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The Impact of Fiscal Decentralization on Accountability, Economic Freedom, and Political and Civil Liberties in the Americas

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Received: 4 October 2017; Accepted: 22 January 2018; Published: 1 February 2018

Abstract: This paper analyzes the impact of fiscal decentralization on accountability, economic freedom, and political and civil liberties in the Americas. The findings indicate that decentralization initially hampers but eventually enhances accountability and political and civil liberties, in line with the hypothesized positive correlation between greater fiscal autonomy and a more inclusive, participatory government. The impact of fiscal decentralization on economic freedom, however, runs counter to expectations. Decentralization seems to initially bolster freedom, but it eventually constrains it, proving that greater accountability and political and civil liberties do not necessarily lead to greater economic freedom. When Canada and the US are excluded and the analysis is done with developing American nations only, the behavioral pattern regarding how fiscal decentralization affects the principal variables intensifies, noting that in developing countries the impact of fiscal decentralization is likely to be more consequential.

Keywords: fiscal decentralization; economic freedom; political and civil liberties

JEL Classification: E62; H70; O23; P52

1. Introduction

During the last three decades, a great deal of political and economic decentralization has taken place in the developing world. The reasons for this trend are many, from the realization that greater control of resources and the power to pass legislation on a variety of issues will likely result in greater efficiencies and less waste, to the desire of many regions within countries to achieve greater control of their destinies by asserting a firmer control on their sources of income and insisting on spending this income on locally focused projects.

Research in the economics literature on the specific topic of economic decentralization—which will be referred to henceforth as fiscal decentralization¹—has usually been centered on the impact of this process on governance, economic growth, macroeconomic stability, and on themes related to poverty and income inequality. In this paper, the analysis is expanded by focusing on the impact of fiscal decentralization on two indicators of economic freedom and on two indicators of accountability and political and civil liberties in the Americas. The principal analysis is done at a national level, and hence the results should not be taken to indicate that decentralization leads to different levels of accountability, economic freedom, or political and civil liberties within a country. In the latter part of

¹ Fiscal decentralization can be understood as a narrower component of economic decentralization, which may include the power to legislate one's own norms on aspects as varied as fiscal, monetary, trade, and industrial policies. Here, the more limited focus centers on a region's ability to tax (i.e., generate its own sources of revenue) and spend resources without the overt control of a central authority (i.e., the central or national government).

the paper though, simulations are carried out to describe how different degrees of decentralization would impact various indices of liberties, accountability, and economic freedom in each one of the countries analyzed in this study. Though it would seem natural to think of a positive correlation between a particular region's ability to generate its own revenue and spend it as it pleases with greater economic freedom, greater accountability, and deeper political and civil liberties, little research has been done on this topic,² hence the timeliness of this initial work which concentrates on a region of the world where the issue of fiscal decentralization has evolved significantly over the last few decades.

The rest of the paper is organized as follows. A brief review of the literature as well as a theoretical argument for a positive relationship between fiscal decentralization and economic, political, and civil liberties is presented in Section 2. Next, the data and methodology are introduced. The results of the empirical estimation are presented in Section 4. Section 5 summarizes the principal findings and lays out possible policy implications.

2. Review of the Literature and Theoretical Foundations

Three major themes have been analyzed in the economics literature from the perspective of fiscal decentralization. The first one refers to the issue of how governance is affected by devolving revenue and expenditure powers to regional institutions (i.e., state, municipal, and local governments). Representative works include [Arzaghi and Henderson \(2005\)](#); [de Mello and Barenstein \(2001\)](#); [Altunbas and Thornton \(2012\)](#); [Kyriacou et al. \(2015\)](#). Individual country studies include [Mohapatra \(2012\)](#) analyzing India; [Shen et al. \(2012\)](#) for China; and [Balunywa et al. \(2014\)](#) in Uganda. A second theme deals with how fiscal decentralization affects economic growth, and by extension, economic stability. Important contributions in this regard include [Davoodi and Zou \(1998\)](#); [Rodden et al. \(2003\)](#); [Martínez-Vázquez and McNab \(2003, 2006\)](#); [Thornton \(2007\)](#); [Neyapti \(2010\)](#); [Rodríguez-Pose and Ezcurra \(2011\)](#); [Gemmell et al. \(2013\)](#); [Blöchliger \(2013\)](#). Country-specific studies include [Yifu Lin and Liu \(2000\)](#) on China, [Xie et al. \(1999\)](#) for the United States, and [Samimi et al. \(2010\)](#) for Iran. Lastly, the ways in which fiscal decentralization affects poverty, inequality, and wealth redistribution has also received considerable attention. Important contributions on these topics include [Boex et al. \(2006\)](#); [Sepúlveda and Martínez-Vázquez \(2011\)](#); [Goerl and Seiferling \(2014\)](#); [Sacchi and Salotti \(2014\)](#); [Uchimura \(2012\)](#). At the individual country level, a sample of contributions include [Francis and James \(2003\)](#) focusing on Uganda, [Song \(2013\)](#) on China, and [Zakaria \(2013\)](#) on Indonesia.

Specific studies concerning fiscal decentralization in the Americas include [Diaz-Cayeros \(2006\)](#), exploring the politics of fiscal authority and focusing on the centralization of taxation in Latin America during the twentieth century; [Smoke et al. \(2007\)](#), focusing on Argentina, Bolivia, Brazil, Mexico, Peru, and a sample of Asian countries and highlighting the divergent historical evolution of the decentralization process in these nations; and [Bojanic \(2018\)](#), analyzing the impact of decentralization on growth, inflation and inequality in twelve American nations.

On the topic of relevance for the present work, how decentralization affects economic freedom, accountability, and political and civil liberties, significant contributions include [Kaufman \(1969\)](#), who predicts that administrative decentralization—which presumably includes fiscal decentralization—increases the representativeness of the average citizen in government entities in charge of deciding over policy; [Schmidt \(1990\)](#), concentrating on the decentralization reforms legislated by the Socialist government in France during the 1982–1986 period, and in the new extensive new powers given to territorial governments in the periphery; [Seabright \(1996\)](#), approaching the question of the appropriate level of decentralization as a vehicle to motivate governments to act in the interests of citizens; [Bardhan and Mookherjee \(2000\)](#), analyzing the relative susceptibility of national and

² The issue of administrative decentralization and political power is central in the fields of Public Administration and Political Science, as evidenced, for instance, in ([Kaufman 1969](#); [Rodden 2002](#); [Schmidt 1990](#)), but little research on this topic is found in the economics literature.

local governments to interest-group capture and finding that the extent of relative capture at the local level may in fact be context- and system-specific; Blair (2000), analyzing how participation and accountability affect democratic local governance (DLG) in six developing countries, and finding that both show significant potential for enhancing DLG; Fisman and Gatti (2002), analyzing the relationship between decentralization and the extent of rent extraction by private parties, with findings suggesting a strong negative relationship between expenditure decentralization and corruption; Rodden (2002), highlighting the importance of self-autonomy in subnational governments and finding that long-term balanced budgets among subnational governments are more likely when (1) the central government imposes borrowing restrictions or (2) when subnational governments have both wide-ranging taxing and borrowing autonomy; Faguet (2004), concentrating on Bolivia and examining whether decentralization increases the responsiveness of public investment to local needs; Weitz-Shapiro (2008), showing that in Argentina there is an important positive link between local government performance and citizen system support; Weingast (2009) analyzing second generation fiscal federalism and showing the importance of fiscal incentives for producing local economic prosperity; Michels (2011) showing that citizen involvement increases in decentralized governments, and this has a number of positive effects on democracy: it strengthens issue knowledge, civic skills, and public engagement, and hence it magnifies the basic liberties of constituents in decentralized regions; Escobar-Lemmon and Ross (2014) focusing on Colombia and showing that administrative and fiscal decentralization improve perceptions of accountability among citizens; Kyander (2014), analyzing whether political and fiscal decentralization affect democratic quality and citizen participation in politics; and Islam (2015), focusing on Bangladesh and showing that strong local governments deepen the democratic process by ensuring participatory development.

