property rights is critical for attracting the local and foreign investment required for countries to experience rapid economic growth (Henisz, 2000; Olson Jr., 1996). This is a view that is echoed by Palepu and Khanna (2005) who further suggest that the roles of state organs need to be assessed at a more granular level in order to develop a better understanding of the structure, roles and effectiveness of the executive, legislative and judicial branches of government.

A lack of credibility undermines the implementation of reform programs that would promote sustained growth and inadvertently promotes the growth of black market activities (Henisz, 2000). Henisz (2000) suggests that resources tend to get reallocated to political activity in environments where economic outcomes can be more easily secured through political means. According to Acemoglu *et al.* (2003), “in institutionally weak societies, elites and politicians will find various ways of expropriating different segments of the society, ranging from macroeconomic to various microeconomic policies” (p. 54). Acemoglu *et al.* (2003) also make the more pointed argument that in countries with weak institutions that do not

constrain those that hold political power, the willingness of various groups to fight over such power increases considerably. Having attained power, political groups are likely to “exploit their positions, sometimes with disastrous consequences” (Acemoglu *et al.*, 2003, p. 55). Further to the above, Fatás and Mihov (2012) argue that governments that lack discipline have a tendency to make large, arbitrary changes to government spending without any clarity or consistency in the implementation of fiscal policy, resulting in lower economic growth.

The literature clearly indicates that credible government commitment not to interfere with private property rights is desirable and critical for economic growth. However, a question that naturally arises relates to how this credible commitment should be measured. Henisz (2000) was one of the first researchers to construct a political constraints variable, which is built on the premise that “policy outcomes are a function of political structure” (p. 4). Henisz (2000) used spatial modelling techniques to simulate interactions between political actors within a country and simplify the structures of political systems in order to allow for cross-country comparisons. The political actors comprise the executive branch of government, the lower and upper houses of the legislatures, where such organs exist, the judiciary and sub-federal units (Henisz, 2000).

The value of the political constraints variable for a country in a given year is calculated by incorporating a distribution of preferences amongst existing political actors, the “number of independent veto points over policy outcomes”, alignment between executive and legislative branches along party lines, fractionalisation within opposition ranks and independence of the judiciary (Henisz, 2000, p. 5). The derived variable, political constraints, is a measure of the extent to which a political actor is constrained from making unilateral or arbitrary changes to existing policy (Henisz, 2000).

In a similar vein to the political constraints variable described above, Acemoglu *et al.* (2003) used the *Constraints on the Executive* variable from the Polity IV database which is constructed based on the perceived effectiveness of the political actors’ veto points. The Database of Political Institutions (DPI) also provides a series called *checks* which attempts to capture a country’s institutional characteristics and political outcomes by adjusting for political party membership/alignment across branches of government (Fatás & Mihov, 2012).

To close the proverbial loop, it is instructive at this point to consider whether political constraints, regardless of whether they are measured using the Henisz (2000), Polity IV or DPI methods, do in fact provide an adequate measure of a credible commitment by governments not to interfere with private property rights. Veto players are defined as “individual or collective decision makers whose agreement is required for the change of the status quo” (Tsebelis, 2000, p. 442). Following the logic of this definition, it stands to reason that the existence of multiple veto players would lead to increasing constraints on a political actor’s ability to act independently. As such, the ability or likelihood of such actor being able to effect changes that are not in the interest of others should decrease concomitantly. The measure of such checks and balances using the various political constraints variables would, therefore, appear to represent a reasonable measure of the credible commitment not to interfere with private property rights.

Having established a solid theoretical basis for using the political constraints variable as a proxy for a government’s credible commitment not to interfere, what naturally follows is confirming the relationship with economic performance and growth. Using various statistical techniques, Henisz (2000) established that political constraints were positively correlated to economic growth and estimated that a one standard deviation increase in political constraints could raise annual growth rates by between 0.5% and 0.9%. While these findings are certainly seductive, the transmission mechanism from political constraints to economic growth was not clear. More recent literature strongly suggests that the relationship between political constraints and economic growth may be one that is mediated through fiscal policy volatility. The theory that is being tested and is becoming increasingly accepted is that higher levels of political constraints lead to decreases in policy volatility which, in turn, results in higher economic growth (Acemoglu *et al.*, 2003; Fatás & Mihov, 2012; Henisz, 2004).

Fiscal policy volatility

The Washington “consensus”, articulated by John Williamson, attempted to describe what was accepted as conventional wisdom and served to highlight a number of factors that were considered to be significant causes of poor economic performance and volatility (Acemoglu *et al.*, 2003; Williamson, 1993). It is worth noting that like many other factors that impact economic growth, volatility has been studied from multiple perspectives. Acemoglu *et al.* (2003) looked at output volatility while Aghion, Bacchetta, Ranciè and

Rogoff (2009) focused more on the role of exchange rate volatility. Fatás and Mihov (2012) extended the study that was conducted by Henisz (2004), and focused specifically on the volatility of government expenditure and revenue.

Amongst the major culprits for poor performance that were identified by the Washington consensus was the mismanagement of fiscal policy, including excessive government expenditure, high inflation and over-valuation of exchange rates (Acemoglu *et al.*, 2003). Ever since the phrase was coined, the logic and wisdom of the Washington consensus have been tested, which has kept the role of macroeconomic policies as determinants of long-term economic growth in stark focus (Acemoglu *et al.*, 2003; Afonso & Jalles, 2012; Fatás & Mihov, 2012).

According to Fatás and Mihov (2012), the growth literature has traditionally studied the relationship between fiscal policy and economic growth by assessing government size relative to the economy, tax rates and levels of debt. A study that tested the significance of 67 variables that are often included in growth regressions only found “18 to be significantly and robustly partially correlated with long-term growth and another three to be marginally related” (Sala-I-Martin, Doppelhofer, & Miller, 2004). The 18 variables that were identified by Sala-I-Martin *et al.* (2004) did not include the three mentioned above, namely government size, tax rates and levels of debt. Fatás and Mihov (2012) reaffirmed this finding by highlighting the fact that while the relationship between these variables and growth is usually found to be statistically significant, the actual level of significance is often found to be quite low and the variables are usually not robust to the addition of control variables such as the quality of institutions.

Acemoglu *et al.* (2003) suggest that while it may be “easy to blame macroeconomic policies for macroeconomic problems” (p. 50), there is growing evidence that suggests that distortionary macroeconomic policies are more likely a symptom of weak institutions. Weak institutions cause volatility through various microeconomic and macroeconomic channels and also tend to worsen the severity of economic crises (Acemoglu *et al.*, 2003; Fatás & Mihov, 2012).

Political constraints and volatility

Using the political constraints (POLCON) variable, Henisz (2004) demonstrated that governments that face lower constraints are more inclined to “pursue costly white elephant projects” (p. 16) that bear no relation to the needs of a country and its citizens but are more likely to favour a particular group or sector. Governments that face lower constraints are also more likely to experience greater volatility in revenue collection and goods and services expenditure (Henisz, 2004).

Fatás and Mihov (2012) measured policy volatility “based on the variance of unforecastable changes in government consumption” and interpret this variance as “the aggressiveness with which politicians use spending for reasons other than smoothing the business cycle” (p. 3). Mathematically, to isolate the changes in government expenditure that cannot be explained by the state of the economy, Fatás and Mihov (2012) ran a regression with the following specification for each country:

Equation 1: Estimation of Fiscal Policy Volatility

$$\Delta \ln(G)_{i,t} = \alpha_i + \beta_{i,j} \Delta \ln(Y)_{i,t} + \epsilon_{i,t}$$

Source: Fatás and Mihov (2012, p. 10)

In the above regression equation, G represents government expenditure while Y represents real GDP. The residual from the derived country model, $\epsilon_{i,t}$, is interpreted as country-specific volatility and is used as a proxy for discretionary policy or fiscal activism (Fatás & Mihov, 2012). Using the residual from the above regression ($\epsilon_{i,t}$) as the measure of policy volatility and constraints on the executive as the measure of political institutions, Fatás and Mihov (2012) proceeded to test the relationship between political institutions, volatility and economic growth. Fatás and Mihov (2012) used different statistical methods and controlled for several factors, including those specified by Sala-I-Martin *et al.* (2004) and found policy volatility to be a significant and robust predictor for economic growth. Interestingly, they also found constraints on the executive to be a significant and robust predictor for policy volatility. Fatás and Mihov (2012) also found that constraints on the executive, while being a statistically significant predictor of economic growth in single-variable regressions, were not robust to the addition of control variables.

Economically benevolent dictators

The arguments that have been raised thus far have assumed that democracy is generally preferred over dictatorship. With that said, Henisz (2004) argues that the benefits of democracy are most visible in the presence of shocks to the system, which are often better resolved through negotiated solutions around allocation of resources. Interestingly, a recent study which assessed the development of China, South Korea and Chile found that growth-favouring dictators who managed transitions of their countries from relational transacting to environments where exchange was supported by government action through some form of enforcement or sanction, were more effective than weak democracies in overcoming obstacles to credible government commitment not to interfere with private investment (Gilson & Milhaupt, 2011). This certainly adds weight to the idea that institutions that support growth, which can exist and flourish under democratic or authoritarian regimes, are the key ingredients in the economic growth recipe.

Having developed an understanding of the nature of the relationships between institutions, specifically political constraints, policy volatility and economic growth, a question that arises relates to how the current understanding can be enhanced in order to ultimately improve the quality of policy advice and decision making. One area that has aroused some interest relates to the decentralisation of political power, which is explored briefly below.

Political decentralisation

Decentralisation is complex and multi-faceted (Iimi, 2005) and, according to Ezcurra and Rodríguez-Pose (2013) incorporates political, administrative and fiscal dimensions which do not necessarily always match. This complexity makes it very difficult, or almost impossible, to develop objective measures for overall decentralisation that can be widely accepted (Ezcurra & Rodríguez-Pose, 2013). Perhaps it is due to this very complex nature that debate is still raging about whether decentralisation helps or harms economic growth.

According to the Oates Decentralisation Theorem “due to informational advantage based on physical and institutional proximity to local residents, the devolution of political and administrative power to lower level governments leads to improved economic efficiency in local public service delivery and thus augments the growth rate at the national and regional levels” (Iimi, 2005, p. 450). This implies that empowering people at the lowest levels can actually be good for national economic growth prospects since locals are best

positioned to make decisions that are beneficial for them. This concept also appears to extend the political constraints (or checks and balances) construct since it builds on the idea that political power vested in a single individual or entity is less conducive for growth while the spreading of political power generally leads to better decision making and, ultimately, better outcomes. While the theory seems logically sound, the evidence has not always supported the theory (Iimi, 2005; Im, 2010; Rodríguez-Pose & Ezcurra, 2011).

Numerous studies have examined decentralisation through a fiscal policy lens by assessing levels of taxation and expenditure at sub-national levels (Enikolopov & Zhuravskaya, 2007). According to Ezcurra and Rodríguez-Pose (2013), most studies that have been conducted have examined the impact of political decentralisation using financial data from the IMF or the Organisation for Economic Co-operation and Development (OECD). The results from individual and cross-country studies have been mixed (Baskaran & Feld, 2013; Enikolopov & Zhuravskaya, 2007; Iimi, 2005; Im, 2010).

With the improving availability of data, more recent studies have begun to focus on the structural composition of countries' political institutions in an attempt to establish a more solid link between decentralisation and economic growth (Im, 2010; Rodríguez-Pose & Ezcurra, 2011). This approach certainly speaks to the political theory concept that political structures shape and influence policy and economic outcomes (Henisz, 2000). Notable amongst the emerging measures is the Database of Political Institutions which contains, amongst others, indicators of whether or not senators are elected via constituencies, whether municipal governments are centrally appointed or elected and whether provincial or state governments have authority over taxation, expenditure and legislation (Beck, Clarke, Groff, Keefer, & Walsh, 2001).

Having used various bespoke variables such as self-rule, institutional depth and policy scope, Ezcurra and Rodríguez-Pose (2013) did not find a link between political decentralisation and economic growth. This, however, is not to say that no such link exists. Indeed, Im (2010) had previously found a negative relationship between political decentralisation and economic growth.

