

Georgia State University

ScholarWorks @ Georgia State University

ICEPP Working Papers

International Center for Public Policy

8-1-2019

Subnational Government Debt Governance: Lessons from Non-Asian Emerging Economies

Jorge Martinez-Vazquez

Georgia State University, jorgemartinez@gsu.edu

Yasin Civelek

Georgia State University, ycivelek1@gsu.edu

Follow this and additional works at: <https://scholarworks.gsu.edu/icepp>

Recommended Citation

Martinez-Vazquez, Jorge and Civelek, Yasin, "Subnational Government Debt Governance: Lessons from Non-Asian Emerging Economies" (2019). *ICEPP Working Papers*. 147.

<https://scholarworks.gsu.edu/icepp/147>

This Article is brought to you for free and open access by the International Center for Public Policy at ScholarWorks @ Georgia State University. It has been accepted for inclusion in ICEPP Working Papers by an authorized administrator of ScholarWorks @ Georgia State University. For more information, please contact scholarworks@gsu.edu.

International Center for Public Policy

Working Paper 19-07

August 2019

**Subnational Government Debt Governance:
Lessons from Non-Asian Emerging Economies**

Jorge Martinez-Vazquez

Yasin Civelek

**International Center for Public Policy
Working Paper 19-07**

**Subnational Government Debt Governance:
Lessons from Non-Asian Emerging Economies**

**Jorge Martinez-Vazquez
Yasin Civelek**

**August
2019**

International Center for Public Policy
Andrew Young School of Policy Studies
Georgia State University
Atlanta, Georgia 30303
United States of America

Phone: (404) 413-0235
Fax: (404) 651-4449
Email: paulbenson@gsu.edu
Website: <http://icepp.gsu.edu/>

Copyright 2019, the Andrew Young School of Policy Studies, Georgia State University.
No part of the material protected by this copyright notice may be reproduced or utilized
in any form or by any means without prior written permission from the copyright owner.

International Center for Public Policy Andrew Young School of Policy Studies

The Andrew Young School of Policy Studies was established at Georgia State University with the objective of promoting excellence in the design, implementation, and evaluation of public policy. In addition to two academic departments (economics and public administration), the Andrew Young School houses seven leading research centers and policy programs, including the International Center for Public Policy.

The mission of the International Center for Public Policy (ICePP) at the Andrew Young School of Policy Studies is to provide academic and professional training, applied research, and technical assistance in support of sound public policy and sustainable economic growth in developing and transitional economies.

ICePP is recognized worldwide for its efforts in support of economic and public policy reforms through technical assistance and training around the world. This reputation has been built serving a diverse client base, including the World Bank, the U.S. Agency for International Development (USAID), the United Nations Development Programme (UNDP), finance ministries, government organizations, legislative bodies, and private sector institutions.

The success of ICPP reflects the breadth and depth of its in-house technical expertise. The Andrew Young School's faculty are leading experts in economics and public policy and have authored books, published in major academic and technical journals, and have extensive experience in designing and implementing technical assistance and training programs. Andrew Young School faculty have been active in policy reform in over 40 countries around the world. Our technical assistance strategy is not merely to provide technical prescriptions for policy reform, but to engage in a collaborative effort with host governments and donor agencies to identify and analyze the issues at hand, arrive at policy solutions, and implement reforms.

ICePP specializes in four broad policy areas:

- Fiscal policy (including tax reforms, public expenditure reviews, tax administration reform)
- Fiscal decentralization (including decentralization reforms, design of intergovernmental transfer systems, urban government finance)
- Budgeting and fiscal management (including local government budgeting, performance-based budgeting, capital budgeting, multi-year budgeting)
- Economic analysis and revenue forecasting (including micro-simulation, time series forecasting)

For more information about our technical assistance activities and training programs, please visit our website at <http://icepp.gsu.edu> or contact us by email at paulbenson@gsu.edu.

Subnational Government Debt Governance: Lessons from Non-Asian Emerging Economies

Jorge Martinez-Vazquez and Yasin Civelek*

August 2019

Abstract

Local borrowing is one of the fundamental pillars of fiscally decentralized systems—together with the assignment of functional expenditure responsibilities, revenue assignments, and transfers. However, undisciplined use of local debt can lead to disruptions in public service delivery at the subnational level and, more significantly, have important negative externality effects on the macroeconomic stability of the entire country. This paper surveys the actual practice with debt governance of Non-Asian Emerging Economies (NAEE) for the last several decades with the main objective of extracting lessons (both positive and negative) for the development of best practice around the world.

Keywords: Debt, Borrowing, Subnational, Non-Asian Emerging Economies

* Martinez-Vazquez: jorgemartinez@gsu.edu | Georgia State University; Civelek: ycivelek1@gsu.edu | Georgia State University

An earlier version of this paper was presented at the ADBI Annual Conference on the topic of "Managing Private and Local Government Debt" on Nov. 30-Dec. 1, 2017 in Tokyo, Japan.

Introduction

Local borrowing is one of the fundamental pillars of fiscally decentralized systems— together with the assignment of functional expenditure responsibilities, revenue assignments, and transfers. By issuing debt and getting other forms of loans, local governments can contribute to financing the local infrastructure much needed for all kinds of service delivery.¹ This form of financing infrastructure is both efficient and addresses hard liquidity issues. In addition, borrowing is intergenerationally equitable because it distributes the costs across the different generations that are users of the services provided by the infrastructure facility.² However, undisciplined use of local debt can lead to disruptions in public service delivery at the subnational level and, more significantly, have important negative externality effects on the macroeconomic stability of the entire country (Prud'homme, 1995; Tanzi, 1996). Broadly speaking, subnational authorities are widely perceived as having less concern than central governments for macroeconomic stability because often they do not have to bear the costs of their debt policies (Ter-Minassian, 1997a).

There are two fundamental reasons why subnational governments may be undisciplined regarding borrowing behavior. First, the design of the fiscal decentralization system may be— typically is—faulty. While most fiscal decentralization reforms have devolved significant expenditure authority, they have done so much less in terms of revenue authority. This form of

¹ Besides borrowing, subnational governments typically finance their capital expenditure needs with current account savings or surpluses, capital grants from the central government, and the sale of assets (e.g., land).

² In the paper, we use the term 'borrowing' in a generic sense, which includes at least four different sources: from the central governments, which may involve political criteria and moral hazard; from municipal development funds (MDFs), which often fail to impose market discipline (Ferguson, 1993); from commercial banks, which can lack transparency and carry poor terms and conditions (Nguyen et al., 2017); and from capital markets issuing bonds. In turn, there are different types of bonds. Revenue bonds, at times also called project finance, are paid back with the earmarked revenues generated from the project where the funds are invested. Most bonds are "full faith and credit" or correspond to balance sheet finance and are secured by all tax and non-tax revenues and liquid assets of the subnational governments. Of course, this does not mean that the subnational government will always be able to repay the bonds.

asymmetric decentralization leads to large vertical imbalances, which are routinely closed with high degrees of local government dependence from central transfers. This in turn, through the common pool problem, leads to excessive local spending and lower tax effort because transfers represent little cost of obtaining marginal funds and leads to moral hazard and expectations of bailouts for excessive borrowing.

Second, even when no such defects are present in fiscal decentralization design, there are simple political economy reasons why local officials—actually officials at all levels—may be undisciplined regarding borrowing and debt. In simple terms, borrowing allows huge increases in local spending, the cutting of ribbons for infrastructure projects, etc., while it postpones most of the payments to future times. Local officials seeking local votes may see additional borrowing and spending as an expedited way to get that support, while the (political) costs are shifted as responsibilities of other officials to come.

Thus, ensuring disciplined and responsible local borrowing behavior requires more than good decentralization design. It also requires explicit rules, monitoring and oversight regarding local government debt. This implies that prohibiting borrowing is not a good solution because it is inefficient. The question is how to provide a legal framework and practice that allows local governments flexibility to pursue optimal service delivery while preventing undisciplined or irresponsible behavior in good times or in times of economic crisis.

This paper surveys the actual practice with debt governance of Non-Asian Emerging Economies (NAEE)³ for the last several decades with the main objective of extracting lessons (both positive and negative) for the development of best practice around the world. The 2008

³ The list of countries covered in the NAEE group is presented in Table A-1 in the Appendix.

global financial crisis and the Great Recession that ensued produced sharp declines in economic activity in many fiscally decentralized developed and developing countries. As discussed below, the sharp macroeconomic downturn put fiscal decentralization and debt governance institutions to test in the NAEF group of countries. For example, it has been argued that the lack of flexibility in subnational borrowing limited the contribution of some subnational governments to support national fiscal stimulus policies (Fardoust and Ravishankar, 2013). Actually, a significant part of the evolution of subnational borrowing regulations and overall governance in NAEF has been the result of reactions to other types of crises, debt crises. For example, emerging economies such as Argentina, Brazil, Colombia, and Mexico have experienced subnational government debt crises in the last two decades from which new regulatory frameworks for subnational fiscal and debt management have emerged.