The theoretical case for a positive relation between fiscal decentralization, accountability, economic freedom, and political and civil liberties rests on the assumption that devolving revenue and expenditure functions to sub-national levels of government increases the individual rights of people living in those regions. As has just been shown in the literature review, in the fields of political science and public administration this is not a novel idea, as several authors have argued that administrative, political, and fiscal decentralization increase popular participation in decision-making processes and help in raising accountability of elected officials to the needs and demands of their constituents.

Decentralization, then, can be perceived as a vehicle for channeling—through sub-national governments—the individual demands and concerns of citizens in all regions and communities, thus enhancing accountability and the political and civil rights of citizens. Political rights include the right to participate in the establishment and in the administration of a government, and by actively and freely engaging in the process of reallocation of resources—i.e., deciding on appropriate tax rates and tax concessions and on the actual production and delivery of goods and services—a well-functioning fiscal decentralization regime should enhance these rights. Likewise, by freely participating in the process of elaboration and formulation of a regional government's budget—a necessity and a requirement for a successful fiscal decentralization system—the civil liberties of individuals should also be enhanced, as freedom of expression and assembly represent fundamental pillars of an effective participatory process that aims to construct the annual financial statement—the budget—of a regional government. In most cases, then, it makes sense to think that a well-managed, effective fiscal decentralization regime should enhance the political and civil liberties of all citizens, though this may not always be true. Shirk (1993), for instance, describes the case of China, a country that has experienced a significant degree of decentralization in recent times but without an equivalent improvement in the political and civil liberties of its citizens. Robinson (2008) highlights the case of Bolivia under the administration of Evo Morales, where, despite an increase in formal regional autonomy in a variety of issues, there has been a steady deterioration in the basic liberties of people living there. The experiences of these nations demonstrate that decentralization can happen even in countries with little or no democracy, hence it cannot be necessarily true that in order for decentralization to take place a certain degree of democracy must be in place. From a methodological perspective, the potential problem of endogeneity

highlighted here is addressed by utilizing instrumental variables and by generalized method of moments estimations.

The expected positive relationship between fiscal decentralization and economic freedom rests on many of the same principles applied to decentralization and political and civil liberties. In fact, it can reasonably be argued that economic liberties are an extension of other types of liberties, though, as previously illustrated for the specific cases of China and Bolivia, this assumption can become tricky when analyzed in the context of countries where significant decentralization has taken place without an equivalent increase in basic freedoms. Regardless of the exceptions to the norm, however, it makes economic sense to think that there should be a positive association between decentralization and economic liberties—just as it makes sense that a positive correlation should also exist between decentralization, accountability and political and civil liberties—which motivates the present study as pertinent and relevant for a region of the world where the issue of decentralization has taken center stage in the last decades.

Though it is expected that fiscal decentralization will positively impact accountability, economic freedom, and political and civil liberties, this positive effect is unlikely to occur overnight. In other words, it seems reasonable to assume that a well-functioning fiscal decentralization process takes time to be designed and properly implemented within the various levels of government, and hence a learning curve should be expected in how this process affects the variables of interest. This learning process can be captured by assuming a nonlinear, polynomial representation of how fiscal decentralization affects various variables. Though there are limitations to the utilization of quadratic polynomial representations to describe any process—see, for instance, [Grimm et al. \(2011\)](#), where the advantages and disadvantages of various polynomial representations are analyzed—this study takes into account the delayed (positive) impacts that are expected from fiscal decentralization.

The present work adds to the economics literature by formally testing whether devolving revenue and expenditure functions to sub-national levels of government have delivered on the promise of improving economic freedoms, accountability, and political and civil liberties in Latin America.

3. Data and Methodology

Perhaps the most significant challenge faced when conducting a cross-country study of fiscal decentralization is how to properly measure the extent of decentralization. An optimal scenario would be one in which the decentralization data set for all countries is fully comparable and truly reflects the independent and autonomous activities of sub-national governments. Under this scenario, there would be a clear demarcation line between the activities of the central government and the activities of sub-national levels of government (regional, state and local governments), concerning both revenue collection and expenditure decisions, and hence the true extent of decentralization would be able to be measured and quantified.

Constructing such a panel data set would require a thorough understanding of the nature of the tax system of a nation, particularly as it refers to the structure of revenue sharing among regions; the nature of grants and transfers between the central government and sub-national levels of government; the discretion of sub-national governments to levy, collect, and modify their tax bases and rates; the degree of autonomy of sub-national governments to spend public resources; and the overall level of political autonomy of sub-national governments. Predictably, it is difficult to construct a data set for a single country that meets all these ideal conditions—much less for a set of countries with equally measured indicators of decentralization—hence the necessity to utilize the International Monetary Fund's Government Finance Statistics Annual Yearbook (GFS),³ as the primary data source for revenue and expenditure data for national and sub-national levels of government. Complementing the information obtained from the GFS, decentralization data has also been obtained, when possible, from

³ Available at <https://www.imf.org/en/Data>.

individual national statistics agencies and ministries of planning and finance,⁴ the Organization for Economic Cooperation and Development (OECD),⁵ and the Economic Commission for Latin America and the Caribbean (CEPAL, for its Spanish acronym).⁶ Despite limitations on the data—including the fact that the data sources do not report on the nature of government transfers, on whether these transfers and grants are under the control of the central or sub-national governments, and generally on the lack of decentralized information for many nations—the GFS, national institute of statistics and ministries of planning and finance, the OECD, and CEPAL represent the principal sources of data for this study.

The standard indicator of fiscal decentralization in the economics literature is the ratio of sub-national government revenues (expenditures) to general government revenues (expenditures), hence the two measures of fiscal decentralization utilized here are: (i) the ratio of total sub-national government revenues to general government revenues (expressed as a percentage), and (ii) the ratio of total sub-national government expenditures to general government expenditures (also expressed as a percentage). The data sources utilized in this study report information at the consolidated central government level and—for some countries—at the regional, state, and local government levels as well. Revenues (expenditures) at the regional, state, and local governments were added together in order to come up with a single figure for sub-national government revenues (expenditures). Of the twenty three countries in the Americas—excluding nations in the Caribbean—the sources provide data disaggregated by general and sub-national government levels for twelve nations, hence this study concentrates on that sample of American countries for whom available data exists.⁷ Yearly observations range from 1972 to 2015, though the dates of available data for the twelve countries do not necessarily coincide.⁸ Conditional on whether the revenue or expenditure decentralization indicators are utilized as explanatory variables and on the specific methodology utilized in estimating a regression, the number of observations varies from a low of 81 to a high of 141. The end result is an unbalanced panel data set of 141 observations for twelve American countries and with observations ranging from 1972 to 2015. Though there are significant gaps in the dataset, it was determined that averages or linear approximations not be used to fill in those gaps in order to let the actual data speak for itself.

Two indicators of political and civil liberties are utilized here. The first one is a combined ratio of political and civil liberties constructed out of two indices and a qualitative assessment elaborated by the non-governmental organization Freedom House. It ranges from 0.18 to 1.00, with higher values reflecting lower levels of liberties.⁹ The second is the Kaufmann indicator of voice accountability, which captures perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media. It ranges from

⁴ Argentina: Comisión Federal de Impuestos (www.cfi.gov.ar) and Ministerio de Hacienda y Finanzas Públicas (www.economia.gob.ar); Bolivia: Instituto Nacional de Estadística (www.ine.gob.bo).

⁵ www.oecd.org/ctp/federalism/fiscal-decentralisation-database.htm.

⁶ http://estadisticas.cepal.org/cepalstat/WEB_CEPALSTAT/Portada.asp.

⁷ The 12 countries are Argentina, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, El Salvador, Mexico, Paraguay, Peru, and the United States.

⁸ The appendix reports summary statistics and the specific time periods of available data for the countries utilized in the study. An important point highlighted here is that even though the data range for the full sample is from 1972 to 2015, availability of data for each of the 12 countries varies greatly, hence the unbalanced panel data set.