As the findings of the study by Im (2010) may suggest, the role and effects of political decentralisation in the economy have also attracted some scepticism. A recent study actually found that countries that had more government tiers tended to report more incidents of bribe extraction by corrupt officials (Fan, Lin, & Treisman, 2009). Im (2010)

added to this argument by suggesting that “political decentralisation reforms disperse a country’s administrative capacity due to the increased decision points it creates in the political system and thereby multiplies local actors who are vulnerable to corruption” (p. 513).

Conclusion

The literature review sought to explore contemporary thinking around economic performance and development and, specifically, how political institutions may influence economic growth. The study of economic growth has traditionally focused on macroeconomic policy instruments and outcomes, including interest rates, exchange rates, income distribution, inflation and unemployment. While the importance of these constructs has not been diminished in any way, there is an increasingly accepted view that results are determined more by the institutional environment which defines the constraints and incentives that drive the behaviour of the various actors on the political and economic stage.

There has been a growing focus on the role of political institutions in promoting economic growth and development. It is not difficult to understand why this is the case. Governments, or rather legitimate governments, effectively have a monopoly on taxation, expropriation, incarceration and a host of other undesirable activities. They also often represent the only entities within a country that have the political and financial power to provide physical security, infrastructure, health care, education and other services that benefit the public at large. They wield power that no single individual or entity should be entrusted with. It then follows that a key ingredient for economic prosperity lies in trusting that government will not make arbitrary policy changes that would significantly increase transaction costs or increase the risk of expropriation and, in so doing, reduce the certainty of returns to private property and enterprise.

A measure that has been developed to assess governments’ credible commitment not to interfere with private property rights is *political constraints*, which essentially measures the extent to which political actors are constrained from acting unilaterally in making policy decisions. An extension of this concept, which will be studied further in this research paper, relates to the devolution of power to sub-national levels of government or political decentralisation.

While the study of political decentralisation is certainly not new, it has been made difficult by a historical shortage of high quality data. This has changed in recent years and has resulted in a surge of interest in the study of decentralisation across countries and regions. Conventional wisdom suggests that political decentralisation should be beneficial for economic growth since there are greater efficiencies that are brought about by devolving resource allocation decisions to local authorities. Local authorities are thought to be better positioned to make decisions that suit local needs due proximity and a better understanding of the local context. There is another school of thought that suggests that political decentralisation opens the door for corruption and, therefore, does not augur well for economic growth prospects, especially in developing countries.

This research project seeks to contribute to the understanding of political decentralisation and its impact on the economy. This will be achieved by assessing the extent to which senators' representation of constituencies, the method of appointing municipal governments and local authority over taxation, expenditure and legislation impact economic growth directly and indirectly through reduced fiscal policy volatility.

CHAPTER 3: RESEARCH OBJECTIVES

Introduction

It has been established through the literature review that political constraints have an impact on economic growth, albeit one that is probably mediated through policy volatility (Acemoglu *et al.*, 2003; Aghion *et al.*, 2009; Fatás & Mihov, 2012; Henisz, 2004). It has also been established that there is growing interest and unresolved debate relating to the impact of political decentralisation on economic growth (Baskaran & Feld, 2013; Ezcurra & Rodríguez-Pose, 2013; Im, 2010). The goal of this research project is to develop a better understanding of the relationship between political decentralisation and economic growth.

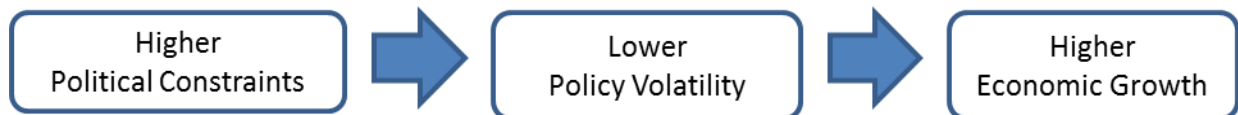
The main outcome variable of interest is economic growth, measured using change in GDP per capita. This choice of variable was informed by the fact that it is the most widely used and objective measure of the level of welfare (Boarini & D'Ercole, 2013). Data is also readily available for most countries going as far back as 1960 (World Bank, 2013).

The research hypotheses presented in this chapter seek to answer the question of whether political decentralisation impacts a country's economic performance and development.

Objective 1: Political constraints, volatility and growth

Research Objective 1 aims to examine the relationship between political constraints, policy volatility and economic growth. It seeks to confirm the findings of Henisz (2004), Fatás and Mihov (2012) and Acemoglu *et al.* (2003) and, in so doing, establish a baseline for further analysis. Replicating previously obtained results would also serve the purpose of providing confirmation of the quality of the data collected and the chosen methods of analysis. In essence, Research Objective 1 seeks to confirm the relationships depicted in Figure 2 by proving that higher political constraints lead to lower fiscal policy volatility which, in turn, leads to higher economic growth. This will be achieved through the testing of the three research hypotheses outlined below.

Figure 2: Political constraints, volatility and growth



Hypothesis 1A

The null hypothesis states that there is no relationship between political constraints and economic growth. The alternate hypothesis states that there is a sign positive correlation between political constraints and economic growth.

Hypothesis 1B

The null hypothesis states that there is no relationship between political constraints and policy volatility. The alternate hypothesis states that there is a negative correlation between political constraints and policy volatility (i.e. countries that have lower constraints will have higher degrees of volatility).

Hypothesis 1C

The null hypothesis states that there is no relationship between policy volatility and economic growth. The alternate hypothesis states that there is a negative correlation between policy volatility and economic growth (i.e. countries that have higher degrees of policy volatility will generally experience lower levels of economic growth).

Objective 2: Political decentralisation and growth

Research Objective 2 seeks to enhance the current understanding of how political decentralisation works and, specifically, how it influences economic growth. The selected measures of political decentralisation are senators' constituency representation, the method of appointing municipal governments and local authority over taxation, expenditure and legislation. Hereinafter, these will simply be referred to as representation, method of appointment and local authority, respectively.

The basic premise is that decentralisation adds to political constraints since power is distributed amongst more players who are able to influence resource allocation decisions. Political decentralisation speaks to the idea presented by Luiz (2009) that designing institutions that are more inclusive could help to accelerate and sustain growth and development. Potentially, this is also greater accountability amongst local political actors than national actors due to proximity to the electorate (World Bank, 2004). Therefore, as is the case with political constraints, there should be a relationship between political decentralisation and economic growth.

Hypothesis 2A

The null hypothesis states that there is no relationship between representation and economic growth. The alternate hypothesis states that there is a sign positive correlation between representation and country's level of economic growth.

Hypothesis 2B

The null hypothesis states that there is no relationship between the method of appointment and economic growth. The alternate hypothesis states that there is a sign positive correlation between the method of appointment and economic growth.

Hypothesis 2C

The null hypothesis states that there is no relationship between local authority and economic growth. The alternate hypothesis states that there is a sign positive correlation between local authority and economic growth.

Objective 3: Political decentralisation & policy volatility

Research Objective 3 aims to add some depth to the findings from the previous two research objectives. Building on the premise that political decentralisation enhances the effects of political constraints, it stands to reason that if political constraints help to reduce fiscal policy volatility, then political decentralisation should have a similar effect. The selected measures for political decentralisation are representation, method of appointment and local authority.

Hypothesis 3A

The null hypothesis states that there is no relationship between representation and fiscal policy volatility. The alternate hypothesis states that there is a sign negative correlation between constituency representation and fiscal policy volatility.

Hypothesis 3B

The null hypothesis states that there is no relationship between the method of appointment and policy volatility. The alternate hypothesis states that there is a negative correlation between the method of appointment and policy volatility.

Hypothesis 3C

The null hypothesis states that there is no relationship between local authority and fiscal policy volatility. The alternate hypothesis states that there is a negative correlation between local authority and fiscal policy volatility.

CHAPTER 4: RESEARCH METHODOLOGY

Research design

A positivist research philosophy is one that uses structured methods that lend themselves to replication and can result in “law-like generalisations” (Saunders & Lewis, 2012, p. 104) while explanatory studies seek to discover “causal relationships between key variables” (Saunders & Lewis, 2012, p. 113). As such, this study can be said to have been an explanatory study with a positivist philosophy since the objective was to establish the nature of relationships between political institutions, policy volatility and economic growth.

In order to establish causality, three criteria must be satisfied. Firstly, there must be a statistically significant correlation, or more formally concomitant variation, between the independent (cause) and dependent (effect) variables. Secondly, the cause must precede the effect (temporal precedence) and finally, other plausible explanations or extraneous variables must be eliminated as possible explanations for the observed effect (Weiers, 2011; Zikmund, 2010). To this end, the study was given a longitudinal design, which Saunders and Lewis (2012) describe as the study of participants over an extended period of time. The independent variables were observed at specific points in time while the dependent variables were observed over the following decade.

Unit of analysis

A unit of analysis is defined as the major entity that is being studied (Zikmund, 2010). For the purposes of this study, the unit of analysis was the country.

Research population and sample

Saunders and Lewis (2012) define a population as the complete set of group members that is likely to be available for research. For the purposes of this study, the relevant population was defined as all countries for which the World Bank had available economic performance data at any point in time between 1970 and 2000.

A sample is defined as a subgroup of the whole population and represents the entity that will actually be used for conducting the research (Saunders & Lewis, 2012). Since the

selection of countries for this study was driven by the availability of data, the sample ultimately became synonymous with the population.

An initial sample of 214 countries was collected from the World Bank's World Development Indicators database. However, after removing entries that could not be used because of missing data, a sample of 153 countries remained.

Data collection

The study was made possible by the use of secondary data, which was acquired through downloads from the respective providers' websites. The distinct advantage of secondary data is that the time and monetary cost of data collection are relatively low. However, one always runs the risk that the data may not fit the research question since it was collected for different purposes (Saunders & Lewis, 2012).

Data relating to economic performance (GDP) and government expenditure was sourced from the World Bank's World Development Indicators (WDI) database. This database was also used to source some of the descriptive country data, most notably the geographic region and income group.

The World Bank's Database of Political Institutions (DPI) was used to source the variables used to measure/assess political institutions. Variables sourced from this database include political constraints measured using the *checks* variable as well as indicators of whether countries' senators represent constituencies, whether municipal governments are elected and whether local authorities have autonomy over taxation, expenditure and legislation (Beck *et al.*, 2001). Data on political constraints measured using the POLCON variable constructed by Henisz (2000) was sourced from the POLCON dataset which is published on the author's website at the Wharton Business School of the University of Pennsylvania.

Further to the above, the Penn World Table was used to source data on country population, human capital development, government size, investment price levels and exchange rates (Feenstra, Inklaar, & Timmer, 2011).

In order to facilitate the construction of the dataset that was used for analysis, the data from the abovementioned sources was loaded into a MySQL database and amalgamated using the ISO country code as a key or index variable.

Data analysis

A panel dataset is one in which the behaviour of a cross-section of entities, in this case countries, is observed over several time periods (Baltagi, 2005). For this study, the panel that was constructed consisted of 153 countries over three decades covering the period from 1980 to 2010. The independent variables were observed at the beginning of each decade while changes in the dependent variables were observed over the following 10 year period. Due to missing data and some real-world dynamics such as the break-up of the USSR, the constructed panel was unbalanced and ultimately contained a minimum of one and a maximum of three observations per country.

The advantage of using panel data is that it allows for the control of variables that cannot be observed or easily measured such as religion and culture. Panel data also makes it possible to test the effects of variables that change over time but not across entities, such as national policies or regulations (Baltagi, 2005). Furthermore, panel datasets also facilitate more efficient estimates of regression equations since they allow for more variability and are less susceptible to issues of collinearity amongst independent variables (Baltagi, 2005).

Before delving into the methods that were considered appropriate for analysing the data, it may be useful to briefly discuss some of the variables that were selected for the study, the adjustments that were made to ensure that certain variables could be used effectively in the study as well the rationale for the choices made.

Variables for analysis

Economic performance

Since the main outcome variable of interest was economic performance, it stood to reason that this study should base the measure of performance on the most widely available and accepted variable, namely GDP (Boarini & D'Ercole, 2013). For the purposes of this study, the series named GDP per capita growth (annual %) from the WDI database was used as the measure of economic performance. This particular variable/series was selected because it adjusts for changes in the population and thus provides a relative measure of welfare at the individual level, making findings comparable across countries. Furthermore, since the underlying measure on which this GDP growth variable is based is GDP per capita measured in constant 2005 dollars, it has naturally been adjusted for inflation

making it possible to make reasonable deductions or inferences about changes over long periods of time.