The rest of the paper is organized as follows. The second section reviews the relevant literature in fiscal federalism, focusing on the debate of whether inherent features of fiscal decentralization contribute to macroeconomic instability and the empirical evidence on the impact of local debt governance on the outcomes. The third section remarks on the importance of comprehensiveness in the definition and quantification of the many different dimensions or types of debt for rules and monitoring to be effective. The fourth section examines the overall trends in subnational debt over the last decades in non-Asian emerging economies. The fifth section reviews the actual practice with borrowing rules in those countries, while the sixth examines the particular case of fiscal responsibility laws in Latin American countries, which generally go beyond borrowing regulations. The following section examines the monitoring and enforcement of fiscal rules and borrowing regulations, and the final section concludes and extracts useful lessons.

Review of the Literature and Theoretical Framework

Since Oates' (1972) seminal contribution, it has been long accepted that decentralization can deliver a more efficient allocation of public resources. Other potential benefits associated with decentralization have been identified, but one area that traditionally has been considered as problematic is the impact of fiscal decentralization on macroeconomic stability (Martinez-Vazquez et al., 2017). Over the last four or more decades, there has been intensive study of what may be the potential causes of fiscal indiscipline at the subnational level and the role of fiscal institution and fiscal rules. While many papers study the role of tax autonomy and intergovernmental transfers on subnational budgetary discipline, empirical works that examine the effectiveness of subnational borrowing regulations are relatively very few.

Multiple papers have researched the potential negative impact of poor decentralization design on fiscal discipline. Rodden et al. (2003) and Oates (2008), among others, highlight that lack of tax autonomy and large vertical fiscal imbalances (VFIs) as one of the leading factors for the subnational fiscal indiscipline. The presence of large VFIs and transfer dependence lead to common pool problems (Poterba and von Hagen, 1999). These arise because subnational governments fail to internalize the true cost of public expenditures—that is, their perceived marginal cost of funds is lower because other jurisdictions in the country are contributing to the central transfers received (Rodden, 2002). Also, large VFIs can lead to moral hazard and bailout expectations, especially when combined with unlimited borrowing (Rodden, 2002; Bordignon, 2006; Crivelli and Stall, 2013; Eyraud and Lusinyan, 2013, Asartyan et al., 2015).

There is also a considerable empirical literature that has simply looked into the question of whether in reality decentralization is associated with higher macroeconomic instability (Martinez-Vazquez and McNab, 2003; Schaltegger and Feld, 2009; Baskaran, 2010; Neyapti, 2010).

Interestingly, and somewhat at odds with a priori expectations, these studies actually find no effect or positive effect of fiscal decentralization on macroeconomic stability.

A number of additional papers have also explored the role played by borrowing and other fiscal rules, which many governments have introduced over the past several decades to keep in check subnational governments' proclivity to abuse their borrowing powers (Jin and Zou, 2002; Rodden, 2002; Plekhanov and Singh, 2007; Martinez-Vazquez and Vulovic, 2017). However, most of this literature focuses on the theoretical dimensions of rules, or they are country-specific case studies at the subnational level.⁴ Overall, these studies still fall short of providing robust results about the effectiveness of the different institutional arrangements that may lead subnational governments to the most desirable fiscal outcomes.

Along with the more recent adoption of Fiscal Responsibility Laws (FRLs) in emerging and developed economies, some empirical papers have examined the impact of these FRLs on fiscal outcomes. So far, the evidence appears to be mixed. Caceres et al. (2010) empirically test whether fiscal performance improves with the implementation of FRLs using a sample of Latin America and advanced countries. They find that FRLs provide a positive but limited effect on fiscal outcomes. Similarly, Mello (2005) finds that FRLs in Brazil have a significant positive effect on the primary balances. However, Thornton (2009), who analyzes the impact of FRLs on fiscal discipline in nine emerging market economies, finds no significant effect on fiscal performance.

The most recent innovation in fiscal governance over the last decade has been the introduction of fiscal councils. In some cases—like in the cases of Hungary and Nigeria—fiscal councils were established as a part of FRLs. In all cases, developed and developing countries,

⁴ Braun and Tommasi (2004) analyzes the subnational fiscal rules from a game theoretic approach. Ter-Minassian (2007, 2015) provides a good informational study.

fiscal councils have been adopted as a more or less independent authority to monitor and help enforce fiscal rules. The original idea had been whether a truly independent authority—similar to the role played by central banks regarding monetary policy—should control government debt and deficits (von Hagen and Harden, 1995; Calmfors, 2003; Wyplosz, 2005), the main argument being that most governments are time-inconsistent regarding their short-run fiscal policy objectives and long-term fiscal stability performance (Wyplosz, 2005).

How effective are fiscal councils? This institutional innovation is fairly new and just a few developing countries have adopted fiscal councils. But, even though the population size is small and the time is limited, the preponderance of the findings is that they can play a significant role in improving fiscal discipline and overall performance. This is especially the case when they are provided with more independence and authority (Hagemann, 2011; Calmfors and Wren-Lewis, 2011; Debrun and Kumar, 2012 and Debrun and Kinda, 2017). Even though most existing councils make some forms of ex-ante and ex-post policy assessments and fiscal sustainability analysis, practically none of them go beyond the evaluation of current policies and forecasts; in particular, they lack any legal authority to determine national debt or deficit levels, which are still reserved—unlike the case of independent central banks—to elected authorities. Also important from our perspective, existing fiscal councils mainly focus on central governments, and therefore, there is little evidence so far about the impact of fiscal councils on subnational borrowing and fiscal discipline. However, clearly the combination of public reports and high media impact of fiscal councils has good potential to lead to better fiscal outcomes at the sub-national government level.

One last relevant fiscal institution, which has been around for a long time but has attained special attention in the aftermath of the Great Recession, is the practice of “rainy day funds.”⁵ Practically all states in the U.S. have adopted rainy day funds to protect their budgets and spending against unexpected economic shocks and uncertainties and to minimize the disruptions caused by economic fluctuations and sharp declines in revenues. Their effectiveness in the past has depended on the size of the shock and the types of expenditures protected (Sobel and Holcombe, 1996; Knight and Levinson, 1999; Zhao, 2016; Gonzales and Paqueo, 2003). There is no consensus on the optimal balance of rainy day funds, but the recommendations following the 2008 crisis increased to 15 percent of annual revenues, against the suggested rates of 3 percent to 5 percent in the 1980s (Haggerty and Griffin, 2014).

The Elusive Definition and Quantification of Subnational Debt

An important difficulty with the good governance of debt at the subnational level is to be able to identify well all the different forms debt can take and then be able to properly quantify all those dimensions. This is important because subnational governments can bypass controls and even prohibitions by adapting less visible or formal forms of debt. This is a practice common to many countries, developed and developing. It took an extreme form in recent years in China where the law formally prohibited subnational governments from borrowing, but in recent years, many subnational governments there have found themselves heavily indebted and near bankruptcy. This is because they had used indirect borrowing vehicles and, of course, never officially borrowed any funds. Similarly, even though local governments in Chile are not allowed to borrow, they do so de

⁵ Other related funds such as commodity stabilization funds and sovereign funds are not included. These are generally national fiscal instruments rather than subnational instruments. However, subnational stabilization funds have been discussed in countries like Peru where subnational governments depend significantly on revenues from natural resources subject to wide fluctuations driven by international prices.

facto through arrears to suppliers and in contributions to government funds, as well as leasing contracts (Letelier, 2011). Thus, it is important to be clear what constitutes debt and that we are able to measure it.

The IMF (2001) defines debt as any liability that consists of the payment of interest and principle by a debtor to a creditor at a date(s) in the future. Therefore, subnational government debt should be inclusive of all forms of all liabilities either explicitly contracted (e.g., bank loans, bond issues, or central government loans) or otherwise created by sub-central governments (e.g., accruals or arrears in payments to suppliers or providers). Even though there may be generalized agreement with the definition and scope of what subnational debt is, there is not a generalized accepted practice for how to measure and report all the dimensions. As a result, there is no agreement either on what may be sustainable or unsustainable subnational debt levels. For example, there is typically agreement—although not always done in practice—that accrued unpaid bill or arrears should be included in the computation of overall debt.⁶ However, should unfunded contingent liabilities of subnational government pension funds or other unfunded future liabilities be part of the overall computation of debt levels of subnational governments?⁷

What this amounts to is that subnational governments may be able to manipulate their actual debt levels to satisfy particular types of debt ceilings and sustainability measures. This manipulation must be added to the fact that central and local governments may use different rules to define debt and deficit within the same country and that those may differ considerably across countries (Irwin, 2005). Furthermore, the analysis of subnational debt sustainability can be

⁶ Having a good idea of what those arrears are requires, among other things, accrual accounting, but many subnational governments continue to use cash accounting, so the arrears can be undetected and unaccounted for.