⁹ The two indices of political rights and civil liberties, as well as a qualitative assessment of the degree of liberty of each nation, are available at https://freedomhouse.org/report-types/freedom-world#.VY_fWIIRHcw. Here, the two indices and the qualitative assessment have been combined into a single index of political and civil liberties. It ranges from 0.18 (highest level of liberties) to 1.00 (lowest level of liberties). The combined ratio was constructed as follows: Freedom House assigns a score of 1 to 7 for political rights (1 = highest degree of freedom; 7 = lowest degree of freedom) and a similar score of 1 to 7 for civil liberties (1 = highest degree of freedom; 7 = lowest degree of freedom). Additionally, it provides a qualitative assessment of the overall degree of freedom of each nation. The three broad categories that comprise this qualitative assessment were assigned a numerical value (free = 1; partly free = 2; not free = 3). By summing the individual scores of each country in these 3 categories and dividing it by the highest possible score that a country could get (17 = 7 + 7 + 3), a combined ratio of political and civil liberties is obtained for all countries of interest. The higher (lower) this combined ratio is, the lower (higher) the degree of political and civil liberties in a country.

0 to 100%, where higher percentage values represent higher degrees of accountability.¹⁰ Two indices of economic freedom are used as well. The first one is the index of economic freedom published jointly by the Heritage Foundation and the Wall Street Journal. It ranges from 0 to 100, with higher values representing higher levels of economic freedom.¹¹ The second one is the Fraser institute index of economic freedom, published by the Fraser Institute and ranging in values from 0 to 10, with higher values representing higher levels of economic freedom.¹² Though there are other alternative indices available that also measure political, civil, and economic liberties—the Democracy Index published by the UK-based Economist Intelligence Unit and the Worldwide Press Freedom Index produced by Reporters without Borders, to mention two—the four indices chosen for this study are widely utilized and accepted in the economics literature.

Control variables utilized in all estimations include GDP per capita (measured at purchasing power parity, in levels and growth rates);¹³ the Kaufmann index of government effectiveness (0 = lowest to 100 = highest effectiveness), to account for, among other things, perceptions of the quality of public services, the quality of the civil service and the degree of independence from political pressures;¹⁴ urban population (percentage of total population); internet users (per 100 people); general government debt (percentage of GDP), which may induce less decentralization as central governments act to contain public indebtedness, or may cause greater decentralization if some of this debt is utilized in improving accountability of regional governments; and the GINI index (0 = complete equality to 100 = complete inequality), as an indicator of income inequality.¹⁵

Specifications where the dependent variable is an indicator of liberty and accountability (either the ratio of political and civil liberties or the Kaufmann indicator of accountability) also include as control variables the inflation rate (percentage) to account for macroeconomic stability; gross domestic savings (percentage of GDP) utilized as a proxy for capital formation;¹⁶ and the Kaufmann index for corruption (0 = lowest to 100 = highest control), to account for perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as “capture” of the state by elites and private interests.¹⁷ Specifications where the dependent variable is an indicator of economic freedom (either the Heritage Foundation—WSJ index of economic freedom or the Fraser Institute of economic freedom) include the following additional control variables: the Kaufmann index for rule of law (0 = lowest to 100 = highest respect), which accounts for perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence;¹⁸ the literacy rate (percentage of all people, ages 15 and above); and the unemployment rate (percentage of labor force).¹⁹

¹⁰ Available at: <http://info.worldbank.org/governance/wgi/#doc>.

¹¹ The four broad categories that serve as benchmarks for constructing the index are rule of law, limited government—this category includes the theme of fiscal freedom, which measures the tax burden imposed by government but does not consider or account for the extent of a decentralized government structure—regulatory efficiency, and open markets. It ranges from 0 to 100, where lower numbers represent lower levels of economic freedom and higher scores represent higher levels of economic freedom. Specifically, 0–49.9 (repressed); 50–59.9 (mostly unfree); 60–69.9 (moderately free); 70–79.9 (mostly free); and 80–100 (free). Available at: <http://www.heritage.org/index/>.

¹² Available at: <https://www.fraserinstitute.org/economic-freedom/dataset?page=dataset&min-year=2&max-year=0>.

¹³ From 1972 to 1989, the Penn World Tables is the primary source (available at: https://pwt.sas.upenn.edu/php_site/pwt_index.php). The World Bank through its World Development Indicators is the main source thereafter (available at: <http://data.worldbank.org/data-catalog/world-development-indicators>).

¹⁴ Available at: <http://info.worldbank.org/governance/wgi/#doc>.

¹⁵ Source for all these data is the World Bank (World Development Indicators).

¹⁶ Source of data for the inflation rate and gross domestic savings is the World Bank (World Development Indicators).

¹⁷ Available at: <http://info.worldbank.org/governance/wgi/#doc>.

¹⁸ Available at: <http://info.worldbank.org/governance/wgi/#doc>.

¹⁹ Source of data for literacy and unemployment rates is the World Bank (World Development Indicators).

Based on the theoretical considerations of Section 2 and the variables described above, the estimated model is thus:

$$I_{it} = \beta_0 + \beta_1 D_{it} + \beta_2 D_{it}^2 + \sum_{i=0}^n \beta_t X_{it} + \mu_{it} \quad (1)$$

where I is (i) the index of political and civil liberties or the Kaufmann indicator of accountability, when the objective is to analyze how fundamental liberties are affected by decentralization; and (ii) the WSJ-Heritage index of economic freedom or the Fraser index of economic freedom, when the objective is to analyze the impact of decentralization on economic freedoms. The variable D is the fiscal decentralization indicator (revenues or expenditures-based) described above, X represents the control variables, and μ is a standard error term. As can be observed, fiscal decentralization is deemed to have a non-linear impact on the dependent variable, indicating that the expected, positive impact of fiscal decentralization may in fact be more nuanced. The concept of non-linearity on the variables is particularly relevant and applicable to the idea of fiscal decentralization—reflected in its wide utilization throughout the economics literature—as this process is bound to have a learning curve and hence the expected, positive impacts of decentralization may not be immediately evident.

With respect to the model specification, due to the limited amount of information and the gaps within an unbalanced panel data set, it was determined that neither fixed nor random effects were appropriate. Furthermore, instrumental variables (Two-Stage Generalized Least Squares) and Generalized Method of Moments were utilized in order to address possible endogeneity issues, the very wide variability of data for the countries studied, and the likely correlation of observations within a particular cross-section. In all cases the specification estimates accounted for cross-sectional and intrasectional heteroscedasticity and autocorrelation.²⁰ For instrumental variable estimations, the instruments selected were one-period lagged values of all explanatory variables. Generalized Method of Moments (GMM) was employed in order to analyze the dynamic nature of the relationship between fiscal decentralization, accountability, political, civil and economic liberties.

4. Results of the Empirical Estimation

As an introduction to the main findings of this investigation, Table 1 reports pairwise correlations among all pertinent variables, both when all countries are included in the analysis and when the United States and Canada—arguably the two nations with the most developed decentralization regimes, highest levels of accountability, economic freedom, and civil and political liberties in the Americas—are excluded. Additionally, Appendix A presents summary statistics and the periods of time for which decentralization data is available for each of the twelve countries analyzed.

An important initial observation that arises from the reported correlations is that in the full sample of countries the decentralization indicators seem to have the expected, positive correlation with the indicators of civil and political liberties and with the indices of economic freedom. However, when the US and Canada are excluded, the correlation turns (in most cases) negative, highlighting the fact that decentralization is unlikely to have a clear, neat impact on basic liberties and on economic freedom, particularly when the analysis is done from the perspective of developing American nations.

²⁰ Specifically, for all IVs and GMM regressions, the Prais-Winsten Panel Corrected Standard Error (PCSE) Within estimator was estimated in order to correct for serial correlation (cross sectional and intrasectional correlation).