Bearing in mind that the objective of the study was to observe the effect of political decentralisation on economic growth over 10 year periods, a simple average of GDP growth over 10 years was calculated and used as the dependent variable in growth regressions.

Policy volatility

Fiscal policy volatility was observed both as an independent and a dependent variable, a decision motivated by the findings made by Henisz (2004) and Fatás and Mihov (2012). Following the logic of Fatás and Mihov (2012), government expenditure was used as a proxy for fiscal policy. Government expenditure is directly linked to GDP, mostly lies within the control of government authorities and is widely and consistently measured across countries. While it is certainly not a perfect measure of fiscal policy, it was considered adequate for the above-mentioned reasons.

Policy volatility was then calculated using the method described by Fatás and Mihov (2012), which sought to isolate the component of government expenditure which was not related to the state of the economy. This was achieved by running an ordinary least squares regression using GDP growth as the independent variable and growth in government expenditure as the dependent variable. Policy volatility was interpreted as the standard deviation of the residual values from the derived regression equation.

It is worth noting that another derivation of policy volatility, using the raw standard deviations of the changes in government expenditure, was considered and generally yielded similar results. However, the above-mentioned specification was preferred since it extracted “the exogenous component of policy changes (Fatás & Mihov, 2012, p. 10).

Political constraints

Political constraints measure the extent to which executives and other actors are constrained from making unilateral or arbitrary policy changes (Acemoglu *et al.*, 2003; Henisz, 2000; Henisz, 2004). The options that were considered for this study were the political constraints (POLCON) variable developed by Henisz (2000) and the checks and balances (CHECKS_LAX) series from the Database of Political Institutions (Beck *et al.*, 2001). Both variables capture institutional characteristics within a country and adjust for

ideological alignment and political outcomes. However, Henisz's (2000) specification makes further adjustments for the "diminishing marginal effect on policy outcomes", which implies a non-linear relationship between the overall measure and veto points as discussed earlier (Fatás & Mihov, 2012, p. 13).

The checks and balances series from the DPI was preferred due to its simpler specification and the fact that there has been no evidence to support Henisz's (2000) suggestion of a non-linear effect of constraints on volatility (Fatás & Mihov, 2012).

Representation, method of appointment & local authority

Representation, method of appointment and local authority were all sourced from the Database of Political Institutions and, for the purposes of this study, were used as measures of political decentralisation. As discussed in the literature review, there are conflicting views on the impact of political decentralisation on economic growth and there is still much experimentation that is happening around the use and construction of variables.

Henisz (2000) asserted that economic policies are the result of political struggle within an institutional structure. Furthermore, the structure of political institutions impacts the stability of economic policy, which in turn has an impact on economic performance (Fatás & Mihov, 2012; Henisz, 2004). Following this line of reasoning, the variables that were included in this study represented political institutional structures that could have additional explanatory power for changes in policy volatility and economic performance.

Method of analysis

As previously stated, raw data downloaded from the respective providers' websites was loaded into a MySQL database and amalgamated using the ISO country code as an index. The selected variables were then extracted from the database and imported into Microsoft Excel as a single dataset. Excel was then used to perform the calculations described above. The final dataset that included the raw data as well as the computed values was then loaded into a statistical package named GRET (GNU Regression, Econometrics and Time Series Library).

In analysing panel datasets, the choices for estimating regression equations are usually the least squares dummy variable fixed-effects model or the random effects model that uses generalised least squares (Baltagi, 2005; Maddala, 2001). A discussion about the

theory and underlying assumptions of these models is beyond the scope of this paper, but it should suffice to state that while the fixed effects model is better at controlling for unobserved individual characteristics that may influence outcome variables, the random effects estimator is able to incorporate explanatory variables that vary across entities but do not vary over time. As such, fixed effects models allow for inferences to be made about individual entities while random effects models allow for inferences to be made beyond the sample that was used (Maddala, 2001). A third alternative was to use pooled ordinary least squares, which essentially ignores the cross-sectional and time-series aspects of the panel datasets. A distinct disadvantage of pooled OLS is that by discarding the hierarchical nature of the panel dataset, the model can become more susceptible to omitted variable bias.

In all cases, the random-effects estimator was the preferred model for performing statistical tests. However, instead of relying on rules of thumb, tests of the actual models, which were provided by GRET, were used to determine the appropriateness of the model that was used. The details of the actual tests and their respective interpretations are covered in the research results section.

In cases where pooled OLS estimates were considered superior, they were estimated with standard errors that were robust with respect to heteroskedasticity and auto-correlation which meant that inferences made from the output would be less biased.

Validity and reliability

Reliability refers to “the extent to which data collection methods and analysis procedures will produce consistent findings” (Saunders & Lewis, 2012, p. 128). Threats to the reliability of research are usually in the form of researcher or respondent bias and error. These were not applicable in the case of this research project since it relied on secondary data, which eliminated the possibility of introducing such biases. To mitigate the possibility of introducing errors, country names, which were recorded differently in the different databases that were used as input, were aligned using the ISO country code as an index variable.

Validity refers to the ability of the research to provide credible conclusions, or stated differently, whether using the same data and methods, another research would arrive at the same conclusions (Saunders & Lewis, 2012). As is generally the case with

econometric studies, the main threats to the validity of this study came in the form of unobserved heterogeneity, heteroskedasticity and multicollinearity (Maddala, 2001). The issue of unobserved heterogeneity and potential for omitted variable bias was managed through the use of the random effects model for estimating regression equations. Heteroskedasticity was managed through the use and assessment of standard errors that were robust with respect to heteroskedasticity and auto-correlation, while multicollinearity was managed through the assessment of variance inflation factors. As a rule, if the variance inflation factor for a particular variable was higher than five, this was considered a signal of potential multicollinearity and the variable was removed from the model.

Another risk to the validity of this study related to endogeneity of input variables, particularly fiscal policy volatility. Endogeneity occurs when input variables are correlated with the error term and may cause inconsistency of estimates from ordinary least squares regressions (Baltagi, 2005). Endogenous variables are those “whose value is determined within the system” (Aron, 2000, p. 101) such as growth and investment while exogenous variables are those “on which the system has no influence” (Aron, 2000, p. 101) such as population and institutional variables. The endogeneity risk was managed by using the Fatás and Mihov (2012) technique described above, which tried to isolate the exogenous component of fiscal policy volatility.

Research limitations

This research project had a number of limitations, with the main one being the incompleteness of data that measures political institutions. Data used to measure political decentralisation was limited, resulting in relatively small datasets being used to analyse the effects of senators’ representation, local authority and the method of appointing local governments. While the reduced sample sizes were still sufficient for conducting statistical analysis, the data did not have sufficient variation to allow for further decomposition and analysis of countries by income level or region.

The fact that this study was limited to studying the impact of political decentralisation on economic growth necessarily meant that there would be some variables that may impact growth that were omitted from the study. While some factors were included as control variables, there are other factors that may have an impact on economic growth such as political stability, ethics, culture and religion that could not be included in the study for practical reasons (Aron, 2000; Peng *et al.*, 2009).

CHAPTER 5: RESULTS

Overview of research sample

An initial sample of 214 countries was collected from the World Bank's World Development Indicators database. However, after removing entries that could not be used because of missing data, a sample of 153 countries remained. The constructed panel of 153 countries observed over a maximum of three decades between 1980 and 2010 was used for the study, with each entry (or observation) in the panel representing data for a single country over a 10 year period. The list of countries that were included in the study is tabulated in Appendix A.

Due to issues relating to the availability of data, the panel that was constructed was unbalanced, meaning that not all countries were observed in each decade. As such, some countries were only observed in a single decade, while others were observed over the full three decades covered by the study.

Table 1 provides average levels of GDP per capita in 2010 by income group. There is clearly a massive disparity in global income distribution given that the average individual in a rich OECD country earns over 70 times more than the average individual in a low income country. The results of this study will hopefully provide some insight into how low income countries can begin to take measures to bridge this gap.

Table 1: Mean GDP by Income Group

Income Group	# of Countries	Mean GDP per capita (2010)
Low income	32	\$287
Lower middle income	47	\$852
Upper middle income	50	\$2,640
High income: non-OECD	23	\$12,254
High income: OECD	31	\$20,726

The remainder of this chapter presents the results of the study, which are laid out in order of the research objectives and hypotheses specified in chapter three.

Objective 1: Political constraints, volatility and growth

This research objective sought to test the relationship between political constraints, policy volatility and economic growth. The aim was to confirm previous findings that suggested that while political institutions do impact growth, the relationship is one that is possibly mediated through volatility in fiscal policy. This was achieved through a three step process which was encapsulated in research hypotheses 1A, 1B and 1C. The process entailed:

1. Confirming the existence of a positive correlation between political constraints and economic growth;
2. Confirming the presence of a negative correlation between political constraints and fiscal policy volatility; and
3. Confirming that there was a sign negative correlation between fiscal policy volatility and economic growth.

The success of this process would be confirmed not only by finding statistically significant relationships, but also by confirming that volatility explains more of the variability in economic growth than political constraints. The results are outlined below.

Hypothesis 1A: Political constraints and economic growth

Hypothesis 1A aimed to establish whether political constraints have a statistically significant effect on economic growth. Since the objective was to establish the nature and significance of a relationship between variables, regression analysis was considered to be the most appropriate method of analysis. Furthermore, since the test also sought to establish causality between higher political constraints and economic growth, measures for political constraints were taken at the beginning of each decade, while economic performance was measured as average GDP growth over the following 10 years.

Figure 3: Political constraints and economic growth

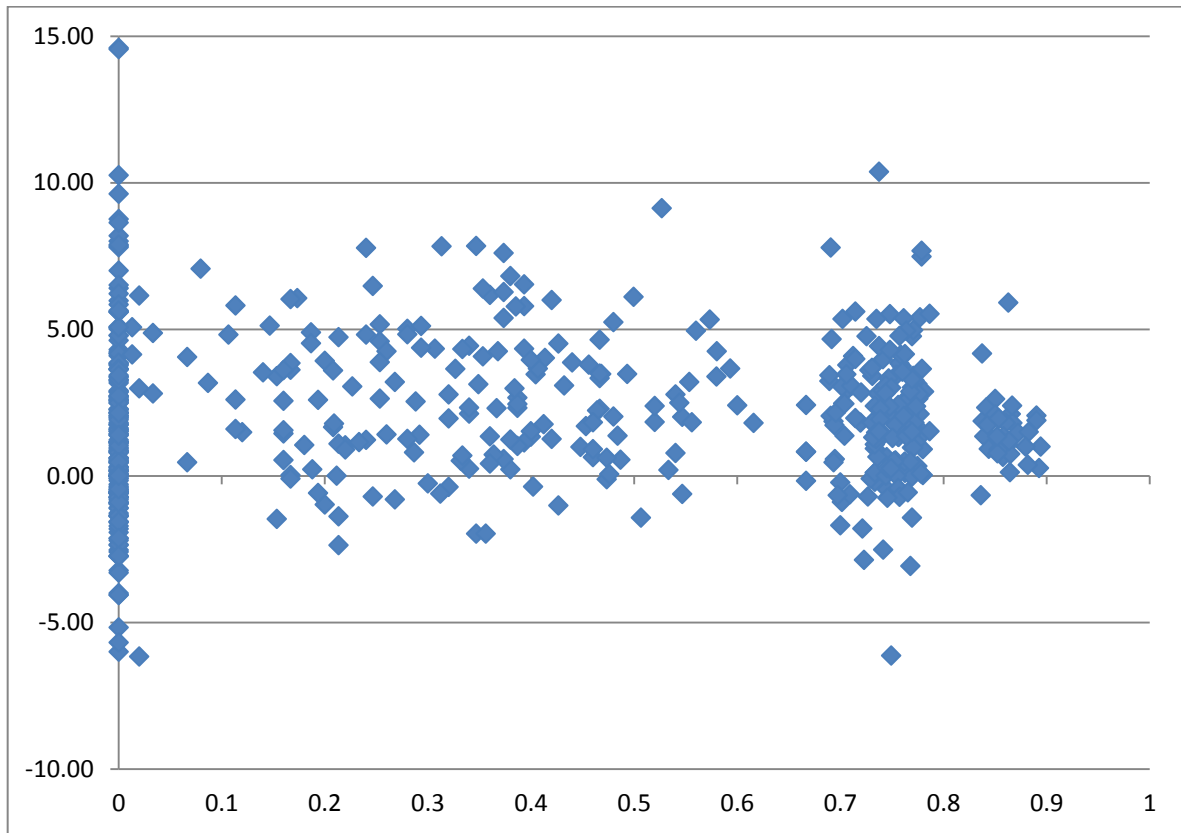


Figure 3 provides a visual representation of the relationship between political constraints, plotted along the horizontal axis and economic growth along the vertical axis. It is interesting to observe that there appears to be wider variability in average GDP growth at lower levels of political constraints, which seems to dissipate as the political constraints increase. There also appears to be significant clustering of observations at very low and very high levels along the political constraints scale. There are, however, no clear visible cues that point to the direction and significance of the relationship between the two variables.