⁷ For example, according to a Pew Charitable Trusts, the gap between the total assets reported by state government pension systems across the United States and the benefits promised to workers reached \$1.1 trillion in fiscal year 2015 (<http://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2017/04/the-state-pension-funding-gap-2015>).

complicated because of the lack of tax autonomy as well as the various legal restrictions on sub-central governments imposed by a higher level of government.

General Subnational Government Debt Trends in Non-Asian Emerging Economies

With the caveat that we may not always be accounting for the totality of debt that should be accounted for, we move next to analyze the recent trends in the overall level of subnational government debt in non-Asian emerging economies.⁸ We group these emerging countries in three groups with distinctive characteristics: emerging countries in Latin America (Argentina, Brazil, Chile, Colombia, and Mexico); emerging countries in Eastern Europe (Bulgaria, Czech Republic, Hungary, Poland, Romania, and Slovenia); and then separately two countries in Africa (Nigeria and South Africa), the Russian Federation, and Turkey.⁹

Subnational government debt levels in the Latin America group are relatively high in terms of GDP and in terms of total consolidated debt but show clearly declining trends. Subnational debt was as high as 20 percent of GDP in Brazil in the early 2000s, but it has been declining toward 10 percent, while in Argentina and Colombia this is closer to 5 percent of GDP (Figure 1a). Mexico has the lowest percentages in the group. By comparison, the average value of subnational debt in OECD countries in 2014 was 23.9 percent.¹⁰ In terms of consolidated debt, there is convergence toward 15 percent of the total for Argentina, Brazil, and Colombia. In the case of Mexico, again the numbers are lower, approximating 5 percent of total debt (Figure 1b). By comparison, subnational debt in OECD countries represented 19.8 percent of total public debt on average in

⁸ Data on subnational government debt were collected from various sources including IMF country reports, related country's Ministry of Finance reports, National Statistical Agencies, and Central Bank sources. For the total consolidated government debt, we used the IMF's Historical Public Debt Database.

⁹ Data were not available for other non-Asian emerging economies: Egypt, Iran, Mauritius, Oman, Qatar, and United Arab Emirates. Therefore, these countries were excluded from the analysis.

¹⁰ OECD (2016), "Subnational Government Structure and Finance," OECD Regional Statistics (database), <http://dx.doi.org/10.1787/05fb4b56-en>.

2014.

Figure 1a. Latin America Subnational Government (SNG) Debt Trends as a Percentage of GDP

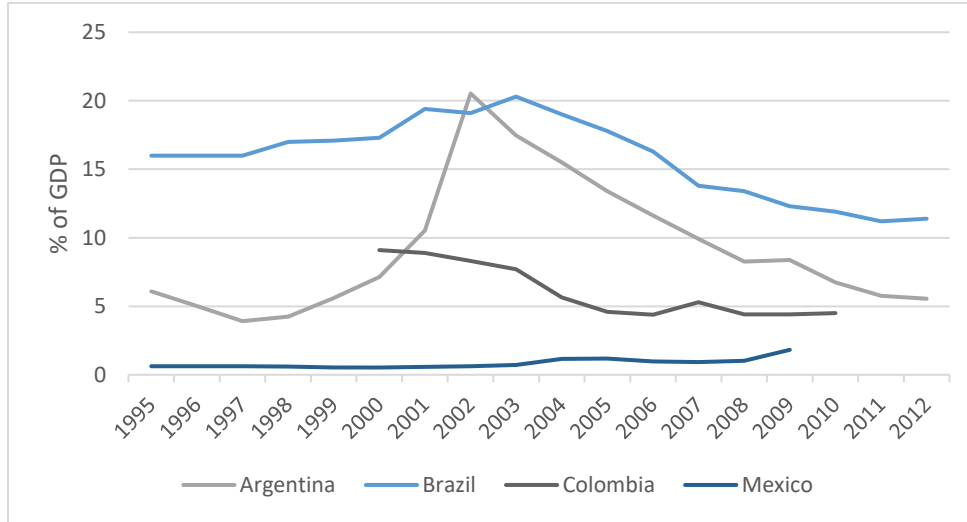
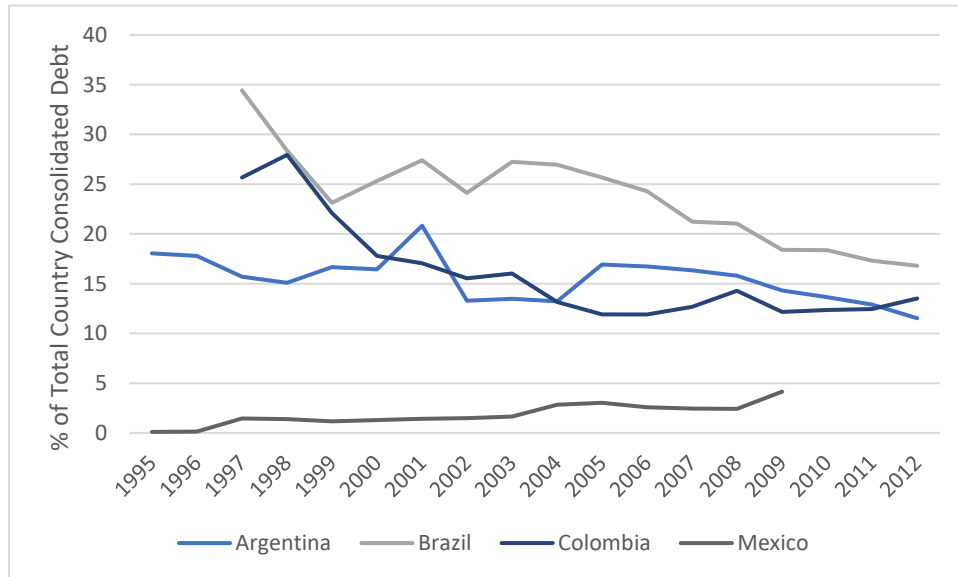


Figure 1b. Latin America SNG Debt Trends as a Percentage of Total Country Consolidated Debt



In contrast to Latin America, subnational debt levels in Eastern Europe are relatively low both as a percentage of GDP and as a percentage of total debt, but generally they show increasing trends. For 2012, the most recent year available, subnational debt level in Eastern European

countries was generally below 5 percent (Figure 2a). In terms of total debt, there has been convergence in all Eastern European countries for subnational debt to represent between 5 and 10 percent of the total (Figure 2b).