Table 1. Pairwise Correlations (all countries/excluding Canada and the US).

| | Ratio Political and Civil Liberties | Kaufmann Voice Accountability Index | WSJ Economic Freedom Index | Fraser Economic Freedom Index | Revenue Decentralization | Revenue Decentralization Squared | Expenditure Decentralization | Expenditure Decentralization Squared |
|--------------------------------------|-------------------------------------|-------------------------------------|----------------------------|-------------------------------|--------------------------|----------------------------------|------------------------------|--------------------------------------|
| Ratio political and civil liberties | 1 | 0.952/0.842 | 0.730/0.173 | 0.757/0.287 | 0.563/−0.170 | 0.670/−0.057 | 0.524/−0.140 | 0.621/−0.023 |
| Kaufmann voice accountability index | 0.952/0.842 | 1 | 0.729/0.145 | 0.758/0.235 | 0.634/−0.095 | 0.747/0.030 | 0.611/−0.035 | 0.716/0.107 |
| WSJ economic freedom index | 0.730/0.173 | 0.729/0.145 | 1 | 0.851/0.678 | 0.496/−0.203 | 0.577/−0.202 | 0.421/−0.275 | 0.496/−0.297 |
| Fraser economic freedom index | 0.757/0.287 | 0.758/0.235 | 0.851/0.678 | 1 | 0.396/−0.423 | 0.492/−0.437 | 0.348/−0.433 | 0.438/−0.440 |
| Revenue decentralization | 0.563/−0.170 | 0.634/−0.095 | 0.496/−0.203 | 0.396/−0.423 | 1 | 0.959/0.965 | 0.943/0.882 | 0.897/0.799 |
| Revenue decentralization squared | 0.670/−0.057 | 0.747/0.030 | 0.577/−0.202 | 0.492/−0.437 | 0.959/0.965 | 1 | 0.907/0.819 | 0.943/0.786 |
| Expenditure decentralization | 0.524/−0.140 | 0.611/−0.035 | 0.421/−0.275 | 0.348/−0.433 | 0.943/0.882 | 0.907/0.819 | 1 | 0.957/0.967 |
| Expenditure decentralization squared | 0.621/−0.023 | 0.716/0.107 | 0.496/−0.297 | 0.438/−0.440 | 0.897/0.799 | 0.943/0.786 | 0.957/0.967 | 1 |

Note: Ratio political and civil liberties has been inverted: higher (lower) scores represent higher (lower) levels of liberties.

Estimation results are first reported concerning how fiscal decentralization impacts accountability and political and civil liberties. Table 2 reports regression estimates when the full sample of countries is taken into account. As described in Equation (1), the two dependent variables utilized to analyze the ways in which decentralization affect basic liberties are the (inverse) combined ratio of political and civil liberties,²¹ and the Kaufmann indicator of voice accountability.

In order to establish consistency, all specifications were estimated utilizing instrumental variables (two-stage EGLS), and generalized method of moments (GMM). In all cases, the regressions were estimated correcting for both cross-section heteroscedasticity and contemporaneous correlation and with estimates of coefficient standard errors and covariances that handle cross-section correlation. Additionally, the impact of decentralization on the dependent variable was measured both from decentralization occurring on the revenue side and decentralization on the expenditure side.

The results demonstrate that the impact of decentralization—either revenue decentralization or expenditure decentralization—on the dependent variables is similar. Initially, decentralization seems to dampen accountability and political and civil liberties, as reflected in negative and statistically significant coefficients for revenue decentralization and expenditure decentralization, but eventually—and as argued in Sections 2 and 3—the positive impacts of decentralization begin to occur and they are reflected in the positive and, for the most part, statistically significant coefficients of revenue decentralization squared and expenditure decentralization squared. Though the size of these latter coefficients is small, they do conform to the hypothesized positive relationship between fiscal decentralization and accountability and political and civil liberties, with the caveat that the positive impact may in fact take time to fall into place.

The behavior of the control variables is also noteworthy. Consistently and predictably, higher economic growth, expanded access to internet, having an effective government, and being able to effectively control levels of corruption are revealed to be conducive for higher levels of accountability and political and civil liberties. Not as clearly and only significant in those specifications estimated with instrumental variables, higher inflation and higher savings also seem to have a positive impact on the dependent variables. Higher government debt is also shown to have a positive impact on the dependent variables, and this result might be considered a plausible outcome if it is assumed that some of this government debt is utilized in making government more accountable and receptive to the demands of its constituents. Lastly, greater income inequality is also perceived to enhance accountability and political and civil liberties, a somewhat puzzling result that highlights the difficulty in assessing how each one of these variables impact liberties and accountability.

Table 3 shows the same estimations reported in Table 2, but excluding Canada and the United States, the two nations with highest levels of development in the sample.

²¹ As was previously noted, the combined ratio of political and civil liberties ranges from 0.18 (highest level of liberties) to 1.00 (lowest level of liberties). For easier interpretation of results, this ratio has been inverted in all regressions so that higher (lower) values represent higher (lower) levels of liberties. The pairwise correlations presented in Table 1 also correspond to this inverted ratio.

Table 2. Determinants of liberties and accountability, all countries.

| Independent variable | Dep. Variable: (Inverse) Ratio of Political and Civil Liberties | | | | Dep. Variable: Kaufmann Indicator of Voice Accountability | | | |
|---|---|----------------------|----------------------|----------------------|---|-----------------------|-----------------------|-----------------------|
| | Two-Stage EGLS | | GMM | | Two-Stage EGLS | | GMM | |
| | Revenue | Expenditure | Revenue | Expenditure | Revenue | Expenditure | Revenue | Expenditure |
| Revenue decentralization (% of general gov exp) | −0.080 *** (0.016) | | −0.079 ** (0.038) | | −0.967 *** (0.103) | | −1.003 *** (0.271) | |
| Revenue decentralization squared | 0.001 *** (0.000) | | 0.001 (0.001) | | 0.012 *** (0.001) | | 0.012 * (0.007) | |
| Expenditure decentralization (% of general gov exp) | | −0.040 * (0.022) | | −0.048 ** (0.023) | | −0.542 *** (0.185) | | −0.662 *** (0.187) |
| Expenditure decentralization squared | | 0.000 (0.000) | | 0.000 (0.000) | | 0.007 *** (0.003) | | 0.008 *** (0.003) |
| GDP per capita growth (PPP converted) | 0.227 *** (0.080) | 0.054 (0.101) | 0.293 (0.518) | 0.151 (0.126) | 1.448 *** (0.502) | 0.817 (1.633) | 2.028 (3.741) | 1.099 (1.028) |
| Inflation rate (%) | 0.041 ** (0.016) | 0.024 (0.042) | 0.045 (0.051) | −0.009 (0.045) | 0.327 *** (0.083) | −0.058 (0.572) | 0.287 (0.368) | −0.230 (0.366) |
| Gross domestic savings (% of GDP) | 0.001 (0.001) | −0.059 (0.001) | −0.009 (0.070) | −0.093 (0.058) | 0.280 *** (0.056) | −0.439 (0.028) | 0.272 (0.506) | −0.438 (0.477) |
| Urban population (% of total) | −0.007 (0.010) | 0.004 (0.015) | −0.008 (0.024) | 0.016 (0.016) | −0.062 (0.071) | 0.042 (0.188) | −0.006 (0.017) | 0.137 (0.013) |
| Internet users (per 100 people) | 0.034 *** (0.004) | 0.010 * (0.005) | 0.035 * (0.019) | 0.008 (0.011) | 0.226 *** (0.021) | 0.136 *** (0.048) | 0.207 (0.139) | 0.126 (0.093) |
| Kaufmann index government effectiveness | 0.014 * (0.008) | −0.004 (0.010) | 0.024 (0.032) | −0.006 (0.014) | 0.245 *** (0.040) | 0.126 * (0.071) | 0.291 (0.229) | 0.153 (0.112) |
| Government debt (% of GDP) | 0.012 *** (0.004) | 0.006 ** (0.003) | 0.008 (0.027) | 0.007 (0.008) | 0.154 *** (0.033) | 0.042 (0.033) | 0.163 (0.193) | 0.063 (0.067) |
| Gini (0 = perfect equality; 1 = perfect inequality) | 0.058 *** (0.019) | −0.035 (0.022) | 0.075 (0.143) | −0.045 (0.056) | 0.201 ** (0.099) | −0.114 (0.244) | 0.321 (1.033) | −0.148 (0.455) |
| Kaufmann index for corruption | 0.025 *** (0.010) | 0.046 *** (0.013) | 0.017 (0.028) | 0.037 ** (0.018) | 0.276 *** (0.038) | 0.378 *** (0.141) | 0.240 (0.204) | 0.312 ** (0.147) |
| Adj. R ² | 0.83 | 0.95 | 0.50 | 0.80 | 0.97 | 0.98 | 0.84 | 0.92 |
| number of observations | 141 | 103 | 141 | 103 | 141 | 103 | 141 | 103 |