The GRETL output of the generalised least squares estimation of the regression equation for political constraints against GDP Growth is presented in Table 2 below. In line with much of the growth literature, government size, human capital index, investment price, parliamentary system and the log of GDP in 1975 were included as control variables in the regression model.

Table 2: Political constraints and economic growth

Random-effects (GLS), using 269 observations Included 93 cross-sectional units Time-series length: minimum 1, maximum 3 <i>Dependent variable: AVERAGE GDP GROWTH</i>					
	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
const	2.43022	0.869819	2.7939	0.00559	***
Government Size	0.254171	1.55195	0.1638	0.87003	
Human Capital Index	1.76845	0.371933	4.7548	<0.00001	***
Investment Price Level	-0.112046	0.281016	-0.3987	0.69043	
Parliamentary	0.783487	0.349918	2.2391	0.02599	**
Log (GDP 1975)	-0.732761	0.142108	-5.1564	<0.00001	***
Political Constraints	0.236634	0.0983883	2.4051	0.01686	**
R-Squared	0.215156				
<i>Breusch-Pagan Test</i> Null hypothesis: Variance of the unit-specific error = 0 Asymptotic test statistic: Chi-square(1) = 7.50541 with p-value = 0.00615139					
<i>Hausman Test</i> Null hypothesis: GLS estimates are consistent Asymptotic test statistic: Chi-square(5) = 8.91291 with p-value = 0.112589					

GRETl provided output of the Breusch-Pagan and Hausman tests, which were used to determine the appropriateness of the specified model. The Breusch-Pagan test is a test for conditional heteroskedasticity and the results are used to establish whether a pooled OLS or random effects model would be a better option. The null hypothesis for the test is that there is no heteroskedasticity. If this null hypothesis is not rejected, the pooled OLS model would be considered the most appropriate. In the presence of conditional heteroskedasticity, the random-effects model is the best estimator of the regression equation since the coefficients and standard errors are always efficient and unbiased. In this case, the low p-value from the Breusch-Pagan test suggests that the random-effects estimator was indeed the best option.

The Hausman test tests the consistency of GLS random-effects estimates against fixed-effects estimates in order to determine which model would be preferable. A low p-value would suggest that the random-effects estimates are not consistent, in which case a fixed

effects model would be preferred. However, the results indicate that the random effects estimator was a better option than fixed effects estimators, suggesting that the output of the regression model was reliable.

With regard to the actual hypothesis, the null hypothesis stated that there is no relationship between political constraints and economic growth, or mathematically, that the correlation coefficient is equal to zero. The alternate hypothesis states that there is a sign positive correlation between political constraints and economic growth

$$H1A_0: \beta_{\text{Political Constraints}} = 0; H1A_1: \beta_{\text{Political Constraints}} > 0$$

Based on the GRETL output in Table 3, political constraints were, in fact, found to be positively correlated to economic growth, with a coefficient of 0.23 and p-value of 0.017. Therefore, the null hypothesis was rejected in favour of the alternate hypothesis that there is a positive correlation between political constraints and economic growth.

Hypothesis 1B: Political constraints and policy volatility

Hypothesis 1B sought to establish whether political constraints have an impact on policy volatility and, more specifically, whether higher political constraints help to reduce policy volatility.

Figure 4: Political constraints and policy volatility

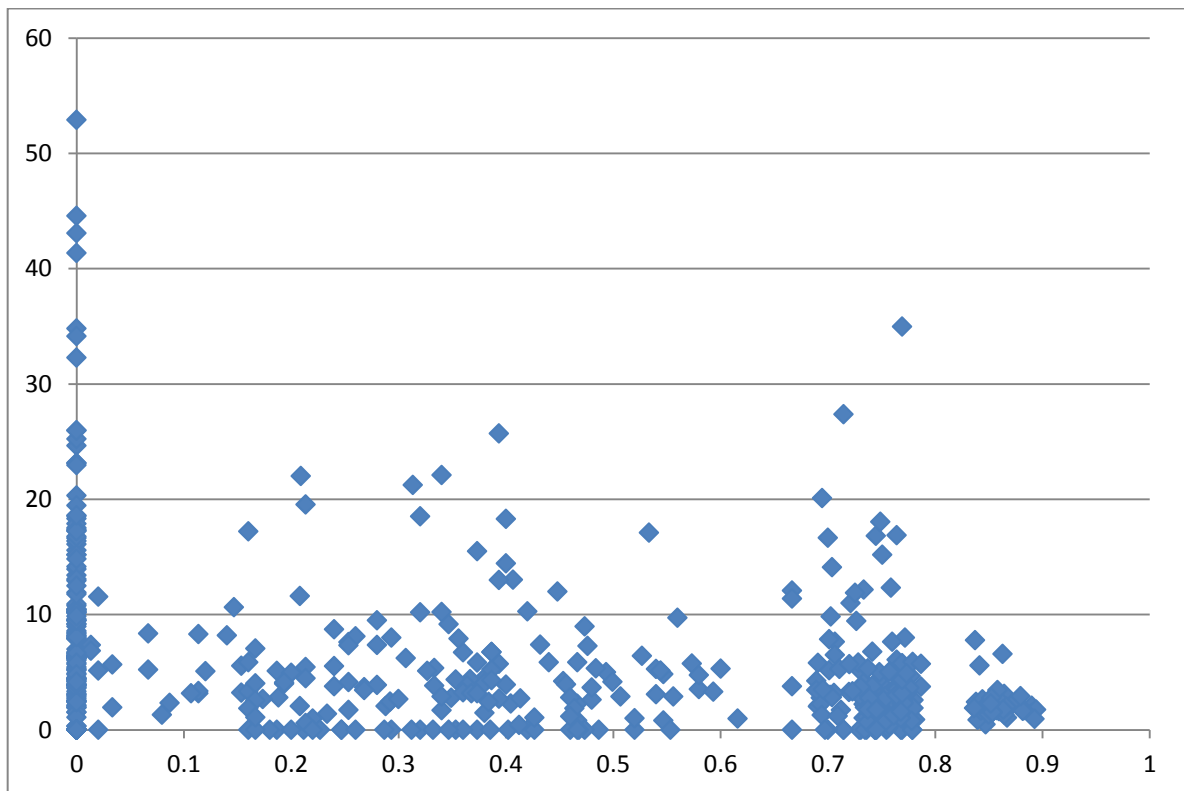


Figure 4 presents a scatterplot of the relationship between political constraints, plotted on the horizontal axis and policy volatility on the vertical axis. As was that case with Figure 3, there appears to be some clustering of observations at the very low and high ends of the political constraints spectrum. This, however, was not considered to be a threat to the validity of the statistical tests since there is still a significant number of observations in-between. What is most interesting to observe, is that barring a few outliers at the higher end, there appears to be higher volatility at lower levels of political constraints. This was tested through the regression model presented below.

Table 3 presents the results of the generalised least squares regression of political constraints against policy volatility, which included a control variable for Parliamentary

systems. That was in line with the approach taken by Fatás and Mihov (2012), which had controlled for majoritarian and presidential systems.

Table 3: Political constraints and policy volatility

Random-effects (GLS), using 324 observations					
Included 137 cross-sectional units					
Time-series length: minimum 1, maximum 3					
<i>Dependent variable: POLICY VOLATILITY</i>					
	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
const	12.657	1.18609	10.6712	<0.00001	***
Parliamentary	-3.09732	1.49095	-2.0774	0.03856	**
Political Constraints	-1.34224	0.411583	-3.2612	0.00123	***
R-Squared	0.1058355				
<i>Breusch-Pagan Test</i>					
Null hypothesis: Variance of the unit-specific error = 0					
Asymptotic test statistic: Chi-square(1) = 33.9874 with p-value = 5.54687e-009					
<i>Hausman Test</i>					
Null hypothesis: GLS estimates are consistent					
Asymptotic test statistic: Chi-square(2) = 4.20629 with p-value = 0.122072					

Once again, the low p-value of Breusch-Pagan test indicates the presence of conditional heteroskedasticity, which meant that the random-effects model was superior to the pooled OLS model since it could produce more efficient and unbiased estimates of the coefficients and standard errors. Furthermore, the high p-value from Hausman test results indicated that the random effects GLS estimates was consistent and was, therefore, a better option than the fixed-effects alternative.

The null hypothesis stated that there is no relationship between political constraints and policy volatility, or mathematically, that the correlation coefficient is equal to zero. The alternate hypothesis stated that there is a negative correlation between political constraints and policy volatility.

$$H1B_0: \beta_{\text{Political Constraints}} = 0; H1B_1: \beta_{\text{Political Constraints}} < 0$$

Political constraints were found to be negatively correlated to policy volatility, with a coefficient of -1.34 and p-value of 0.001 . Therefore, the null hypothesis was rejected in favour of the alternate hypothesis.

Hypothesis 1C: Policy volatility and economic growth

Hypothesis 1C tested the relationship between policy volatility and economic growth to determine whether lower volatility resulted in higher levels of growth.

Figure 5: Policy volatility and economic growth

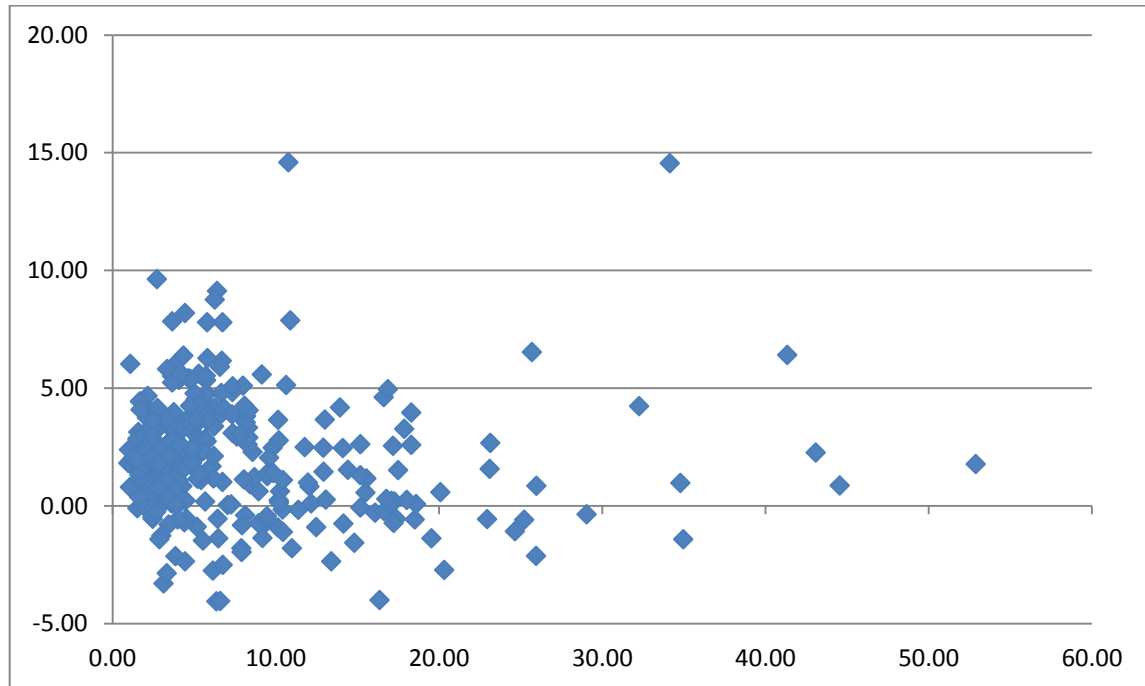


Figure 5 depicts the relationship between policy volatility along the horizontal axis and average economic growth along the vertical axis. This scatterplot specifically excluded an extreme outlier, which was identified as the Democratic Republic of Congo in the 1990s, where policy volatility was measured at 136%, compared to the average of 7% for the whole sample.