Figure 2a. Eastern Europe SNG Debt Trend as a Percentage of GDP

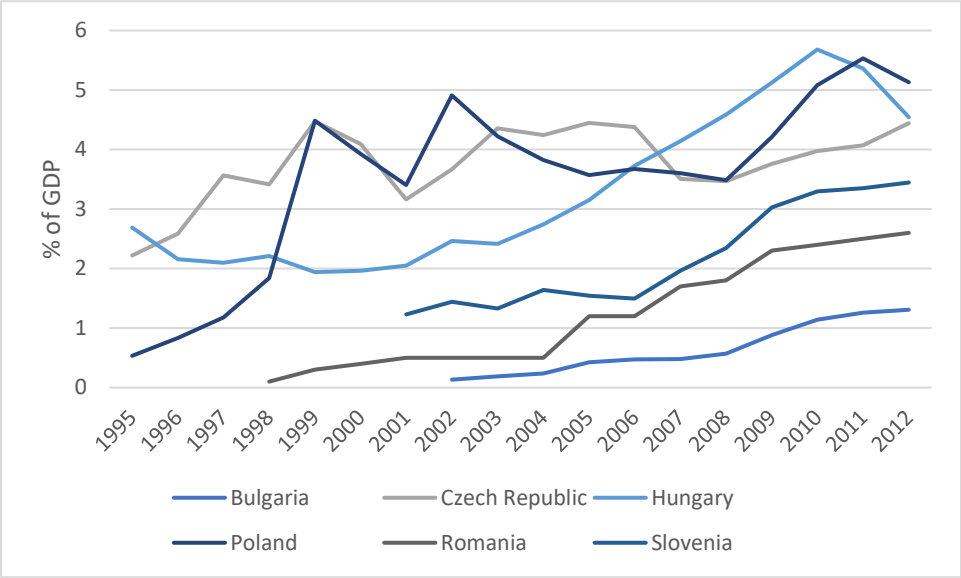
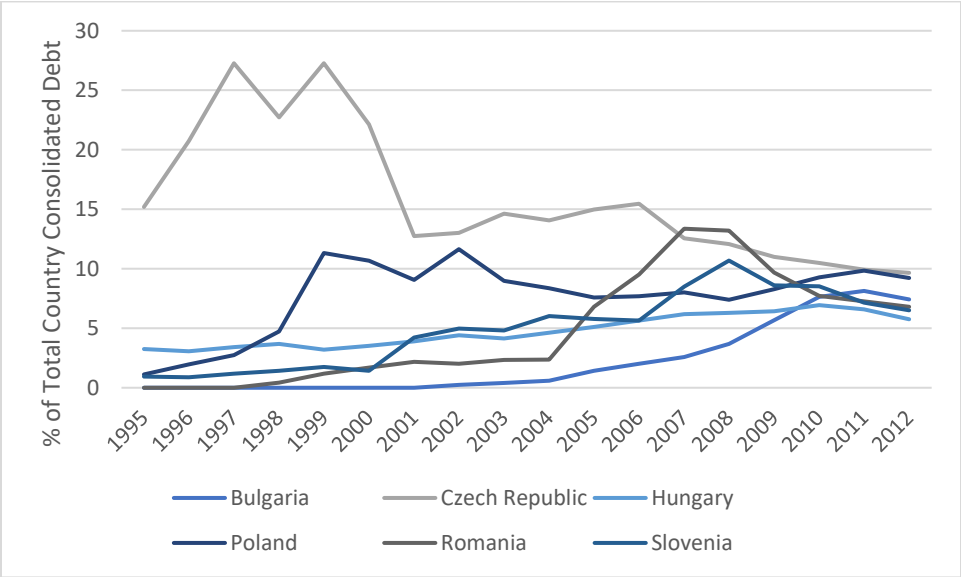
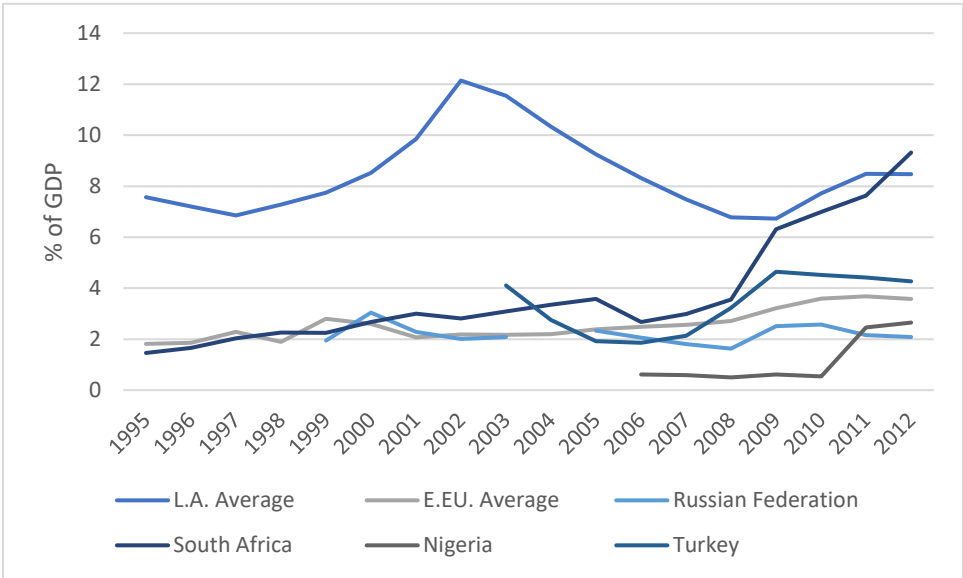


Figure 2b. Eastern Europe SNG Debt Trend as a Percentage of Total Country Consolidated Debt



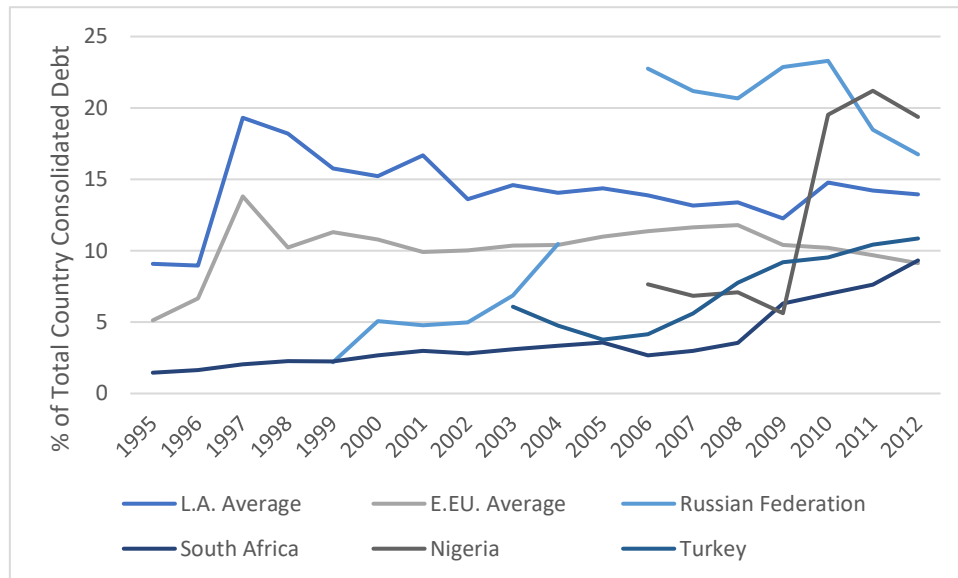
In the case of South Africa, subnational debt as a percentage of GDP and a percentage of total consolidated debt has increased sharply since the start of the financial crisis in 2007. This is shown in Figures 3a and 3b together with averages for Latin America and Eastern Europe. In the case of Nigeria, there is also a sharp increase from 2011, but this is mostly due to the unavailability of data for domestic subnational debt before that year.

Figure 3a. Regional Comparison for SNG Debts as percent of GDP



Note: Nigeria SNG domestic debt data are only available from 2011 (total debt = domestic debt + external debt)

**Figure 3b. Regional Comparison for SNG Debts
as a Percentage of Total Consolidated Debt**



Borrowing Rules in Emerging Non-Asian Economies

Over the past several decades, non-Asian emerging economies, following worldwide trends, have increasingly made use of explicit borrowing rules in an effort to ensure that the borrowing authority of subnational governments did not lead to fiscal indiscipline and macroeconomic instability in the country. Just about every country has had its own internal evolution propelled by different experiences, as we document more closely in the next section for the case of emerging economies in Latin America. As we have seen, even when fiscal decentralization systems are well designed with a symmetrical provision of spending and taxing powers, there are strong political economy incentives for subnational authorities to act myopically and to over-borrow and over-spend. If we leave out the absolute prohibition of borrowing as being

an inefficient solution to the problem,¹¹ borrowing rules are clearly necessary.¹² Nevertheless, the questions are: What type of borrowing rules? Are there better rules?

Borrowing rules regimes

In this section, we examine the evolutions of the different types of borrowing rules adopted by non-Asian emerging economies. In the analysis, we follow Ter-Minassian and Craig (1997) who first classified subnational borrowing regulations and debt supervision into four categories:¹³ i) Administrative regulation, ii) Cooperative regulation, iii) Rule-based regulation, iv) Market-based regulation. In what follows, we briefly describe the approaches and indicate which of the non-Asian emerging countries has adopted it.¹⁴

A. Administrative Approach

The administrative regulation approach gives power to the central government to directly control the subnational government debt through different instruments, including debt ceilings, prohibition of external borrowing, and prior approval of conditions for any new debt. The direct control of the central government on subnational government borrowing is more frequently seen in unitary countries—and in those at early stages of decentralization—than in federal states (Ter-Minassian, 1997). The administrative regulation approach has the advantage of being better able to ensure macroeconomic stability since central authorities can directly control borrowing at all

¹¹ Outright prohibition has not been that uncommon in the past. At least one of the countries included in the analysis sample, Chile, still prohibits its subnational governments from borrowing. In the early 1990s in the transition years to a market economy, several Eastern European countries prohibited subnational borrowing.

¹² Conceptually, if the costs of borrowing and those of intergovernmental transfers were the same across all levels of government, the structure of borrowing among various government levels would not be a concern (Wildasin, 2004). But, in reality those costs are not the same because of moral hazard and common pool problems. Hence, the need to regulate subnational government borrowing.

¹³ This classification has been widely used in the subnational borrowing literature. See, for example, Plekhanov and Singh (2007) and Martinez-Vazquez and Vulovic (2017).

¹⁴ See Martinez-Vazquez and Vulovic (2017) for further recent descriptions of the systems.

levels. This approach may also facilitate better financial terms and conditions for subnational governments since foreign lenders often use the central government as an on-lender to subnational governments and at the same time obtain repayment guarantees from the central government. However, the administrative approach would seem to be contradictory to the idea of fiscal decentralization. Because of the close tutoring and direct engagement of the central government in the operation of subnational borrowing, there may be a perception among lenders of potential bailouts and there may be less self-discipline by subnational governments. Among the non-Asian emerging economies, we identify Mexico as the only country clearly using the administrative approach. In Mexico, there is a recent history of financial bailouts of subnational governments. Currently, state and local governments can borrow up to the debt ceilings set by a higher-level authority. Moreover, they can only borrow from domestic sources and those funds can only finance public investment expenditures. Interestingly, in addition to administrative controls, Mexico also uses financial sector regulations—essentially a system of credit ratings, which are discussed below—that add a layer of prudence to all subnational borrowing activities.