Notes: (1) All specifications estimated utilizing the Prais-Winsten Panel Corrected Standard Error (PCSE) Within estimator; (2) GMM specifications include a one-period lagged dependent variable as regressor (not shown in table); (3) All regressions include an intercept term (not shown in table); (4) Standard errors in parentheses; (5) Ratio of political and civil liberties utilized in the regressions has been inverted and ranges from 1 = lowest to 5.56 = highest levels of political and civil liberties; (6) Kaufmann index for voice and accountability ranges from 0% = lowest to 100% = highest accountability; (7) Kaufmann index for government effectiveness ranges from 0% = lowest level to 100% = highest level of government effectiveness; (8) Kaufmann index for corruption ranges from 0% = lowest control to 100% = highest control of corruption; (9) * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 3. Determinants of liberties and accountability, excluding Canada and the US.

| Independent variable | Dep. Variable: (Inverse) Ratio of Political and Civil Liberties | | | | Dep. Variable: Kaufmann Indicator of Voice Accountability | | | |
|--|---|----------------------|---------------------|-------------------|---|---------------------|-----------------------|-----------------------|
| | Two-Stage EGLS | | GMM | | Two-Stage EGLS | | GMM | |
| | Revenue | Expenditure | Revenue | Expenditure | Revenue | Expenditure | Revenue | Expenditure |
| Revenue decentralization (% of general gov exp) | −0.089 (0.090) | | −0.079 (0.069) | | −1.226 *** (0.191) | | −1.130 *** (0.213) | |
| Revenue decentralization squared | 0.001 (0.001) | | 0.001 (0.001) | | 0.015 *** (0.003) | | 0.013 *** (0.003) | |
| Expenditure decentralization (% of general gov exp) | | −0.050 (0.039) | | −0.023 (0.108) | | −0.661 * (0.398) | | −0.854 *** (0.263) |
| Expenditure decentralization squared | | 0.000 (0.000) | | 0.000 (0.002) | | 0.008 (0.007) | | 0.011 *** (0.004) |
| GDP per capita growth (PPP converted) | 0.648 * (0.401) | 0.093 (0.096) | 0.319 (0.507) | 0.144 (0.394) | 0.491 (0.424) | −0.002 (2.510) | 0.030 (0.860) | 0.097 (1.418) |
| Inflation rate (%) | 0.061 (0.049) | 0.010 (0.035) | 0.024 (0.049) | 0.014 (0.044) | 0.335 *** (0.095) | 0.161 (0.795) | 0.213 (0.192) | −0.244 (0.363) |
| Gross domestic savings (% of GDP) | −0.079 (0.057) | −0.084 ** (0.035) | −0.033 (0.072) | −0.093 (0.126) | 0.482 *** (0.067) | −0.232 (0.549) | 0.574 ** (0.219) | −0.375 (0.546) |
| Urban population (% of total) | 0.023 (0.049) | 0.012 (0.023) | −0.020 (0.036) | 0.015 (0.058) | −0.015 (0.122) | −0.012 (0.438) | −0.021 (0.130) | 0.194 (0.317) |
| Internet users (per 100 people) | 0.059 *** (0.021) | 0.011 * (0.006) | 0.048 ** (0.019) | 0.009 (0.022) | 0.168 *** (0.047) | 0.162 ** (0.080) | 0.153 ** (0.080) | 0.163 (0.104) |
| Kaufmann index government effectiveness | 0.028 * (0.017) | −0.008 (0.011) | 0.031 (0.025) | −0.004 (0.026) | 0.221 *** (0.041) | 0.166 ** (0.077) | 0.245 *** (0.075) | 0.171 (0.116) |
| Government debt (% of GDP) | −0.023 (0.021) | 0.008 (0.009) | −0.007 (0.036) | 0.003 (0.041) | 0.216 *** (0.042) | 0.105 (0.214) | 0.265 ** (0.116) | 0.063 (0.158) |
| Gini (0 = perfect equality; 1 = perfect inequality) | 0.276 ** (0.137) | −0.045 (0.064) | 0.159 (0.171) | −0.014 (0.220) | −0.181 (0.170) | −0.119 (0.888) | −0.262 (0.443) | 0.062 (0.976) |
| Kaufmann index for corruption | −0.015 (0.028) | 0.042 ** (0.018) | 0.001 (0.033) | 0.041 (0.045) | 0.281 *** (0.055) | 0.365 (0.289) | 0.289 *** (0.077) | 0.248 (0.233) |
| Adj. R ² | 0.38 | 0.68 | 0.49 | 0.34 | 0.97 | 0.92 | 0.92 | 0.72 |
| Number of observations | 115 | 81 | 115 | 81 | 115 | 81 | 115 | 81 |

Notes: (1) All specifications estimated utilizing the Prais-Winsten Panel Corrected Standard Error (PCSE) Within estimator; (2) GMM specifications include a one-period lagged dependent variable as regressor (not shown in table); (3) All regressions include an intercept term (not shown in table); (4) Standard errors in parentheses; (5) Ratio of political and civil liberties utilized in the regressions has been inverted and ranges from 1 = lowest to 5.56 = highest levels of political and civil liberties; (6) Kaufmann index for voice and accountability ranges from 0% = lowest to 100% = highest accountability; (7) Kaufmann index for government effectiveness ranges from 0% = lowest level to 100% = highest level of government effectiveness; (8) Kaufmann index for corruption ranges from 0% = lowest control to 100% = highest control of corruption; (9) * significant at 10%; ** significant at 5%; *** significant at 1%.

The estimation results indicate that decentralization—regardless of whether decentralization occurs on the revenue or expenditure side—exerts the same type of impact on the dependent variables as with the full sample of countries. In other words, initially decentralization seems to hamper both accountability and political and civil liberties—reflected in negative and, for the Kaufmann indicator, statistically significant coefficients for revenue decentralization and expenditure decentralization—but as time passes and as, presumably, the process of decentralization becomes more ingrained into the fabric of society, it begins to have the expected, positive impact on both dependent variables, reflected in positive and (mostly) statistically significant coefficients for revenue decentralization squared and expenditure decentralization squared. The principal difference between the results obtained with the full sample of countries and with this subset of developing American nations concerns intensity. In all but one instance, the absolute size of the decentralization coefficients for the subset of developing nations is bigger than those observed for the full sample of countries, indicating that in developing American nations the impacts of decentralization—positive and negative impacts—are potentially more consequential than what they are in the sample of countries that includes the two nations with, arguably, most mature systems of decentralization.

The behavior of control variables is also noteworthy. As was the case with the full sample of countries, expanded access to internet, a more effective government, higher government debt, and better control of corruption are all conducive for higher levels of accountability, political rights and civil liberties. The impact of economic growth, the inflation rate, and savings on the dependent variables is unclear, perhaps highlighting the complicated relationship of these countries with growth, price stability, and lack of access to finance. Lastly and mirroring the results with the full sample of countries, there is some indication that greater income inequality enhances political and civil liberties, but this latter result is not consistent across all specifications.

The impact of fiscal decentralization on economic freedom is analyzed in Tables 4 and 5. The two dependent variables utilized as indicators of economic freedom are the index of economic freedom produced by the Heritage Foundation and the Wall Street Journal, and the index of economic freedom generated by the Fraser Institute. Table 4 reports the results of the relationship between fiscal decentralization and these indices when the full sample of countries is taken into consideration.