The results of the random-effects GLS regression of policy volatility against GDP growth are presented in Table 4 below. In this case, while the Breush-Pagan test indicates that the random-effects model was superior, the Hausman test suggests that a fixed-effects estimator would have provided more consistent estimates for the specified model. However, due to the inherent limitations of the fixed effects model, primarily its inability to capture the impact of variables that do not vary over time but vary between individuals, a decision was made to stick with the random-effect model.

Table 4: Policy volatility and economic growth

Random-effects (GLS), using 249 observations					
Included 91 cross-sectional units					
Time-series length: minimum 1, maximum 3					
<i>Dependent variable: AVERAGE GDP GROWTH</i>					
	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
const	4.13409	0.944063	4.3790	0.00002	***
Government Size	-0.817958	1.50178	-0.5447	0.58649	
Human Capital Index	1.63032	0.354032	4.6050	<0.00001	***
Investment Price Level	-0.178049	0.267682	-0.6652	0.50659	
Parliamentary	0.739351	0.332116	2.2262	0.02692	**
Log (GDP 1975)	-0.732262	0.144275	-5.0755	<0.00001	***
Policy Volatility	-0.0326277	0.0116068	-2.8111	0.00534	***
R-Squared	0.223993				
<i>Breusch-Pagan Test</i>					
Null hypothesis: Variance of the unit-specific error = 0					
Asymptotic test statistic: Chi-square(1) = 8.14484 with p-value = 0.00431839					
<i>Hausman Test</i>					
Null hypothesis: GLS estimates are consistent					
Asymptotic test statistic: Chi-square(5) = 9.27036 with p-value = 0.0987542					

The null hypothesis stated that there is no relationship between policy volatility and economic growth. The alternate hypothesis stated that there is a negative correlation between policy volatility and economic growth.

$$H1C_0: \beta_{\text{Policy Volatility}} = 0; H1C_1: \beta_{\text{Policy Volatility}} < 0$$

Policy volatility was found to be negatively correlated to economic growth, with a correlation coefficient of -0.03 and a p-value of 0.005. Therefore, the null hypothesis was rejected in favour of the alternate hypothesis.

Objective 2: Political decentralisation and growth

This research objective aimed to test the relationship between political decentralisation and economic growth. Having confirmed the relationships between political constraints, policy volatility and economic growth, research objectives two and three sought to add to the understanding of what is currently known.

The premise for this research objective was that decentralisation enhances political constraints since it facilitates the distribution of power amongst more players who are able to influence resource allocation decisions. Furthermore, there is potentially, greater accountability amongst local political actors than national actors due to proximity to the electorate, who are the beneficiaries of public goods and services whose distribution is influenced by the above-mentioned resource allocation decisions (World Bank, 2004). Therefore, as is the case with political constraints, there was an expectation that there should be a negative correlation between political decentralisation and economic growth. The results of the pooled OLS regression are summarised in Table 5 below.

Table 5: Political decentralisation and economic growth

Pooled OLS, using 41 observations, included 19 cross-sectional units Time-series length: minimum 1, maximum 3 <i>Dependent variable: AVERAGE GDP GROWTH</i> Robust (HAC) standard errors					
	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
const	6.85108	1.82809	3.7477	0.00073	***
Government Size	3.74657	2.67276	1.4018	0.17092	
Human Capital Index	0.467484	0.407864	1.1462	0.26049	
Investment Price Level	-0.34246	1.62011	-0.2114	0.83397	
Parliamentary	0.551306	0.406919	1.3548	0.18526	
Log (GDP 1975)	-0.66987	0.274771	-2.4379	0.02070	**
Policy Volatility	-0.136822	0.0327989	-4.1716	0.00023	***
Method of Appointment	1.20619	1.24406	0.9696	0.33977	
Local Authority	-1.22763	0.460378	-2.6666	0.01207	**
Representation	-0.519677	0.816817	-0.6362	0.52930	
R-squared	0.521368	Adjusted R-squared	0.382410		
F(9, 31)	3.751985	P-value(F)	0.002764		
<i>Breusch-Pagan Test Statistic</i> LM = 0.0183621 with p-value = prob(chi-square(1) > 0.0183621) = 0.892211 (A low p-value counts against the null hypothesis that the pooled OLS model is adequate, in favour of the random effects alternative.)					

The pooled OLS estimator was deemed to be the most suitable model in this case since the Breusch-Pagan test failed to reject the null hypothesis of homoscedasticity. This meant that the estimates of the coefficients and standard errors from the pooled OLS model were as efficient as those of the random-effects model. Nevertheless, the model was computed with robust standard errors to ensure that inferences made from the output would not be biased. The most important point to note, however, is that the measures of political decentralisation had many missing values which resulted in only 41 observations from 19 countries being included in the model.

Hypothesis 2A: Representation and economic growth

The null hypothesis stated that there is no relationship between representation and a country's economic growth while the alternate hypothesis stated that there is a positive correlation between representation and economic growth.

$$H2A_0: \beta_{\text{Representation}} = 0; H2A_1: \beta_{\text{Representation}} > 0$$

The representation variable was found to be negatively correlated with economic growth, with a coefficient of -0.51 and p-value of 0.53. Therefore, the null hypothesis was not rejected and the status quo assumption that representation does not directly influence economic growth continues to hold.

Hypothesis 2B: Method of appointment and economic growth

The null hypothesis stated that there is no relationship between the method of appointment and a country's economic growth. The alternate hypothesis stated that there is a positive correlation between the method of appointment and economic growth

$$H2B_0: \beta_{\text{Method of Appointment}} = 0; H2B_1: \beta_{\text{Method of Appointment}} > 0$$

The political decentralisation variable of method of appointment was found to be positively correlated with economic growth, with a coefficient of 1.2, albeit with a p-value of 0.34. Therefore, the null hypothesis was not rejected.

Hypothesis 2C: Local authority and economic growth

The null hypothesis stated that there is no relationship between local authority over taxation, spending & legislation and a country's economic growth while the alternate hypothesis stated that is a positive correlation between local authority and economic growth.

$$H2C_0: \beta_{\text{Local Authority}} = 0; H2C_1: \beta_{\text{Local Authority}} > 0$$

Local authority was found to be negatively correlated with economic growth, with a coefficient of -0.52 and p-value of 0.0012. Given the low p-value there appears to be a statistically significant relationship between local authority and economic growth, albeit with a negative correlation, contrary to what was expected through the specified alternate hypothesis. Consequently, the null hypothesis that there is no relationship between local authority and economic growth was rejected.

Objective 3: Political decentralisation & policy volatility

Research Objective 3 was an extension of the first two and aimed to test the relationship between political decentralisation and fiscal policy volatility. Previous research by Henisz (2004) and Fatás and Mihov (2012) had found that higher political constraints led to lower volatility. This research objective sought to build on these findings and establish whether the relationship between political decentralisation and economic growth was one that was perhaps, also mediated through policy volatility. The results of the pooled OLS regression are summarised in Table 6 below.

Table 6: Institutions and policy volatility

Pooled OLS, using 45 observations, included 21 cross-sectional units Time-series length: minimum 1, maximum 3 <i>Dependent variable: Policy Volatility</i> Robust (HAC) standard errors					
	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
const	13.6896	5.67504	2.4123	0.02053	**
Political Constraints	-0.297093	0.466865	-0.6364	0.52817	
Representation	-4.89345	2.32683	-2.1031	0.04180	**
Method of Appointment	0.0649123	4.44972	0.0146	0.98843	
Local Authority	-4.8542	1.57425	-3.0835	0.00370	***
R-squared	0.292671	Adjusted R-squared	0.221938		
F(4, 40)	4.137691	P-value(F)	0.006735		
<i>Breusch-Pagan Test Statistic</i> LM = 0.182645 with p-value = prob(chi-square(1) > 0.182645) = 0.66911 (A low p-value counts against the null hypothesis that the pooled OLS model is adequate, in favour of the random effects alternative.)					

The pooled OLS estimator was considered to be the most suitable model in this case since the Breusch-Pagan test failed to reject the null hypothesis of homoscedasticity. This meant that the estimates of the coefficients and standard errors from the pooled OLS model were as efficient as those of the random-effects model. Nevertheless, as was the case with research objective two, the model was computed using robust standard errors to ensure that inferences made from the output would not be biased. The variables that were tested had many missing values resulting in only 45 observations for 21 countries being included in the model.

Hypothesis 3A: Representation and policy volatility

The null hypothesis stated that there is no relationship between representation and policy volatility while the alternate hypothesis stated that there is a sign negative correlation between representation and fiscal policy volatility.

$$H3A_0: \beta_{\text{Representation}} = 0; H3A_1: \beta_{\text{Representation}} < 0$$

Representation was found to be negatively correlated with policy volatility, with a coefficient of -4.89 and p-value of 0.042. Therefore, the null hypothesis was rejected in favour of the alternate hypothesis.

Hypothesis 3B: Method of appointment and policy volatility

The null hypothesis stated that there is no relationship between the method of appointing municipal government and fiscal policy volatility. The alternate hypothesis stated that there is a negative correlation between the method of appointment and fiscal policy volatility.

$$H3B_0: \beta_{\text{Method of Appointment}} = 0; H3B_1: \beta_{\text{Method of Appointment}} < 0$$

Method of appointment was found to be positively correlated to policy volatility, with a coefficient of 0.06 and p-value of 0.98. Since the p-value was higher than the rejection level of 0.05, the null hypothesis was not rejected, indicating that there really is no relationship between the method of appointing municipal government and fiscal policy volatility.

Hypothesis 3C: Local authority and policy volatility

The null hypothesis stated that there is no relationship between local authority over taxation, spending & legislation and policy volatility. The alternate hypothesis stated that there is a negative correlation between local authority and policy volatility.

$$H3C_0: \beta_{\text{Local Authority}} = 0; H3C_1: \beta_{\text{Local Authority}} < 0$$

Local authority was found to be negatively correlated to economic growth, with a coefficient of -4.85 and p-value of 0.004. Therefore, the null hypothesis was rejected in favour of the alternate hypothesis that there is, in fact, a negative correlation between local authority and the national level of policy volatility.

Summary

Table 7 summarises the hypothesis tests that were conducted and their respective results.