B. Cooperative Approach

In this approach, the law, the constitution, or a higher-level of government do not determine subnational debt regulations. Instead, these regulations are established through negotiations between the central and subnational governments. In this category, regional and local governments are actively in a dialogue with the central government regarding subnational revenues and expenditures, the national deficit target, as well as debt ceilings, including those for the regional and local governments. One clear advantage of this approach is that it promotes the dialogue between the central and the subnational government levels, thus raising general awareness about the implications of subnational borrowing on macroeconomic stability. The most significant

downside is that afterwards it requires voluntary action. When the cooperation is poorly implemented or breaks down, it may lead to an increase in the bargaining power of subnational governments and lead to abandoning the budgetary discipline at the regional and local government levels (Plekhanov and Singh, 2007).

Among the emerging economies in our sample, South Africa uses a combination of cooperative and market-based approaches to regulate subnational borrowing (Liebig et al., 2008). The Constitution (article 3) mandates cooperation among the various government levels in order to determine how much they can borrow. In practice, there is no fixed debt ceiling on the regional and local governments, and these subnational entities are able to borrow with considerable flexibility, subject to financial market constraints.

C. Rule-based Approach

Rather than resting on central discretion or voluntary agreements, this approach relies on compliance with clearly stated ex-ante rules that subnational governments need to follow when they borrow. To restrict subnational borrowing, fiscal rules are specified in a legal framework listing in different combinations: debt ceilings or limits on total borrowing, ceilings on debt service expenditure (for principal and interest), the “golden rule” (funds can only be used to finance investment on infrastructure), rules on who can be a lender, and so on. A clear goal is to relate the level of borrowing to the repayment capacity of the borrower entity. A second goal is to make subnational fiscal outcomes predictable. Because most often the rules are specified in the national legal framework, they are known as centrally-imposed rules. However, it is possible for subnational governments to also have self-imposed rules.

While it may seem relatively straight forward to monitor legal limits of total debt or limits on debt service expenditures, these rules are not always effective because subnational governments

may use off-budget procedures, which allows them to accumulate debt beyond the prescribed rules. See Box 1. Similarly, using the “golden rule” is not a guarantee of fiscal sustainability and macroeconomic stability since infrastructure investments may not actually provide in the end socially and economically profitable returns.

The rule-based approach has the clear advantages of transparency and flexibility within certain limits and not having to rely on unnecessary bureaucracy or long negotiations between the central and subnational authorities, which may also include political rather than economic components. Nevertheless, the rule-based approach has the clear disadvantage of inflexibility. By its nature, this approach may reduce the effectiveness of subnational fiscal policies during a financial crisis when it may be necessary to increase public expenditure. However, breaking the rules once may create a bad precedent for the future and weaken the overall effectiveness of the rules. In practice, the rule-based approach is the most commonly used among non-Asian emerging economies, having been adopted in Brazil, Bulgaria, Colombia, Czech Republic, Hungary, Poland, Romania, and the Russian Federation.

D. Market-based Approach

Under this approach, the central government does not regulate subnational government debt limits but rather relies on financial markets to regulate and restrict subnational borrowing. Here, therefore, it is up to the subnational governments to decide on the source of the debt, its terms and conditions, and the amount that they want to borrow. And it is up to the financial markets to regulate and restrict access to borrowing by subnational governments. For financial markets to be able to do this job properly, they must have access to accurate information and indicators on the subnational governments’ ability to repay the debt. Lane (1993) has characterized the set of conditions that financial markets must comply with in order to exert effective regulation on

subnational borrowing: a) financial markets should operate freely and be open. There should not exist such regulations that force financial entities to give loans to subnational governments, constituting a privilege; b) it should be well-stated that no bailouts by the central government are possible; c) financial markets should be able to access available information to evaluate subnational governments' credibility based on its outstanding debt and repayment capacity; and d) subnational governments should have the ability to react with an adequate response to the market performance.

Most emerging economies do not have subnational financial markets that comply with the above conditions. In fact, those financial market conditions are only present in just a handful of developed economies. Nevertheless, even in these economies, credit-rating agencies play a key role in evaluating the repayment capabilities of subnational governments. Thus, since in most non-Asian emerging economies, financial markets at the subnational level are not sufficiently well-developed to access adequate information on subnational governments' fiscal performance, the market-based approach is not well suited to effectively regulate subnational borrowing in these countries. Currently, none of the non-Asian emerging economies in our sample use this approach. However, several Eastern European countries have attempted to use it in the past. In addition, some countries, like Mexico, have introduced a subnational credit rating system, which works as a complementary tool for whatever other approach they are using—the administrative approach in the case of Mexico. Table 1 summarizes the borrowing rules regime adopted by each of the non-Asian emerging economies in our sample at three moments in time: 1990, 2000, and 2010. It should be remembered that even though we classify each country in a particular category, many of these countries do not always fit neatly in that category because they use features of different regimes. We use the category we feel is most representative of the country legislation at the time.

One clear message from the information in Table 1 is that, in the span of a decade, many of the non-Asian emerging economies have changed subnational borrowing regimes. For example, while in 1990 at least three countries entirely prohibited subnational borrowing, in 2010 only Chile maintained that prohibition.

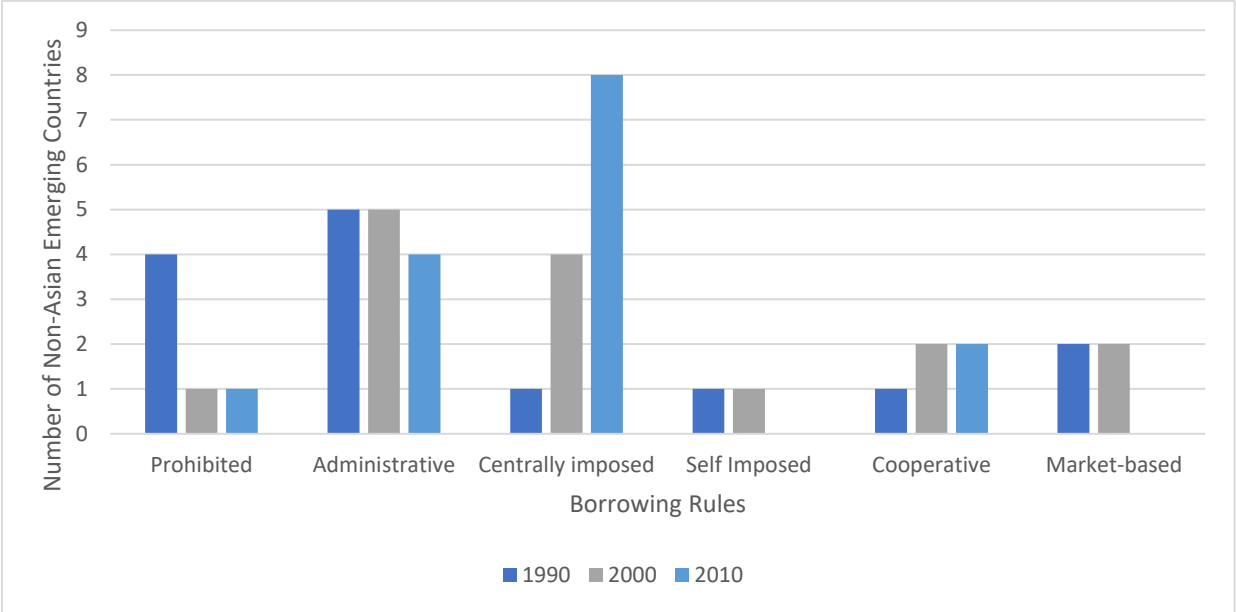
Table 1. Borrowing Rules Used across Years in Non-Asian Emerging Countries

	1990	2000	2010
Prohibited	Bulgari	Chile	Chile
	Chile		
	Poland		
	Romania		
Administrative	Brazil	Mexico	Mexico
	Mexico	Nigeria	Nigeria
	Russia	Russia	Slovenia
	Slovenia	Slovenia	Turkey
	Turkey	Turkey	
Centrally-imposed rule	Colombia	Brazil	Brazil
		Colombia	Bulgaria
		Hungary	Colombia
		Poland	Czech Republic
			Hungary
			Poland
			Romania
			Russia
Self-imposed rule	Argentina	Argentina	(None)
Cooperative	South Africa	Romania	Argentina
		South Africa	South Africa
Market-based	Czech Republic	Bulgaria	(None)
	Hungary	Czech Republic	

The trends in the adoption of borrowing regimes are more clearly shown in Figure 4. While just one of the countries in our sample had adopted the regime of centrally imposed rules in 1990, by 2010 eight countries had adopted that regime, thus being the most popular among non-Asian

emerging economies. The attraction of central rules is that it offers both transparency and an indirect, high degree of central government control. The only other regime that experienced an increase in the number of users is the cooperative regime—but only very modestly from one user in 1990 to two in 2010. All other regimes, including outright prohibition, have decreased in popularity, and none of them was used by more than two countries in the sample in 2010.