The results are consistent in showing that, with decentralization on the revenue side, fiscal decentralization initially enhances economic freedom—both indices of economic freedom—as reflected in positive and statistically significant coefficients for revenue decentralization. Eventually, however, the results indicate that decentralization begins to hamper freedom, reflected in negative and statistically significant coefficients for revenue decentralization squared. Though the absolute size of these coefficients is minimal, these results seem to counter the expectation—presented in Section 2—that decentralization should be a driver for greater economic freedom.²² A first initial conclusion is that increased accountability and higher political and civil rights, which have been shown to occur with greater fiscal decentralization, do not necessarily lead to greater economic freedom, an observation that is perhaps best reflected in the experience of China during the last three decades, where rising economic freedom has arguably not been accompanied by substantial improvement in basic political and civil rights.

²² When decentralization occurs on the expenditure side, the results indicate that with the Heritage Foundation-WSJ index the pattern of behavior is similar to the one occurring on the revenue side, but the results obtained with the Fraser index are indeterminate, noting that decentralization can have differing effects on freedom, pending on whether this process is revenue- or expenditure-based.

Table 4. Determinants of economic freedom, all countries.

| Independent variable | Dep. Variable: Heritage Foundation-WSJ Index of Economic Freedom | | | | Dep. Variable: Fraser Institute Index of Economic Freedom | | | |
|--|--|-----------------------|-----------------------|-----------------------|---|-----------------------|-----------------------|-----------------------|
| | Two-Stage EGLS | | GMM | | Two-Stage EGLS | | GMM | |
| | Revenue | Expenditure | Revenue | Expenditure | Revenue | Expenditure | Revenue | Expenditure |
| Revenue decentralization (% of general gov exp) | 0.555 *** (0.054) | | 0.516 *** (0.102) | | 0.029 *** (0.004) | | 0.017 ** (0.007) | |
| Revenue decentralization squared | −0.007 *** (0.001) | | −0.007 *** (0.001) | | −0.000 *** (0.000) | | −0.000 *** (0.000) | |
| Expenditure decentralization (% of general gov exp) | | 0.368 * (0.193) | | 0.376 (0.252) | | −0.002 (0.027) | | −0.011 (0.170) |
| Expenditure decentralization squared | | −0.005 *** (0.002) | | −0.005 * (0.003) | | −0.000 (0.000) | | −0.000 (0.000) |
| GDP per capita at PPP (logs) | 2.587 ** (1.151) | 4.225 ** (1.757) | 3.207 * (1.860) | 6.115 ** (2.354) | 0.024 (0.057) | 0.079 (0.133) | 0.069 (0.088) | −0.015 (0.170) |
| Gini (0 = perfect equality; 1 = perfect inequality) | −0.075 (0.062) | −0.392 ** (0.203) | −0.065 (0.117) | −0.238 (0.270) | −0.071 *** (0.007) | −0.120 *** (0.014) | −0.068 *** (0.010) | −0.101 *** (0.017) |
| Internet users (per 100 people) | 0.128 *** (0.019) | −0.061 (0.046) | 0.119 *** (0.038) | −0.018 (0.074) | 0.002 (0.002) | −0.009 *** (0.003) | 0.001 (0.002) | 0.003 (0.006) |
| Kaufmann index for rule of law | 0.285 *** (0.022) | 0.291 *** (0.073) | 0.240 *** (0.048) | 0.225 ** (0.102) | 0.039 *** (0.002) | 0.032 *** (0.008) | 0.035 *** (0.003) | 0.021 ** (0.008) |
| General government debt (% of GDP) | −0.213 *** (0.019) | −0.106 *** (0.028) | −0.209 *** (0.024) | −0.140 *** (0.037) | −0.011 *** (0.001) | −0.005 ** (0.002) | −0.009 *** (0.001) | −0.007 * (0.004) |
| Kaufmann index government effectiveness | 0.194 *** (0.029) | 0.070 (0.084) | 0.236 *** (0.062) | 0.119 (0.118) | −0.008 ** (0.003) | −0.007 (0.010) | −0.007 (0.004) | 0.005 (0.010) |
| Urban population (% of total) | −0.590 *** (0.039) | −0.332 *** (0.075) | −0.577 *** (0.058) | −0.505 *** (0.126) | −0.031 *** (0.004) | −0.004 (0.008) | −0.022 *** (0.004) | −0.004 (0.011) |
| Literacy rate (% of people, ages 15 and above) | −1.183 *** (0.060) | −0.939 *** (0.333) | −1.151 *** (0.088) | −1.022 ** (0.410) | −0.089 *** (0.007) | −0.135 *** (0.042) | −0.077 *** (0.011) | −0.128 *** (0.042) |
| Unemployment rate (% of total labor force) | 0.817 *** (0.090) | 1.216 *** (0.198) | 0.771 *** (0.126) | 1.541 *** (0.308) | 0.001 (0.007) | 0.069 *** (0.023) | −0.008 (0.010) | 0.065 ** (0.026) |
| Adj. R ² | 0.92 | 0.87 | 0.87 | 0.82 | 0.97 | 0.95 | 0.96 | 0.87 |
| number of observations | 141 | 103 | 141 | 103 | 141 | 103 | 141 | 103 |

Notes: (1) All specifications estimated utilizing the Prais-Winsten Panel Corrected Standard Error (PCSE) Within estimator; (2) GMM specifications include a one-period lagged dependent variable as regressor (not shown in table); (3) All regressions include an intercept term (not shown in table); (4) Standard errors in parentheses; (5) GDP per capita measured at purchasing power parity, in current US Dollars. Logs represents natural logs; (6) Kaufmann index for rule of law ranges from 0% = lowest to 100% = highest respect for the rule of law; (7) Kaufmann index for government effectiveness ranges from 0% = lowest level to 100% = highest level of government effectiveness; (8) * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 5. Determinants of economic freedom, excluding Canada and the US.

| Independent variable | Dep. Variable: Heritage Foundation-WSJ Index of Economic Freedom | | | | Dep. Variable: Fraser Institute Index of Economic Freedom | | | |
|--|--|-----------------------|-----------------------|-----------------------|---|-----------------------|-----------------------|-----------------------|
| | Two-Stage EGLS | | GMM | | Two-Stage EGLS | | GMM | |
| | Revenue | Expenditure | Revenue | Expenditure | Revenue | Expenditure | Revenue | Expenditure |
| Revenue decentralization (% of general gov exp) | 0.665 *** (0.138) | | 0.553 *** (0.198) | | 0.013 (0.011) | | −0.002 (0.014) | |
| Revenue decentralization squared | −0.011 *** (0.002) | | −0.009 *** (0.003) | | −0.000 *** (0.000) | | −0.000 (0.000) | |
| Expenditure decentralization (% of general gov exp) | | 0.389 (0.466) | | 0.730 (0.634) | | −0.043 (0.046) | | −0.069 (0.062) |
| Expenditure decentralization squared | | −0.007 (0.006) | | −0.013 (0.009) | | 0.000 (0.001) | | 0.001 (0.001) |
| GDP per capita at PPP (logs) | 6.205 *** (2.133) | 6.589 ** (3.283) | 5.624 ** (2.535) | 11.077 *** (3.912) | 0.025 (0.123) | −0.296 (0.281) | −0.003 (0.137) | −0.482 (0.403) |
| Gini (0 = perfect equality; 1 = perfect inequality) | 0.290 ** (0.138) | −0.818 *** (0.260) | 0.175 (0.186) | −0.751 ** (0.354) | −0.021 * (0.012) | −0.170 *** (0.042) | −0.014 (0.017) | −0.183 *** (0.046) |
| Internet users (per 100 people) | 0.106 *** (0.037) | −0.151 *** (0.055) | 0.060 (0.047) | −0.186 ** (0.086) | 0.012 *** (0.002) | −0.011 (0.007) | 0.014 *** (0.003) | 0.001 (0.009) |
| Kaufmann index for rule of law | 0.259*** (0.056) | 0.260 ** (0.109) | 0.207 ** (0.080) | 0.274 * (0.161) | 0.024 *** (0.003) | 0.030 ** (0.016) | 0.018 *** (0.006) | 0.020 (0.017) |
| General government debt (% of GDP) | −0.175 *** (0.020) | −0.065 ** (0.025) | −0.192 *** (0.030) | −0.074 ** (0.033) | −0.008 *** (0.002) | −0.002 (0.003) | −0.006 *** (0.002) | −0.003 (0.004) |
| Kaufmann index government effectiveness | 0.166 *** (0.058) | 0.052 (0.099) | 0.194 ** (0.078) | 0.046 (0.151) | 0.002 (0.003) | −0.011 (0.014) | 0.009 (0.005) | 0.003 (0.016) |
| Urban population (% of total) | −0.552 *** (0.065) | −0.318 (0.199) | −0.494 *** (0.092) | −0.557 ** (0.231) | −0.023 *** (0.008) | 0.012 (0.020) | −0.020 ** (0.009) | 0.006 (0.024) |
| Literacy rate (% of people, ages 15 and above) | −1.202 *** (0.078) | −1.313 *** (0.424) | −1.104 *** (0.102) | −1.227 ** (0.612) | −0.094 *** (0.009) | −0.174 *** (0.046) | −0.079 *** (0.012) | −0.205 *** (0.068) |
| Unemployment rate (% of total labor force) | 0.586 *** (0.123) | 1.430 *** (0.360) | 0.559 *** (0.167) | 1.883 *** (0.387) | −0.022 *** (0.008) | 0.064 * (0.035) | −0.029 ** (0.012) | 0.087 ** (0.044) |
| Adj. R ² | 0.92 | 0.89 | 0.87 | 0.85 | 0.96 | 0.62 | 0.92 | 0.42 |
| number of observations | 115 | 81 | 115 | 81 | 115 | 81 | 115 | 81 |