Table 7: Summary of hypothesis tests

Objective 1: confirm the strength and direction of relationships between political constraints, policy volatility and economic growth	
ALTERNATE HYPOTHESIS	SUPPORTED OR REJECTED
1A: there is a positive relationship between political constraints and economic growth	Supported
1B: there is a negative correlation between political constraints and policy volatility	Supported
1C: there is a negative relationship between policy volatility and economic growth	Supported
Objective 2: establish whether political decentralisation may have a direct relationship with economic growth	
2A: there is a positive correlation between senator representation and country's level of economic growth.	Rejected
2B: there is a positive correlation between the method of appointing municipal governments and economic growth	Rejected
2C: there is a positive correlation between local authority over taxing, spending and legislating and a country's economic growth	Supported, but in the opposite direction than expected
Objective 3: establish whether political decentralisation can explain more of the variability in policy volatility	
3A: there is a negative correlation between senator representation and fiscal policy volatility	Supported
3B: there is a negative correlation between the method of appointing municipal governments and policy volatility	Rejected
3C: that there is a relationship between local authority over taxing, spending and legislating and policy volatility	Supported

CHAPTER 6: DISCUSSION OF RESULTS

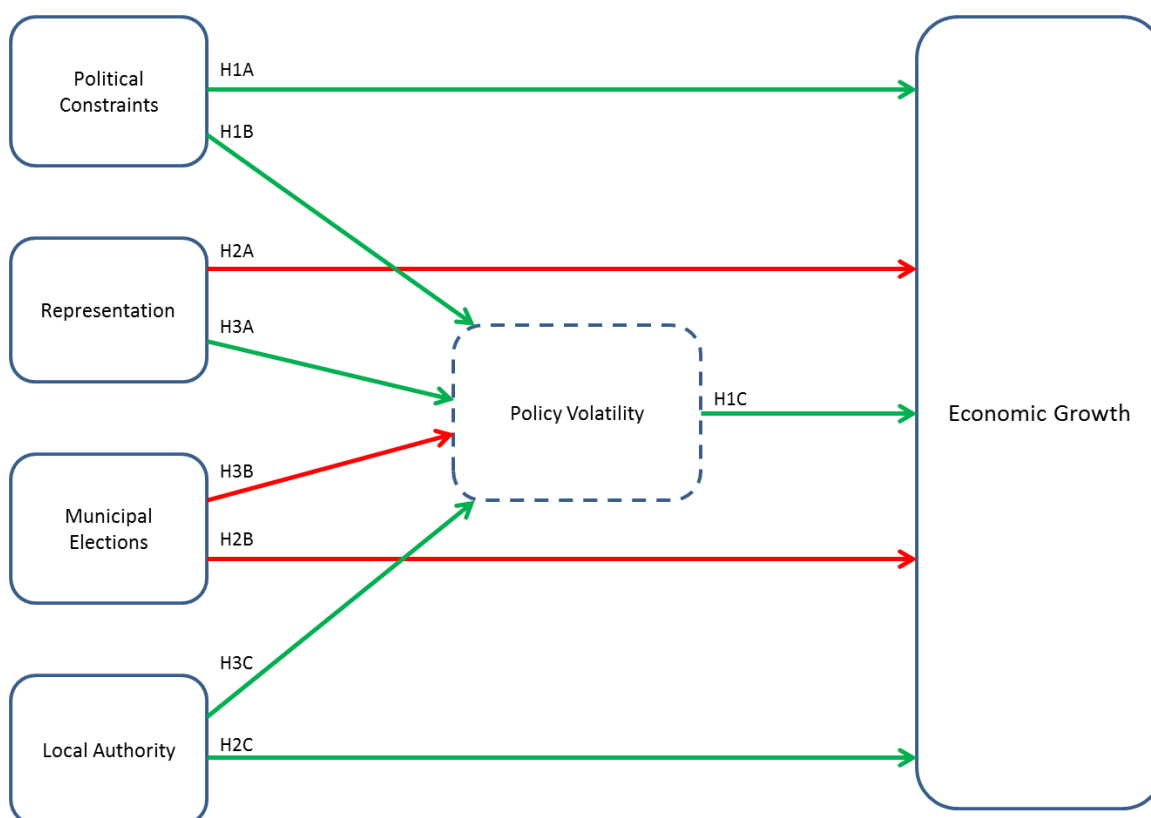
Overview

This chapter examines the research findings in greater detail and seeks to extract some insights into the relationship between political decentralisation, policy volatility and economic growth. This research project sought to establish the nature of the above-mentioned relationships through a three-step process that was summarised in the research objectives.

The first objective was to confirm previous findings which suggested that countries with higher political constraints experienced less volatility in fiscal policy and, as a result, also tended to experience higher levels of economic growth (Acemoglu *et al.*, 2003; Fatás & Mihov, 2012; Henisz, 2004). The second objective was to establish whether there was a direct relationship between selected measures of political decentralisation and economic growth. The third and final objective sought to establish whether political decentralisation could further explain fiscal policy volatility beyond what could already be explained through the relationship with political constraints and confirm whether fiscal policy volatility was the transmission mechanism between political decentralisation and economic growth.

The three research objectives were further decomposed into nine hypotheses, the results of which are graphically summarised in Figure 6 below. Green arrows indicate confirmed relationships while red arrows indicate relationships that were not confirmed through the hypotheses that were tested.

Figure 6: Decentralisation, volatility and growth



The remainder of this chapter discusses and interprets the research results using academic literature to provide some context to the discussion. Some concerns arising from the research results are also highlighted in this chapter.

The discussion of the results is laid out in order of the research objectives and hypotheses that were tested.

Objective 1: Political constraints, volatility and growth

The first objective of this study was to test the relationship between political constraints, fiscal policy volatility and economic growth. While Henisz (2000) had established that political constraints had an impact on economic growth, more recent literature suggested that the relationship may not be a direct one but rather one that was mediated through an effect on policy volatility (Acemoglu *et al.*, 2003; Fatás & Mihov, 2012). This research objective was designed to confirm the findings of the most recent researchers and serve as a baseline for further analysis. The objective was achieved through the testing of three hypotheses, the results of which are discussed below.

Hypothesis 1A: Political constraints and economic growth

Hypothesis 1A sought to confirm previous findings and determine whether political constraints have an impact on economic growth. The null hypothesis stated that there is no relationship between political constraints and economic growth. The alternate hypothesis was that there is a positive correlation between political constraints and economic growth.

This research hypothesis was tested using a random-effects generalised least squares estimation model. The p-value for political constraints in the model was 0.017, resulting in the null hypothesis being rejected in favour of the alternate hypothesis that there was a positive correlation between political constraints and economic growth. The regression model presented in Table 2 had an R^2 of 0.215, meaning that the model could explain 21.5% of the variation in average GDP growth. While this may not seem like a high number, considering the multitude of factors that can affect GDP growth, it is probably very realistic. It is important to note that these findings are consistent with Henisz (2000) who also developed a model using generalised least squares that had an adjusted R^2 of 0.21.

The correlation coefficient of 0.23 for political constraints from the results of this hypothesis test implies that a one standard deviation improvement in political constraints could result in a 0.23% increase in real GDP growth. While this figure falls outside the range of 0.5% to 0.9% that was estimated by Henisz (2000), there is really no cause for alarm. Firstly, Henisz (2000) used five-year panels between 1960 and 1990 while this study used 10 year panels from 1980 to 2010. Secondly, the range estimated by Henisz (2000) also included coefficients calculated using ordinary least squares and generalised methods of moments estimations. Thirdly, and probably most importantly, the control variables used in the studies differed slightly in their composition, which invariably impacted the outcomes.

Considering these factors, it is encouraging to see the results of this study confirming previous findings since they help to build confidence in the data collected, the variables that were computed and the chosen methods of analysis. This confidence must, however, be tempered by the recognition that while the results of this hypothesis indicate that there is a relationship between political constraints and economic growth, they still do not explain the transmission mechanism. Amongst others, Fatás and Mihov (2012) have theorised that political constraints help to reduce fiscal policy volatility, which in turn leads to higher economic growth. This theory was tested through hypotheses 1B and 1C.

Hypothesis 1B: Political constraints and policy volatility

Hypothesis 1B sought to confirm whether political constraints have an impact on policy volatility. This research hypothesis was informed by the research of Acemoglu *et al.* (2003), Henisz (2004) and Fatás and Mihov (2012) who were able to establish a direct theoretical link between political constraints and policy volatility and between volatility and economic growth. This relationship is summarised in Figure 2.

The null hypothesis was that there is no relationship between political constraints and fiscal policy volatility while the alternate hypothesis stated that there was a negative correlation between political constraints and policy volatility.

A random-effects generalised least squares estimation model was used to test this hypothesis. The results, which are presented in Table 3, indicated a p-value of 0.001 for political constraints and a correlation coefficient of -1.34, resulting in the null hypothesis being rejected in favour of the alternate hypothesis that political constraints help to reduce volatility in fiscal policy. The findings, in terms of the direction and significance of the relationship between political constraints and fiscal policy volatility, were consistent with those of Fatás and Mihov (2012).

The derived model had an R^2 of 10.5%, which was significantly lower than the 38% from the Fatás and Mihov (2012) study but in line with Acemoglu *et al.* (2003), who had studied the impact of various institutional variables on output volatility. The differences between this study and that conducted by Fatás and Mihov (2012) can be explained by the fact that the testing of this hypothesis incorporated 324 observations while Fatás and Mihov (2012) only assessed 83 observations. The construction of the dataset was also very different since this study used 10 year panels between 1980 and 2010 while Fatás and Mihov (2012) had only one observation per country, with volatility and growth being averaged over 37 years between 1970 and 2007.

A key take-away from the results of this hypothesis test stems from the differences highlighted above. Despite the slow-changing nature of political institutions, the effects of changes in institutions can be observed in relatively short periods of time. What these results indicate is that significant reductions in fiscal policy volatility stemming from changes in political constraints can be observed in as little as 10 years, which is markedly

different from the 37 year period tested by Fatás and Mihov (2012). This is significant, especially if lower volatility further translates into improvements in economic growth.

Hypothesis 1C: Policy volatility and economic growth

Hypothesis 1C tested the relationship between policy volatility and economic growth. The null hypothesis was that there is no relationship between fiscal policy volatility and economic growth. The alternate hypothesis was that there is a negative correlation between fiscal policy volatility and economic growth. Hypothesis 1C was particularly important because, having proven through the previous two hypotheses that political constraints impact both volatility and economic growth, this hypothesis also sought to determine whether volatility explains more of the variability in economic growth than political constraints did.

Once again, a random-effects generalised least squares estimation model was used to test the hypothesis. The results of the test are presented in Table 4 and the p-value of 0.005 indicates that the negative correlation between policy volatility and GDP growth is statistically significant. The null hypothesis was therefore rejected in favour of the alternate hypothesis. This result was consistent with Fatás and Mihov (2012) in terms of the direction and significance of the relationship between fiscal policy volatility and economic growth.

This derived model had an R^2 of 22.4%, which compared favourably to the model specified in hypothesis 1A that had an R^2 of 21.5%. The difference is not large although it does indicate that fiscal policy volatility explains more variation in economic growth than political constraints. Furthermore, the theoretical foundations that define the relationship between volatility and growth are a lot stronger than they are for the relationship between political constraints and economic growth, which makes inferences made from the findings a lot more palatable.

More importantly, however, establishing that volatility is negatively correlated to growth helps to prove the theoretical model depicted in Figure 2, which confirms the work of Acemoglu *et al.* (2003), Henisz (2004) and Fatás and Mihov (2012) and adds credibility to the theory that higher political constraints lead to lower policy volatility and higher economic growth. The relationship between volatility and growth is one that becomes

particularly important since it forms the basis for explaining how other political institutions may impact economic growth.

This research project sought to build on this very foundation by trying to determine whether political decentralisation can be shown to explain more of the variation in policy volatility than political constraints alone. By explaining more of the variation in policy volatility, it logically follows that political decentralisation also explains more of the variation in economic growth, with fiscal policy volatility being the transmission mechanism. Before pursuing this idea, however, it was necessary to determine whether political decentralisation had a direct relationship with economic growth.

Summary

The first objective of this research project was to confirm the findings of recent researchers who have suggested that political institutions may not impact economic growth directly, but rather affect growth through fiscal policy volatility. This objective was achieved by testing three hypotheses which examined the relationships between political institutions measured using the political constraints variable, fiscal policy volatility and economic growth.

The findings from this research objective fully supported what has been documented in the academic literature, most notably by Fatás and Mihov (2012). The hypotheses tested proved that both political constraints and policy volatility impact economic growth, although policy volatility actually explained more of the variation in economic growth than political constraints did.

The three hypotheses together proved that higher political constraints lead to lower volatility in fiscal policy which, in turn, results in higher economic growth.

Objective 2: Political decentralisation and growth

The second objective of this study was to develop a better understanding of how political decentralisation affects economic growth by determining whether there was a direct relationship or correlation between the variables chosen as proxies for decentralisation and changes in GDP. This research objective was inspired by Luiz (2009) who suggested that designing institutions that are more inclusive could help to accelerate and sustain economic growth. Underlying this was the argument by Acemoglu *et al.* (2005) that institutions shape the incentives of the actors in society and also influence investment decisions and the organisation of production.

Further to the above, this research objective was formulated based on the premise that political decentralisation enhances the effects of political constraints since decentralisation results in power being distributed to more players who are able to influence resource allocation decisions. Having considered the work of Iimi (2005), there was an expectation that the decentralisation of decision making would lead to greater efficiency in the delivery of public services which, in turn, would result in improved economic performance at the national level.