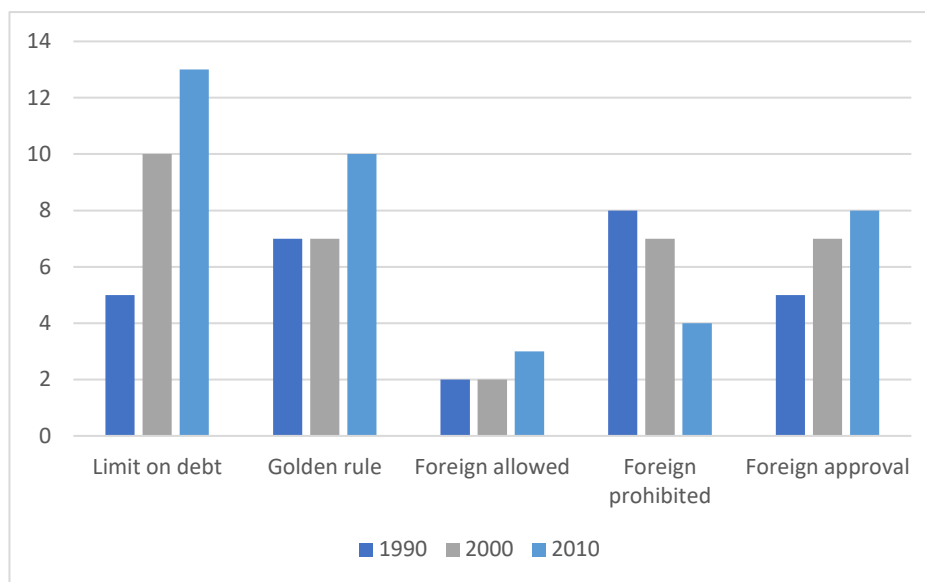
Figure 4. Subnational Borrowing Rules for Non-Asian Emerging Countries



As we have pointed out in several places in the discussion above, regardless of the specific borrowing regime adopted, many countries have also opted to apply what we could call cross-cutting general rules that help better define the regulatory framework for subnational governments and also give central administrations more control over subnational borrowing. The most popular of those cross-cutting rules and the number of non-Asian emerging countries that have adopted them are depicted in Figure 5. There we can see that most countries in the sample had adopted overall limits on subnational debt by 2010. In addition, the vast majority has adopted the “golden rule.” Lastly, many of the countries in the sample have moved away from prohibiting foreign

borrowing to allowing it with prior approval and, less so, just to allow it.

**Figure 5. Cross-Cutting Rules for Debt Regulations
among Non-Asian Emerging Economies**



Are there better performing rules?

What do we know about which approach to borrowing regulations works best? As we have seen, it is not hard to identify features in most of these approaches that would seem to give them some kind of an advantage. For example, one may suggest that the rule-based approach is superior to the administrative approach from the viewpoint of budget transparency and certainty or that the cooperative approach has the advantage of directly involving subnational governments in the pursuit of fiscal stability (Ter-Minassian and Craig, 1997). However, each approach encompasses multiple dimensions, and clearly none of the approaches a priori dominates all those dimensions.

Alternatively, we may try to answer the question of what borrowing regulation works best by conducting statistical regression analysis, which is well suited to help disentangle multivariate complex causation effects. And this is what has been attempted in the previous literature in studies

such as Plekhanov and Sing (2007) and Martinez-Vazquez and Vulovic (2017). The general conclusion reached in those statistical studies is that no particular borrowing regulation appears to dominate the rest and that the more general rules, such as the “golden rule” and limits on debt and borrowing, appear to be effective. Regarding the choice of subnational government borrowing regulations, the depth of the financial market is notably essential for cooperative and rule-based regulations. On the other hand, the cooperative approach has a positive impact on general government fiscal discipline, even in the act of a high vertical fiscal imbalance and high levels of subnational debt (Martinez-Vazquez and Vulovic, 2017). Moreover, rule-based approaches at subnational governments seem to have a positive effect on fiscal performance in the case of low levels of intergovernmental transfers. However, in the case of high vertical fiscal imbalances, centrally-imposed rules seem to lead to better fiscal outcomes than self-imposed rule-based approaches among emerging economies (Plekhanov and Singh, 2007).

In summary, the empirical evidence on subnational borrowing regulations suggests that none of the borrowing regulations is clearly superior to the other types of approaches. This finding may suggest that implementation and enforcement and conditionality on the country’s overall fiscal structure and its decentralization level may be key to the effectiveness of each different borrowing regulation. Needless to say, the empirical findings regarding the effectiveness of the different borrowing rules at the subnational level only capture the presence of a particular borrowing rule. Data on the effectiveness of implementation and actual level of monitoring of the particular rule are not readily available. That represents a very significant caveat. Therefore, it would be proper to say that the conclusions reached in that empirical literature should be interpreted as works in progress. A difficulty still to be sorted out is how to get around the potential measurement error of the borrowing regimes. Fundamentally, each country is assigned to one of

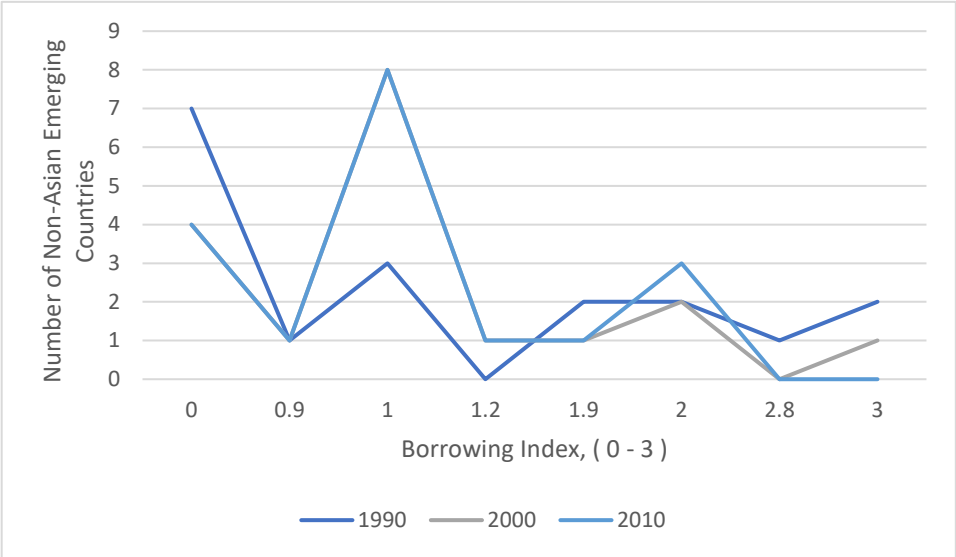
the four categories of borrowing regimes based on a judgement call, and then a dummy variable is used in the estimation to indicate each rule. However, this may be misleading. For example, many countries use a combination of the different borrowing rules. For example, South Africa chooses a combination of the cooperative regulation and market-based discipline. Also, those regulations tend to change over time. Therefore, even though, the categorization of the four types of borrowing regulations clearly provides useful information for policymakers, more detailed study is still needed for precisely understanding the effectiveness of the different approaches.

An index for borrowing authority

A different approach to measuring the borrowing authority actually devolved to subnational governments is to estimate a borrowing autonomy index for each of countries in which we are interested. Such an index has been proposed by Hooghe et al. (2016). The index captures a variety of relevant fiscal regulations into a scalar taking values between 0 and 3. Specifically, the borrowing autonomy index takes into account whether an approval for a debt by higher-level government is required, whether debt limits are in force, whether the “golden rule” is in place, and whether foreign borrowing is allowed. The index is explained in more detail in Appendix 1, where we also show the country-specific graphs depicting the borrowing autonomy index. As seen in the country-specific graphs, subnational borrowing autonomy has been strictly restricted via FRLs in Latin America countries such as Argentina, Brazil and Colombia after the subnational debt crises in the late 1990s and early 2000s. One obvious conclusion one reaches observing the different country drafts is the variation over time in the index and how many countries have oscillated between providing subnational governments with significant borrowing authority followed by significant restrictions and back again. Figure 6 summarizes the distribution of subnational borrowing autonomy for the countries in our sample measures at three points in time: 1990, 2000,

and 2010. The general trend observed is toward a reduction in subnational borrowing authority, which parallels the trend observed above for borrowing regulations, with more central government control on the rise.