Note: (1) All specifications estimated utilizing the Prais-Winsten Panel Corrected Standard Error (PCSE) Within estimator; (2) GMM specifications include a one-period lagged dependent variable as regressor (not shown in table); (3) All regressions include an intercept term (not shown in table); (4) Standard errors in parentheses; (5) GDP per capita measured at purchasing power parity, in current US Dollars. Logs represents natural logs; (6) Kaufmann index for rule of law ranges from 0% = lowest to 100% = highest respect for the rule of law; (7) Kaufmann index for government effectiveness ranges from 0% = lowest level to 100% = highest level of government effectiveness; (8) * significant at 10%; ** significant at 5%; *** significant at 1%.

The behavior of the control variables is also interesting. Unsurprisingly, increasing per capita income, greater income equality, higher respect for the rule of law, and lower government debt seem to enhance economic freedom: it makes sense to think that a growing economy, with increasing access to economic opportunities, where the rule of the law is respected, and where the government makes serious efforts to control its level of indebtedness, should be the ideal setting for improving economic freedoms. The significance of the remaining variables, however, is not as clear cut. Less urbanization, lower rates of literacy, and higher levels of unemployment are found to enhance economic freedom, though this may simply be the result of reverse causation. In other words, it is not the level of urbanization, the literacy rate, and the level of unemployment that cause economic freedom, but the other way around, as described in several articles, including [Roberts and Olson \(2013\)](#) and [Henderson et al. \(2001\)](#). Lastly, the impact of access to internet and the degree of government effectiveness on the dependent variables is indeterminate.

Table 5 shows the same estimations from Table 4, but excluding Canada and the United States, the two developed countries in the sample and also the ones with arguably higher levels of economic freedom.

The results obtained with this sample of developing American nations mirror those obtained with the full sample of countries. As was the case with accountability and political and civil liberties, the principal difference is one of intensity. With this subset of countries, decentralization on the revenue side initially enhances the Heritage Foundation-WSJ index of freedom, but the absolute size of the statistically significant decentralization coefficients is bigger than those obtained with the full sample of countries, highlighting that in developing American nations the initial, positive impact of fiscal decentralization on economic freedom can be substantial.²³ However, as time passes and the process becomes more ingrained, decentralization seems to have a larger negative impact on economic freedom—reflected in bigger absolute values for the statistically significant coefficients for revenue decentralization squared—emphasizing that in developing American nations the challenges associated with establishing a well-functioning, coherent decentralization regimen might be more significant than they are in more developed and mature economies. As [Litvack et al. \(1998\)](#) and [Fritzen and Lim \(2006\)](#) have pointed out, if the institutional capacity does not evolve properly, wealth inequality is not addressed effectively, and political accountability does not improve, then decentralization is unlikely to achieve the stated goals of greater efficiency and equity in administering public resources, which should be reflected in greater levels of economic freedom. The results presented here highlight that economic freedom can be the unintended consequence of badly managed decentralization systems.

The behavior of the control variables is, for the most part, not significant. What is clear is that respect for the rule of law and lower levels of government indebtedness play a positive role in enhancing both indicators of freedom, results that conform to expectations and mirror what was observed in the full sample of countries. There also seems to be a positive correlation between increasing levels of per capita income and higher government effectiveness on the dependent variables. As was the case with the full sample of countries, higher literacy rates and higher levels of urbanization do not seem to play a positive role in enhancing freedom, but these results come with the same caveat described before. Lastly, the impacts of access to internet, the Gini coefficient, and the unemployment rate are indeterminate.

Finally, it is useful to compare the behavior of the twelve countries in order to point out perceived differences and similarities. Table 6 presents a comparison of each country's political and civil liberties, accountability, and economic freedom relative to the United States.

²³ The impact of decentralization on the Fraser index of economic freedom is indeterminate.

Table 6. Fiscal decentralization, political and civil liberties, accountability, and economic freedom, relative to the US.

| Country | Political and Civil Liberties | | Kaufmann Voice Accountability | | WSJ Economic Freedom Index | | Fraser Economic Freedom Index | |
|---------------|-------------------------------|--------------|-------------------------------|--------------|----------------------------|--------------|-------------------------------|--------------|
| | Revenues | Expenditures | Revenues | Expenditures | Revenues | Expenditures | Revenues | Expenditures |
| Argentina | 0.51 | 0.52 | 0.75 | 0.65 | 0.27 | 0.62 | 0.46 | 0.83 |
| Bolivia | 0.58 | 0.98 | 0.60 | 0.62 | 0.89 | 0.97 | 0.81 | 0.62 |
| Brazil | 0.50 | 0.60 | 0.75 | 0.70 | 0.78 | 0.67 | 0.78 | 0.72 |
| Canada | 1.00 | 1.00 | 2.16 | 1.55 | −1.23 | −0.10 | 1.20 | 1.28 |
| Chile | −0.35 | −3.92 | −18.96 | −20.46 | −4.55 | −8.50 | −5.35 | −14.72 |
| Colombia | 0.32 | 0.06 | 0.41 | −0.03 | 0.82 | 0.48 | 0.71 | 0.62 |
| Costa Rica | −73.08 | −199.22 | −23.68 | −67.78 | −3.49 | 28.95 | 5.05 | −40.18 |
| El Salvador | 0.50 | Na | 2.64 | na | 4.02 | na | −5.86 | Na |
| Mexico | 0.52 | 0.42 | 0.61 | 0.59 | 0.80 | 0.77 | 0.79 | 0.80 |
| Paraguay | 0.37 | 0.37 | 45.61 | 28.41 | 37.20 | 25.02 | 31.45 | 20.67 |
| Peru | 0.16 | 0.22 | 0.47 | 0.50 | 0.90 | 1.01 | 0.98 | 0.93 |
| United States | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Notes: (1) Figures estimated with a 50% ratio of decentralized revenues (expenditures) to general government revenues (expenditures); (2) The ratio of political and civil liberties has been inverted; it ranges from 1 = lowest to 5.56 = highest levels of political and civil liberties; (3) Decentralized expenditure data for El Salvador unavailable.

Each country's index of economic freedom, accountability, and combined ratio of political and civil liberties were regressed against their corresponding decentralization indicators (revenue and expenditure indicators, in levels and squared-values). Assuming a fifty percent share of sub-national revenues (expenditures) to general government revenues (expenditures) for all countries allows an estimation of the level of economic freedom, accountability, and political and civil liberties for each nation. Expressing the results for each country as a share of the results attained in the US (as the benchmark country, the values for the US are 1.0), generates the scores reported in Table 6.