The variables that were used to measure decentralisation were senators' representation of constituencies, the method of appointing municipal governments and local authority over taxation, spending and legislating. As highlighted in chapter four, the selection of these variables, which ostensibly describe the structural design of some political institutions, was informed by Henisz (2000) who suggested that political and economic outcomes are the products of a struggle within an institutional structure. Furthermore, this approach does not represent a departure from current norms since there are several other variables that are used in academic research that assess the impact of institutional structures, political constraints being one such example. Since political decentralisation was considered a logical extension of political constraints, there was an expectation that the respective measures would display similar behaviour.

This research objective was achieved by testing three research hypotheses which are discussed below. The hypotheses tested the relationships between the above-mentioned variables and economic growth.

Hypothesis 2A: Representation and economic growth

Representation is a variable used to indicate whether senators represent constituencies within the states or provinces (Beck *et al.*, 2001). This variable was considered an important indicator for decentralisation because it indicates the presence of local/regional actors within national political structures, in this case, the legislature. Furthermore, given that such senators would be elected by the constituencies that they represent as opposed to being centrally appointed, a reasonable inference can be made that such senators would represent regional or local interests in national forums instead of only representing narrow political party interests (World Bank, 2004). Following the logic of the Oates Decentralisation Theorem, this representation of regional or local interests at national level could lead to more efficient and equitable resource allocation decisions which would benefit regions individually and nations as a whole (Iimi, 2005).

The null hypothesis was that there is no relationship between representation and economic growth. The alternate hypothesis stated that there is a positive correlation between representation and economic growth.

A pooled ordinary least squares (OLS) regression model was used to test this hypothesis; the results are presented in Table 5. Not only do the results indicate a negative correlation, the p-value of 0.53 indicates that the relationship between representation and economic growth is not significant. Therefore, the null hypothesis was not rejected and the conclusion made was that there is no direct relationship between representation and economic growth.

This finding is one that was not particularly difficult to accept. The theoretical underpinnings for the hypothesis were rationally sound but the data accumulated and studies conducted thus far have produced mixed results (Baskaran & Feld, 2013; Enikolopov & Zhuravskaya, 2007). Furthermore, as is the case with political constraints, there appears to be a strong case that can be made that there may be a transmission mechanism between representation and economic growth. Building on the work of Henisz (2004), Acemoglu *et al.* (2003) and Fatás and Mihov (2012), policy volatility was tested as the possible transmission mechanism in hypothesis 3A, which is discussed later in this chapter.

Hypothesis 2B: Method of appointment and economic growth

Method of appointment is an indicator of whether municipal governments are locally elected or appointed, where they do exist (Beck *et al.*, 2001). The presence and inclusion of this variable in the study is important for two reasons. Firstly, it is an indicator of whether there is any form of municipal government, which in itself indicates that there is, at least, a nominal level of decision making authority that has been delegated to managers at sub-national levels. Secondly, elected municipal governments signal the inclusiveness that Luiz (2009) suggested could help to accelerate and sustain growth. It also implies a degree of accountability since citizens who are the beneficiaries of services delivered by such municipal governments are able hold elected municipal governments to account through the ballot (World Bank, 2004). One, therefore, expects that countries where municipalities have elected managers would tend to make better resource allocation decisions which would impact growth positively.

The null hypothesis was that there is no relationship between the method of appointment and economic growth. The alternate hypothesis was that there is a positive correlation between the method of appointment and economic growth. The results presented in Table 5 indicate a positive correlation between the method of appointment and economic growth although the p-value of 0.34 indicates that the relationship is not statistically significant. Therefore, the null hypothesis was not rejected and the prevailing view that the method of appointing municipal governments does not impact economic growth continues to hold.

This particular finding should not be taken to mean that the presence or role of local government is inconsequential. Indeed, hypothesis 2C goes on to test whether decision making authority at provincial government level impacts national economic growth positively. It is worth noting that a previous study had found that countries with more elected tiers of government generally experience lower levels of economic growth (Bodman, 2011). While the findings from this research hypothesis do not necessary support Bodman (2011), they also do not serve to contradict his findings.

There is a potential risk that findings like this one could be used to undermine the forward march of democratic reform, especially by authoritarian regimes that would seek to arrogate the appointment of public officials to themselves. The perils of such thinking are beyond the scope of this paper but it should suffice to state that the ideals of inclusiveness expressed by Luiz (2009) and others are better being supported than undermined. While

the method of appointing municipal government may not directly impact economic growth, the notion of elected municipal government still speaks strongly to the concept of a credible commitment by governments not to interfere with private property rights, a necessary ingredient for economic growth (Henisz, 2000).

Hypothesis 2C: Local authority and economic growth

Local authority is an indicator of whether states or provinces have any authority in terms of raising taxes, making spending or resource allocation decisions and legislating (Beck *et al.*, 2001). As a measure of decentralisation it is invaluable, perhaps more so than the other two previously discussed measures. This is because local authority is, in many ways, an indicator of citizen empowerment and demonstrates that local authorities have been entrusted with a great deal of decision making authority. Having been entrusted with such power, a question that arises is whether the decisions made by local authorities are, in fact, the most optimal and whether they result in higher economic growth (Iimi, 2005). This question suggests that local authority is probably one of the best variables that can be used to prove or disprove the Oates Decentralisation Theorem (Iimi, 2005).

The null hypothesis stated that there is no relationship between local authority and economic growth. The alternate hypothesis was that there is a positive correlation between local authority and economic growth. The pooled OLS model in Table 5 was used to test this hypothesis. The results were rather surprising since the test established a negative correlation, with a coefficient of -1.23 and a p-value of 0.012. As a result, the null hypothesis that there is no relationship between local authority and economic growth was rejected. Given the negative sign of the correlation coefficient, the support for the alternate hypothesis was in the opposite direction from what was expected.

The findings of this hypothesis test were unexpected but quite instructive. A positive correlation was expected because the measures of political decentralisation were expected to behave in a similar manner to political constraints as tested in hypothesis 1A. Furthermore, as suggested by Iimi (2005), there was an expectation that decision making authority vested in local managers, especially as it relates to resource allocation, would lead to better decisions being made and economic growth being enhanced. Contrary to expectations, the finding of a negative correlation lends some weight to the argument made by Im (2010) who suggested that there is a negative relationship between political decentralisation and economic growth.

The above finding also brings into focus the assertions by Fan *et al.* (2009) and Im (2010) who, in establishing negative relationships between decentralisation and growth, suggested that countries with more government tiers tend to witness more incidents of bribe extraction by government officials due to the dispersion of administrative capacity that increases the number of local actors that are more vulnerable to corruption. What is further implied in the views expressed by Fan *et al.* (2009) and Im (2010) is that sub-national governments do not attract the most talented administrators and this negates the opportunity for more optimal decision making and enhanced economic growth as suggested by Iimi (2005).

Summary

The second objective of this research project was to develop a better understanding of how political decentralisation affects economic growth. This was achieved by testing the relationships between economic growth and senators' representation of constituencies, the method of appointing municipal government and local authority over taxation, spending and legislating. What has been established through the analysis is that there is no direct relationship between representation and economic growth or between the method of appointing municipal governments and economic growth. The analysis revealed a negative correlation between local authority and economic growth.

The findings of this research objective support the growing body of literature that suggests that political institutions do not directly impact economic growth. However, the finding of a negative relationship between local authority and economic growth supports the opponents of political decentralisation who have suggested that decentralisation actually retards growth due to the dispersion of administrative capacity and the introduction of local actors who are more vulnerable to bribery and corruption (Fan *et al.*, 2009; Im, 2010). This finding also contracts the Oates Decentralisation Theorem which suggests that decentralisation should lead to improved decision making and higher economic growth (Iimi, 2005).

Objective 3: Political decentralisation & policy volatility

The third objective of this research project was to add some depth to the findings from the previous two research objectives by determining whether fiscal policy volatility was the transmission mechanism between political decentralisation and economic growth. This was largely informed by the work of Acemoglu *et al.* (2003), Henisz (2004) and Fatás and Mihov (2012), with the guiding premise being that political decentralisation enhances the effects of political constraints and should, therefore, also have the effect of reducing fiscal policy volatility.

This research objective was achieved by testing the three hypotheses discussed below which examine the relationship between political decentralisation and fiscal policy volatility. Senators' representation of constituencies, the method of appointing municipal governments and local authority over taxation, spending and legislating were, once again, used as proxies for political decentralisation.

Hypothesis 3A: Representation and policy volatility

Given the expectation that variables that measure political decentralisation should behave in a similar manner to political constraints, this research hypothesis sought to determine whether representation led to lower fiscal policy volatility. The null hypothesis stated that there is no relationship between representation and policy volatility while the alternate hypothesis stated that there is a negative correlation between representation and fiscal policy volatility.

The hypothesis was tested using a pooled OLS regression model. The results presented in Table 6 showed a correlation coefficient of -4.9 for representation with a p-value of 0.04. As a result, the null hypothesis was rejected in favour of the alternate hypothesis that there is a negative correlation between representation and fiscal policy volatility.

Given that representation is a categorical variable, the correlation coefficient of -4.9 implies that in countries where the senators represent constituencies, such countries experience almost 5% less volatility in fiscal policy than countries where senators are not elected by constituencies. Considering the results of hypothesis 1C which found that lower fiscal policy volatility leads to higher economic growth, it follows that the lower volatility in the above-mentioned countries should contribute to higher levels of economic growth.

Hypothesis 3B: Method of appointment and policy volatility

Hypothesis 3B sought to test the relationship between the method of appointing municipal governments and volatility in fiscal policy. The null hypothesis stated that there is no relationship between the method of appointment and fiscal policy volatility. The alternate hypothesis was that there is a negative correlation between the method of appointment and fiscal policy volatility.

The pooled OLS regression model presented in Table 6 was used to test this hypothesis. While the method of appointment had a positive coefficient, the p-value of 0.98 was a clear indication that there is no relationship between the method of appointment and fiscal policy volatility. Consequently, the null hypothesis was not rejected.

Read together with the earlier finding from hypothesis 2B that the method of appointment does not impact economic growth, it would seem that the method of appointment is of no consequence as far as economic outcomes are concerned. Henisz (2000) had suggested that political and economic outcomes are the product of struggle within an institutional structure. The process of electing municipal government would seem, intuitively, to be a decent proxy for such struggle and one could be forgiven for expecting that this would lead to improved outcomes, regardless of whether this was through reduced volatility or higher economic growth.

Hypothesis 3C: Local authority and policy volatility

Hypothesis 3C was intended to establish the nature of the relationship, if any, between local authority over taxation, spending and legislating and fiscal policy volatility. The null hypothesis stated that there is no relationship between local authority and fiscal policy volatility. The alternate hypothesis stated that there is a negative correlation between local authority and fiscal policy volatility.

This hypothesis was tested with the pooled OLS model presented in Table 6. The correlation coefficient for local authority was -4.85, with a p-value of 0.003. Therefore, the null hypothesis was rejected in favour of the alternative hypothesis that there is a negative correlation between local authority and fiscal policy volatility.

The correlation coefficient of -4.85 suggests that in countries where provincial governments have authority to decide on taxation, spending and legislating, such countries

experience almost 5% less volatility in fiscal policy. One way to interpret this finding is by considering that it is possible that in countries where taxes can be raised at provincial level, there would be a reduced tendency to skew the allocation of funding away from certain regions and towards others. Furthermore, the certainty in revenue flow for provincial governments may also reduce the inclination to make haphazard spending decisions, resulting in less volatility. In environments where taxation and spending decisions are made at multiple levels, there would also be less scope for national governments to allocate funds to white elephant or vanity projects that are often the source of much of the volatility in fiscal policy (Fatás & Mihov, 2012).

Summary

By testing the relationships between the selected measures of political decentralisation and their effect on fiscal policy volatility, what has been established is that representation and local authority are negatively correlated with fiscal policy volatility. This research objective has established that in countries where senators represent constituencies, fiscal policy volatility should be approximately 5% lower. This also applies to countries where state or provisional governments have authority over taxation, spending and legislating. This implies that countries that have adopted both decentralisation measures should experience a reduction of nearly 10% in policy volatility

It is interesting to observe that the model derived in Table 6 could explain 22.2% of the variation in policy volatility, compared to the earlier model in Table 3 that only had an R^2 of 10.6%. It indicates that the chosen proxies for political decentralisation explained more of the variation in fiscal policy volatility than political constraints. Furthermore, in the later model, the sign for political constraints remained negative but the p-value rose to 0.53, meaning that its impact on policy volatility became statistically insignificant. This raises questions about the robustness of political constraints as a predictor of policy volatility.