Figure 6. Subnational Borrowing Autonomy in Non-Asian Emerging Countries



Fiscal Responsibility Laws as a Response to Systemic Subnational Debt Crises in Latin America

Going beyond borrowing rules, some non-Asian emerging countries have introduced during the last decades more comprehensive legal frameworks in order to further buttress their macroeconomic fiscal stability. As we have already seen, these are known as Fiscal Responsibility Laws (FRLs). FRLs are designed to address wider fiscal governance issues, including short-time planning horizons, moral hazard, and common pool problems. Typically, they are framed within medium-term fiscal horizons, emphasizing budget transparency and accountability, the monitoring of fiscal targets, the inclusion of enforcement measures, and often carefully-specified escape clauses (Liu and Webb, 2016). In this respect, the experience of several Latin American emerging countries is illuminating. In this section, we describe the circumstance under which the FRLs came

about and how they have worked so far in those countries. The FRLs have attempted to address fiscal coordination failures between the central and subnational governments, which resulted in significant macroeconomic crises starting in the 1980s. The FRLs can be seen as national fiscal frameworks covering monitoring and enforcement mechanisms, budget transparency, and numerical fiscal targets for the different levels of government (Liu and Webb, 2016). Overall, the introduction of FRLs appears to have brought better coordination of fiscal policies at the different levels of government and to have contributed to enhanced fiscal sustainability, especially where they have been supported by other fiscal rules. In this section, we revise the experience with FRLs of four emerging countries in Latin America (Brazil, Argentina, Colombia, and Peru). At the end of the section, we provide stylized information on the FRLs of the four countries in Box 3.

The case of Brazil

Brazil experienced large subnational debt crises during the 1980s and early 1990s. During those crises, the central government provided bailouts to some subnational units, which led to moral hazard and further abuses. During the post-crisis period and as result of debt-restructuring negotiations with the states,¹⁵ several pieces of legislation were approved at the national level, including the Fiscal Responsibility Law of 2000. The Fiscal Responsibility Law introduces debt-level limits, controls new debt flows, and creates a rule-based system for subnational borrowing. The rule-based system operates on the principle of market discipline emphasizing that no central government bailouts will be available and that all new regional or local government debt issues and loans are subject to the approval of the federal Ministry of Finance. However, the FRL framework goes beyond borrowing rules and controls. Box 2 describes these in further details.

¹⁵ Debt restructuring between the federal Treasury and subnational governments required a 20-percent down payment and fixed repayments with lower interest rates than market level depending on each jurisdiction's revenue generating capacity.

Box 2: The Fiscal Responsibility Framework of Brazil¹⁶

The fiscal responsibility legislations in Brazil consist of: legislations enacted in 1995 and 1999 that limit personnel spending; Senate Resolutions issued in 1998 that set up the maximum debt level; prudential regulations and supervision of financial institutions' exposure to subnational debt; and the Fiscal Responsibility Law (FRL) enacted in May 2000. While on the revenue side the FRL restricts the federal transfers to the states which do not perform satisfactorily in collecting their taxes, on the expenditure side, the FRL prohibits any permanent increase in spending without having a permanent revenue source corresponding to that particular expenditure.

The FRL also mandates ceilings on personnel expenditure for state and municipal governments not to exceed 60 percent of current net revenues.¹⁷

The FRL and complementary legislation enacted in 2001 mandate the “golden rule” for capital expenditure and debt limits. In particular, the maximum debt level cannot exceed 200 percent of net current revenues for state governments and 120 percent for municipal governments.

However, the FRL also contains an escape clause for the debt limits. Specifically, the ceilings on the total debt and personnel spending can be extended in the case of at least 1 percent of contraction in the economy during the four subsequent quarters. By congressional approval, these escape clauses can also take place in times of natural disasters.

The FRL also introduces reporting measures. State and municipal governments are

¹⁶ This is based on de Mello (2015) and the actual legal framework of Brazil.

¹⁷ These regulations for different ceilings for state and municipal government levels are based on the legislation enacted in 1995 (*Camata Law I*). Posterior legislation, in 1997 and in 1999, introduced additional details on the coverage of the ceilings for personnel spending.

required to present bi-monthly executive reports and four-month reports showing compliance with the FRL framework. Moreover, state governments must report their fiscal outturn for the previous year to the Ministry of Finance by end-May, and municipal governments by end-April. The legislative councils at the state and municipal levels are required to monitor compliance with the FRL and other fiscal rules, assisted by their respective Court of Accounts.

Banks' exposure to the government debt (including central, state, municipal governments, as well as public companies and all decentralized jurisdictions) is restricted up to 45 percent of their net wealth.

The case of Argentina

Like in the case of Brazil, Argentina experienced debt crises in the 1990s due to excessive debts incurred by provincial governments that had to be bailed out, leading to the monetization of the debt and hyperinflation at the national level.¹⁸ Until the end of the 1990s, Argentina had adopted a market-based borrowing approach for its subnational governments. But, market discipline actually did not work, and there was considerable over-borrowing and fiscal failure. The first legislation that can be considered part of the FRL framework was a fiscal solvency law, passed by the National Congress in 1999 to regulate debt payments. However, this solvency law lacked enforcement mechanisms and was followed by non-compliance in more than one half of the provinces.¹⁹ The main reason was that the 1999 Solvency Law mainly applied to the national government, while it simply requested provincial governments to pass their own laws. Many

¹⁸ A big part of the initial problems in Brazil and Argentina was that regional governments were allowed to borrow from their own banks, which eventually went bankrupt and had to be rescued by the national authorities.

¹⁹ In all, six provinces out of 11 did not comply with the law in 2001 (Braun and Tommasi, 2004).

provincial governments failed to do, which again led to a new financial crisis in 2000–01. Following that episode, the National Congress passed a new FRL in 2004 that extended the contents of the 1999 law to all government levels including all provincial governments and the capital district (Braun and Gadano 2007). The FRL framework of 2004 has been criticized for not specifying spending arrangements on some budget items like wage increases (in particular, teacher salaries are the base category for the rest of government workers' salaries in the provinces) and the still large transfer dependence from the national government for provinces to meet their fiscal targets (Liu and Webb, 2011). The concrete measures of Argentina's FRL are summarized in Box 3 below.

The case of Colombia

Colombia, even though not a federal country, underwent significant political and fiscal decentralization in the late 1980s and early 1990s. In particular, subnational governments had a high degree of borrowing autonomy, which eventually led many subnational governments to over-borrow. In order to control subnational debt levels, the national government passed a fiscal stability law in 1997, which became known as the "Traffic Light Law." The system consists of three layers for local borrowing discretion. Accordingly, if the subnational authority is highly indebted, it is not allowed to borrow any more (the red light). If the jurisdiction has some level of debt, but not in excessive amounts, then it requires approval from the Ministry of Finance (the yellow light). All other subnational governments with low levels of debt are allowed to borrow at their will (the green light). Although an attractive and logical scheme, in practice the "Traffic Light Law" did not perform that smoothly. Some local governments assigned a red light were still able to access credit without approval from the Ministry of Finance, and while some jurisdictions were moved from yellow to red, it was much less frequent to observe the change from yellow to green light

(Echavarría et al., 2002). As a consequence, Colombia improved the legal framework for subnational borrowing including the introduction of new and updated fiscal rules in 2001 and 2002. Finally, in 2003 the national government adopted a full Fiscal Responsibility Law in 2003, which included the national and all subnational governments in the framework. The most important elements are summarized in Box 3 below.

The case of Peru

Peru is an interesting case because it came to adopt fiscal decentralization reforms only very recently. And although it never experienced the type of fiscal issues at the subnational level that we saw in the cases of Argentina and Brazil—or even Colombia—Peruvian reformers were extremely cautious. Extrapolating from the subnational default experiences in those other Latin America countries, Peru passed a FRL in 2003, very early in its decentralization process. This was seen as a preventive measure and a way to reassure the country that the newly acquired decentralization would not lead to macroeconomic instability. The main features of Peru’s FRL are also summarized in Box 3.