For the most part the results obtained are the expected ones, as the scores for most countries in all four categories are consistently below 1.0, indicating that for most American countries political and civil liberties, accountability, and levels of economic freedom are generally below US levels. For instance, Argentina's scores are significantly below 1.0 in all categories, but its scores for accountability are relatively higher than its scores in other categories, noting that the quality of its democracy and basic freedoms of expression and association are closer to US levels. Furthermore, increasing or decreasing the ratio of decentralized revenues or expenditures in this country does not seem to improve or worsen its performance in these four categories, highlighting that Argentina's current level of fiscal decentralization seems to be at appropriate levels.

Canada shares the same degree of political and civil liberties as that of the US, denoted by a score of 1.0, but its scores for accountability and the Fraser economic freedom index are greater than 1.0, reflecting higher levels of accountability and, at least with one indicator of economic liberty, higher economic freedom. Chile and Costa Rica experience negative ratios in most of the categories, but if the level of decentralization for Chile decreases to a range between 10 and 20 percent, its score for political and civil liberties—as well as its scores for accountability and economic freedom—approach US levels. Likewise, if Costa Rica's decentralization levels were reduced to approximate 11 percent, most of the country's scores would approach US levels, and in some cases, exceed them: both the WSJ index of economic freedom and the Fraser index of economic freedom would surpass US levels, noting that in some cases *less* decentralization is actually preferred to more.

Paraguay has very high scores in accountability and in economic freedom, though the meaning of the economic freedom results may be more nuanced and linked to other factors, including the size of its informal economy, which, under some estimates, represent more than sixty percent of its GDP, among the highest in the hemisphere.²⁴ If the central government were to regain greater control by

²⁴ A good analysis of the importance and size of the informal economy in Latin America and the Caribbean is offered by Vuletin (2008).

reducing decentralization levels to around 13 to 14 percent, however, Paraguay's scores—excepting the score for political and civil liberties, which would remain at approximately 37 percent of the US level—would approach levels in the United States, confirming that in certain countries and under certain conditions, less decentralization may actually deliver better results.

Summarizing the scores displayed in Table 6, Argentina and Canada are the two countries who, in relation to the US, seem to have the right level of fiscal decentralization. Chile, Costa Rica, Mexico, Paraguay and Peru would benefit from reducing their levels of decentralization, while Bolivia, Brazil, Colombia, and El Salvador would benefit with greater decentralization.

5. Conclusions and Policy Implications

This study analyzes the impact of fiscal decentralization on economic freedom, accountability, and political and civil liberties in twelve countries in the Americas. Along with a host of control variables, indicators of economic freedom, accountability, and political and civil liberties were regressed against revenue-based and expenditure-based fiscal decentralization indicators for two sets of countries: one containing the twelve nations in the sample, and a second one excluding Canada and the United States.

The results demonstrate that the impact of decentralization—either revenue decentralization or expenditure decentralization—on accountability and on the combined ratio of political and civil liberties is similar, regardless of whether the analysis is done with the full sample of countries or excluding Canada and the US. Initially, decentralization seems to dampen accountability and political and civil liberties, but eventually the hypothesized positive impacts of decentralization begin to occur as it exerts a positive—though minimal impact—influence on the dependent variables. The principal difference between the sample containing all countries and the one excluding the US and Canada concerns intensity. When the two most developed economies—Canada and the US—are excluded, the impacts of decentralization, positive and negative, are larger, implying that the process of decentralization is potentially more consequential in developing American nations.

Regarding the impact of fiscal decentralization on economic freedom, the results indicate that regardless of whether the full sample of countries or the one excluding Canada and the US is utilized, fiscal decentralization initially enhances but eventually restrains economic freedom. Emulating the analysis with accountability and political and civil liberties, the intensity of this pattern of behavior seems stronger when Canada and the US are excluded, confirming the observation that fiscal decentralization might have substantially larger impacts on developing nations. This result counters the expectation that decentralization should eventually have a positive impact on freedom. A logical inference, then, is that higher accountability and improved political and civil rights—which have been shown to occur with fiscal decentralization—do not necessarily lead to greater economic freedom.

A final exercise involved comparing the performance of each country with fiscal decentralization. The results indicate that, assuming a given level of decentralization and relative to the US, most countries in the Americas have less economic freedom, less accountability and lower levels of political and civil liberties, though Canada's indicators very much resemble—and in some instances—surpass those of the US. Furthermore, it was determined that in certain countries, economic freedom, accountability, and political and civil liberties would benefit from varying degrees of decentralization, which calls attention to the important conclusion that there is not an ideal level of decentralization applicable to all, but rather that the optimal level of fiscal decentralization depends on the individual characteristics of each nation.

The most important lesson that emerges from this study is that fiscal decentralization can in fact become a driver for greater accountability and political and civil liberties, but it seems evident that, particularly from the perspective of developing American nations, the process of decentralization has to be accompanied by a host of other measures, including improving the quality and effectiveness of government, controlling government debt, and ensuring greater respect for the rule of law.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Table A1. Decentralization Indicators and Summary Statistics.

| Country | Sub-National Government Revenues to General Government Expenditures (%) | | | Sub-National Government Expenditures to General Government Expenditures (%) | | | | |
|---------------|---|----------------------|----------------|---|-----------|----------------------|----------------|---------------|
| | Period | Average Whole Period | Highest (year) | Lowest (year) | Period | Average Whole Period | Highest (year) | Lowest (year) |
| Argentina | 1990, 2000, 2005, 2007–2015 | 37.35 | 45.59 (2015) | 21.17 (2005) | 1980–2013 | 42.52 | 51.51 (2006) | 24.05 (1982) |
| Bolivia | 1985–2014 | 31.05 | 46.17 (2003) | 15.14 (1985) | 1986–2014 | 27.57 | 36.98 (1997) | 14.95 (1986) |
| Brazil | 2000–2014 | 54.01 | 62.47 (2014) | 49.19 (2005) | 2006–2012 | 52.34 | 54.73 (2008) | 50.76 (2009) |
| Canada | 1979–2014 | 72.59 | 78.10 (2010) | 69.35 (1989) | 2000–2014 | 73.30 | 77.59 (2014) | 68.19 (2000) |
| Chile | 1974–2014 | 8.56 | 14.06 (2002) | 2.75 (1974) | 2000–2001 | 13.35 | 13.50 (2000) | 13.20 (2001) |
| Colombia | 1990, 1998–2003, 2005, 2010, 2014 | 33.94 | 46.39 (1999) | 20.56 (2005) | 1998–2000 | 39.33 | 40.16 (2000) | 38.76 (1998) |
| Costa Rica | 2000–2014 | 5.01 | 6.95 (2007) | 3.19 (2000) | 2002–2007 | 3.98 | 6.35 (2005) | 3.08 (2002) |
| El Salvador | 2002–2010 | 7.61 | 10.11 (2009) | 4.54 (2002) | na | na | na | na |
| Mexico | 1972–2013 | 29.63 | 44.76 (2009) | 18.96 (1989) | 1990–2013 | 44.58 | 59.66 (1997) | 27.60 (1990) |
| Paraguay | 2005–2012 | 8.92 | 10.86 (2012) | 7.73 (2010) | 2005–2012 | 9.34 | 11.17 (2012) | 8.02 (2010) |
| Peru | 1995–2012 | 30.42 | 39.19 (2009) | 21.50 (1998) | 1995–2012 | 30.00 | 40.88 (2012) | 21.08 (1998) |
| United States | 1980–2014 | 56.13 | 60.77 (1992) | 51.48 (2013) | 1990–2014 | 51.50 | 59.85 (2000) | 46.27 (2011) |

Notes: (1) Main source of data for all countries: IMF Government Finance Statistics Annual Yearbook (GFS) (www.imf.org/en/data); (2) Additional sources of data for all countries and for individual nations: Organization for Economic Cooperation and Development (OECD) (www.oecd.org/ctp/federalism/fiscal-decentralisation-database.htm); Comision Economica para America Latina y el Caribe (estadisticas.cepal.org/cepalstat/WEB_CEPALSTAT/Portada.asp); Argentina: Comision Federal de Impuestos (www.cfi.gov.ar) and Ministerio de Hacienda y Finanzas Publicas (www.economia.gob.ar); Bolivia: Instituto Nacional de Estadistica (www.ine.gob.bo).

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