The findings of this research objective contributed to the academic literature by deepening the understanding how political decentralisation impacts economic growth through a relationship with fiscal policy volatility. This builds on the work of Henisz (2004), Acemoglu *et al.* (2003) and Fatás and Mihov (2012) who had suggested that political constraints impact economic growth through their effect of reducing volatility.

Conclusion

Having confirmed through the first research objective that political constraints reduce fiscal policy volatility which leads to higher economic growth, this project then set about the task of determining whether political decentralisation impacts economic growth directly or indirectly through a relationship with fiscal policy volatility.

The analysis of the results uncovered some interesting details. Firstly, the method of appointing municipal governments was found to have statistically insignificant relationships with economic growth and fiscal policy volatility. While this suggests that the method of appointment is not an important factor, the other findings from this research serve to underscore the general importance of political decentralisation.

Senators' representation of constituencies did not have a statistically significant relationship with economic growth although it was found to have the effect of reducing fiscal policy volatility by almost 5%. Local authority also had a similar effect on policy volatility. While some work has gone into demonstrating that political constraints reduce volatility, it was interesting to observe that the relationship between political constraints and fiscal policy volatility became statistically insignificant when included in a model that incorporated measures of political decentralisation.

It is worth reiterating at this point that this research project was built on the foundation of earlier work which suggested that political constraints help to reduce fiscal policy volatility while the reduced volatility leads to higher levels of economic growth. This research project uncovered an unexpected lack of robustness when political constraints were included as a control variable in testing the relationship between political decentralisation and fiscal policy volatility. There are no answers at this point as to why this came to be the case although it does suggest that further analysis of the overall impacts of political constraints on economic outcomes may still be warranted.

The most unexpected finding was the negative correlation between local authority and economic growth. As discussed, this lends some weight to the work of Im (2010) and Fan *et al.* (2009), even though their suggestion that the negative relationship was the result of increased bribery and corruption could not be tested with the data that was collected.

CHAPTER 7: CONCLUSION

Summary of findings

The aim of this research project was to understand the impact that political decentralisation has on economic growth and whether the relationship is one that is direct or one mediated through fiscal policy volatility. Due to the lack of a single universally accepted measure for political decentralisation, senators' representation of constituencies, the method of appointing municipal governments and local authority over taxation, spending and legislating were used as proxies for political decentralisation.

The results firstly showed that political decentralisation cannot be assessed as a single monolithic entity and each component or building block is probably best being examined individually. This is because of the different impacts that each of the components had on economic growth and fiscal policy volatility.

In an effort to confirm the work of earlier researchers, this research project established a negative correlation between political constraints and fiscal policy volatility and a negative correlation between fiscal policy volatility and economic growth. This essentially proved that political constraints led to lower policy volatility while lower volatility resulted in higher economic growth. These results served as the baselines for further analysis.

Senators' representation was found to have no effect on economic growth but was shown to be negatively correlated with fiscal policy volatility. The method of appointment had no effect on economic and no effect on fiscal policy volatility. Finally, local authority was found to be negatively correlated with both economic growth and fiscal policy volatility.

From the analysis that was done, political constraints, which have been the bedrock for studies into political institutions for over a decade, showed a surprising lack of robustness when included as a control variable in assessing the relationship between political decentralisation and policy volatility. While the sign of the coefficient remained negative, the relationship became statistically insignificant. This does not necessarily take away from the importance of the political constraints construct, although it does suggest a need for further study.

Recommendations for policy makers & public officials

Countries that are looking to improve their economic growth prospects should look to make reforms that favour political decentralisation through increased representation of regional constituencies' interests in national legislatures and the delegation of decision making relating to resource allocation to lower tiers of government. Based on the research findings, there is a reasonable expectation that such reforms would help to reduce fiscal policy volatility and lead to higher economic growth.

While this project's assessment of senators' representation indicates that constituency representation in the upper house of parliament would help to reduce policy volatility, there is no reason to believe that this would not extend to lower houses of parliament. It is rather unfortunate that data was not readily available to test this proposition. With that said, for countries like South Africa where politicians are still grappling with whether constituency based systems would lead to greater accountability by politicians (SAPA, 2013), the findings of this research should give some pause for thought.

The finding of a negative correlation between local authority and economic growth raised some concerns around bribery, corruption and whether lower tiers of government are able to attract the right talent for ensuring effective service delivery (Fan *et al.*, 2009; Im, 2010). With this in mind, perhaps public officials should consider taking lessons from the private sector and introduce measures that would help sub-national governments increase their intellectual and productive capacity. Such measures may include simplifying and clarifying processes, policies and procedures, ensuring that officials meet minimum qualification standards and building proper checks and balances into procurement processes.

Recommendations for future research

A major limitation of this study was a shortage of data, especially for the measures of political decentralisation. Future researchers should consider repeating this study with a fuller dataset that includes a broader spectrum of countries across income level and geographic regions. The inferences made from such a study would certainly be a lot stronger.

Future research should also look to assess political decentralisation in a bit more depth by looking at additional variables such as constituency representation in lower houses of

parliament and further delegation of taxation and spending authority beyond provincial or state levels to municipal levels. There may be a temptation to develop a single, composite index for decentralisation, although the differing behaviours displayed by variables used in this study suggest that this may be a difficult task.

This study, inspired by the work of Henisz (2004), Acemoglu *et al.* (2003) and Fatás and Mihov (2012) has shown that the path from reform to economic growth is not always direct. Therefore, instead of focusing only on factors that impact growth directly, researchers should seek to develop a better understanding of inter-relations amongst some of the factors that are often tested. For example, testing the relationship between political constraints and foreign direct investment may yield some insight that could help to unlock the potential of economic stragglers.

Concluding statement

This research project sought to uncover the relationship between political decentralisation and economic growth. By using the structural composition of certain political institutions as proxies for decentralisation, this research project has shown that decentralisation helps to reduce volatility in fiscal policy which leads to higher economic growth.

However, not all the variables used to measure decentralisation displayed similar behaviour. Indeed, the method of appointing provincial government had no effect on volatility or growth, suggesting that for these economic outcomes, whether municipal governments are elected or appointed is of no consequence. This is not encouraging for proponents of democratic reform. Local authority had negative correlations with both fiscal policy volatility and economic growth, which may raise questions about whether the effects cancel each other out and what interventions can be made in order to manage the risks of political decentralisation.

Having stated the above, the findings of this research are largely tilted in favour of political decentralisation, although further study is still required.

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APPENDIX A: COUNTRIES IN STUDY

Table 8: List of Countries in Study

Region	Country	Income Group
East Asia & Pacific	Australia	High income: OECD
	Brunei Darussalam	High income: non-OECD
	Cambodia	Low income
	China	Upper middle income
	Fiji	Upper middle income
	Indonesia	Lower middle income
	Japan	High income: OECD
	Korea, Rep.	High income: OECD
	Lao PDR	Lower middle income
	Malaysia	Upper middle income
	Mongolia	Lower middle income
	New Zealand	High income: OECD
	Philippines	Lower middle income
	Singapore	High income: non-OECD
	Thailand	Upper middle income
Vietnam	Lower middle income	
Europe & Central Asia	Albania	Upper middle income
	Armenia	Lower middle income
	Austria	High income: OECD
	Azerbaijan	Upper middle income
	Belarus	Upper middle income
	Belgium	High income: OECD
	Bosnia and Herzegovina	Upper middle income
	Bulgaria	Upper middle income
	Croatia	High income: non-OECD
	Cyprus	High income: non-OECD
	Czech Republic	High income: OECD
	Denmark	High income: OECD
	Estonia	High income: OECD
	Finland	High income: OECD
	France	High income: OECD
	Georgia	Lower middle income
	Germany	High income: OECD
	Greece	High income: OECD
Hungary	Upper middle income	
Iceland	High income: OECD	

Region	Country	Income Group
	Ireland	High income: OECD
	Italy	High income: OECD
	Kazakhstan	Upper middle income
	Kyrgyz Republic	Low income
	Latvia	High income: non-OECD
	Lithuania	High income: non-OECD
	Luxembourg	High income: OECD
	Macedonia, FYR	Upper middle income
	Moldova	Lower middle income
	Netherlands	High income: OECD
	Norway	High income: OECD
	Poland	High income: OECD
	Portugal	High income: OECD
	Russian Federation	High income: non-OECD
	Slovenia	High income: OECD
	Spain	High income: OECD
	Sweden	High income: OECD
	Switzerland	High income: OECD
	Tajikistan	Low income
	Turkey	Upper middle income
	Turkmenistan	Upper middle income
	Ukraine	Lower middle income
	United Kingdom	High income: OECD
	Uzbekistan	Lower middle income
Latin America & Caribbean	Argentina	Upper middle income
	Bahamas, The	High income: non-OECD
	Barbados	High income: non-OECD
	Belize	Upper middle income
	Bolivia	Lower middle income
	Brazil	Upper middle income
	Chile	High income: OECD
	Colombia	Upper middle income
	Costa Rica	Upper middle income
	Dominican Republic	Upper middle income
	Ecuador	Upper middle income
	El Salvador	Lower middle income
	Grenada	Upper middle income
	Guatemala	Lower middle income
	Honduras	Lower middle income
	Jamaica	Upper middle income

Region	Country	Income Group
	Mexico	Upper middle income
	Panama	Upper middle income
	Paraguay	Lower middle income
	Peru	Upper middle income
	St. Lucia	Upper middle income
	Suriname	Upper middle income
	Trinidad and Tobago	High income: non-OECD
	Uruguay	High income: non-OECD
	Venezuela, RB	Upper middle income
Middle East & North Africa	Bahrain	High income: non-OECD
	Djibouti	Lower middle income
	Egypt, Arab Rep.	Lower middle income
	Iran, Islamic Rep.	Upper middle income
	Iraq	Upper middle income
	Israel	High income: OECD
	Jordan	Upper middle income
	Kuwait	High income: non-OECD
	Lebanon	Upper middle income
	Malta	High income: non-OECD
	Morocco	Lower middle income
	Oman	High income: non-OECD
	Qatar	High income: non-OECD
	Saudi Arabia	High income: non-OECD
	Syrian Arab Republic	Lower middle income
Tunisia	Upper middle income	
Yemen, Rep.	Lower middle income	
North America	Canada	High income: OECD
	United States	High income: OECD
South Asia	Bangladesh	Low income
	Bhutan	Lower middle income
	India	Lower middle income
	Maldives	Upper middle income
	Nepal	Low income
	Pakistan	Lower middle income
	Sri Lanka	Lower middle income
Sub-Saharan Africa	Angola	Upper middle income
	Benin	Low income
	Botswana	Upper middle income
	Burkina Faso	Low income
	Burundi	Low income

Region	Country	Income Group
	Cameroon	Lower middle income
	Cape Verde	Lower middle income
	Central African Republic	Low income
	Chad	Low income
	Comoros	Low income
	Congo, Rep.	Lower middle income
	Cote d'Ivoire	Lower middle income
	Equatorial Guinea	High income: non-OECD
	Ethiopia	Low income
	Gabon	Upper middle income
	Gambia, The	Low income
	Ghana	Lower middle income
	Guinea	Low income
	Guinea-Bissau	Low income
	Kenya	Low income
	Lesotho	Lower middle income
	Liberia	Low income
	Madagascar	Low income
	Malawi	Low income
	Mali	Low income
	Mauritania	Lower middle income
	Mauritius	Upper middle income
	Mozambique	Low income
	Namibia	Upper middle income
	Niger	Low income
	Nigeria	Lower middle income
	Rwanda	Low income
	Senegal	Lower middle income
	Sierra Leone	Low income
	South Africa	Upper middle income
	Sudan	Lower middle income
	Swaziland	Lower middle income
	Tanzania	Low income
	Togo	Low income
	Uganda	Low income
	Zambia	Lower middle income
	Zimbabwe	Low income