Box 3: Major Features of Fiscal Responsibility Laws in Four Latin American Emerging Countries	
<i>Measures on budget transparency</i>	
Argentina	<ul style="list-style-type: none"> – Three-year budgeting plan with forecasting of revenue and expenditure by categories – An independent commission regulates budget categories and evaluates budget proposals.
Brazil	<ul style="list-style-type: none"> – All government levels must publish quarterly financial reports approved by audit authorities. – FRL mandates that SNGs’ budget plans must be consistent with multiyear federal budget plans. – All government levels use accrual accounting method, which removes arrears that are concealed debt issues most of the time.
Colombia	<ul style="list-style-type: none"> – Publish quarterly fiscal outcomes – Define revenue on the cash basis and spending on an accrual basis

	<ul style="list-style-type: none"> – The central government is prohibited from lending to SNGs or guaranteeing its debt. – Prohibits the commitments on future spending and increases in personnel wages in an election year – Transfers from local central authorities are not allowed to state-own enterprises
Peru	<ul style="list-style-type: none"> – The annual fiscal deficit cannot exceed the deficit target in the multiyear budget plan. – Regional governments must publish their annual fiscal reports, which should be consistent with the multiyear fiscal framework.
<u><i>Fiscal Targets</i></u>	
Argentina	<ul style="list-style-type: none"> – Primary spending growth rate cannot exceed overall GDP growth rate. – Provincial governments must adjust budget balances to keep the debt service below 15% of current revenues.
Brazil	<ul style="list-style-type: none"> – Subnational governments must keep the personnel spending at or below 60 percent of fiscal revenue with special targets for each division of government. – The Senate at the national level sets the special fiscal targets and ceilings.
Colombia	<ul style="list-style-type: none"> – FRL works with the Traffic-Light Law, setting the debt limits on the basis of the debt to payment capacity ratio. – Favorable credit ratings from international agencies are required to borrow for some sub-central authorities.
Peru	<ul style="list-style-type: none"> – Total public sector fiscal deficit, including SNGs (but excluding the financial sector) cannot exceed 1 percent of GDP. – Total public-sector spending growth rate cannot be higher than 3 percent. – For each subnational government, the debt stock may not exceed 100 percent and debt service may not exceed 25 percent of the current revenues. – The three-year average of primary fiscal balances must be non-negative for subnational governments.
<u><i>Sanctions</i></u>	
Argentina	<ul style="list-style-type: none"> – Provincial governments may not borrow if they miss the fiscal targets. However, FRL does not impose strong sanctions on provincial governments. – No escape clauses included in the FRL.
Brazil	<ul style="list-style-type: none"> – When a subnational government goes over the borrowing limit, its borrowing is prohibited and may not receive any "voluntary" grants from the national government. – The fiscal crimes law also sets penalties and punishments for public officials who violate the rules in the FRL. – Subnational governments can miss the fiscal target in the case where there is less than 1-percent economic growth in the last four subsequent quarters (escape clause).

Colombia	<ul style="list-style-type: none"> – If the subnational government does not comply with the limits and regulations imposed by the FRLs, then they may not borrow any longer (including from the national government). – When financial institutions do not meet the conditions and regulations set by FRL, their contract is not valid, and any interest may not be charged on the borrowed credits. – No escape clauses included in FRLs.
Peru	<ul style="list-style-type: none"> – Any violations of FRL by subnational governments may cause temporary cuts in block grants from the central government. – Subnational governments can miss fiscal targets in the case of negative economic growth and in national emergencies (escape clauses).

Source: Liu and Webb 2011 and related country specific fiscal legislations.

Going Beyond Rules: Monitoring Compliance and Enforcement

There is wide consensus among subnational borrowing experts that effective, successful practices require going beyond subnational borrowing and fiscal rules (Rodden and Eskeland, 2003; Kumar et. al., 2009; Ter-Minassian, 2015; Kotia and Lledo, 2016). Effective borrowing requires preventive measures, monitoring, enforcement, and if needed, sanctions. The strength with which the rules are applied, comprising monitoring and enforcement mechanisms, can be more important than the rule itself on the fiscal performance at the subnational level. And the available evidence backs up that conjecture, as in the finding of Kotia and Lledo (2016) for subnational fiscal discipline in Europe. In this section we review the different dimensions of effective monitoring and enforcement of borrowing rules.

Prevention measures

Before we look at the issues of monitoring and enforcement, it is important to highlight a number of preventive measures that can be adopted. First, the design and strength of the rest of the fiscal decentralization system plays an important role. Subnational borrowing is just one of the fundamental pillars of any fiscal decentralization system. How well it actually works, including the effectiveness of subnational borrowing rules, is closely linked to the design of the other three pillars: revenue assignments, functional expenditure responsibilities, and the transfers system. As

we have already seen, design flaws in any of those three other pillars (for example, the presence of vertical fiscal imbalances resulting from insufficient revenue autonomy to cover expenditure responsibilities) can have significant negative consequences on subnational borrowing practices. This is not the place to expound on these issues, but it is important to make it clear that important prevention measures lie outside the immediate scope of subnational borrowing itself and need to start with the overall design of the fiscal decentralization system.

Second, we need to make sure that borrowing rules and monitoring have the widest scope possible. Limiting the extent of “off-budget” spending or borrowing is an essential factor to increase the rule strength (Von Hagen and Wolff, 2006; Buti et al., 2007; Kotia and Lledo, 2016). The purview of debt limits and fiscal rules should include the whole consolidated public sector, not only subnational public administrations but also government-owned enterprises and all other financial vehicles that may otherwise allow subnational governments to go around the rule.

In many emerging economies, “off-budget” activities, often involving private-public partnerships, can result in contingent liabilities for subnational governments, which the borrowing rules at the subnational level most frequently fail to cover. These backdoor avenues tend to reduce the discipline-enhancing effect of subnational fiscal rules and threaten overall stability.

Ambiguity can also come from the lack of proper targeting of the variables to be monitored. Fiscal rules need to state clearly what is being targeted, such as primary balance, overall budget deficit, or the level of public debt—and whether those should be measured on the basis of actual figures or cyclically adjusted data. Similarly, escape clauses and the conditions under which they would apply need to be carefully spelled out. Ambiguity about target variables can significantly weaken fiscal rules’ strength.

Third, credit risk mitigation measures should not work against prudent and responsible

subnational borrowing. The prudential mitigation of credit risks associated with subnational authorities is an important strategy to facilitate the flow of lending funds to subnational governments outside the government sector (Rodden and Eskeland, 2003). In the first place, this can be achieved through accepting and enhancing the role of private credit rating agencies or alternatively, an independent public authority (for example, an autonomous fiscal council) that does an equivalent type of credit analyses. Throughout this report the emphasis has been on the dangers posed by subnational borrowing. However, in many occasions the lack of loanable funds can be a big problem, or a bigger problem, in emerging economies. Thus, reducing the perception of those risks via transparent budgets and reliance on credit rating mechanisms can play a very useful role.

Another way to facilitate lending from the private sector to subnational governments is to adopt direct risk mitigation measures (Rodden and Eskeland, 2003). After all, financial markets may exaggerate the actual risk associated with the lending to subnational governments and thus lead to a suboptimal level of borrowing. Over the years, many governments have attempted to do so in a variety of ways. One of the most commonly used risk mitigation measures has been to offer some form of loan guarantees. Prudently used, this can be an effective tool to facilitate subnational borrowing. One such form of this is the on-lending of international agency loans to subnational governments via the central government that guarantees repayment. Another form of loan guarantee, but one that can be actually more problematic, is the use of government “intercepts.” In this setup, the central authorities agree to intercept and retain revenue sharing transfers and other central government funds flowing to the subnational governments to guarantee subnational debt service and that lenders are repaid. However, more open-ended loan guarantees by central governments are not considered at all good practice given the high level of moral hazard involved.

Private lenders would reduce their scrutiny of credit worthiness of subnational lenders and less disciplined borrowers would be more likely to have access to private credit. In fact, most countries nowadays prohibit central government guarantees in their borrowing and fiscal rules. Additionally, the use of government intercepts has been also associated high levels of market moral hazard and has become less frequently used.

Monitoring of borrowing practices.

Monitoring the implementation of borrowing regulations is of key importance regarding the sustainability of subnational debt levels. And coordination between the central and subnational governments with a clear institutional mechanism allowing an open dialog and transparent flow of information is an essential dimension of the monitoring system of subnational government debt (Kumar et al., 2009).

Enforcement of borrowing and fiscal rules

For enforcement, governments can rely on strong market discipline, if it is available. But as we have seen in most emerging economies, the lack of financial market development can significantly reduce the effectiveness of this approach. This means that in different forms, effective enforcement requires hierarchical oversight by central authorities or, alternatively, independently strong fiscal councils.

Little question that another mechanism that makes the rule stronger is the capacity of monitoring (Bohn and Inman, 1996). Monitoring is typically charged to the Ministry of Finance at the central level. However, it is preferable to have an independent institution to monitor the implementation of the borrowing rules.

It is interesting that high levels of media visibility concerning compliance can be an

effective complement to official monitoring mechanisms. Debrun et al. (2008) and Kotia and Lledo (2016) find that media visibility of fiscal rules can lead to enhanced fiscal discipline.

The enforcement of borrowing and other fiscal rules has been increasingly shifted to fiscal councils. As we have seen, these are independent authorities that most often have been established with the purpose of precisely monitoring and enforcing fiscal rules.²⁰ Moreover, fiscal councils may monitor the implementation of escape clauses in the case of economic crises. Escape clauses are not only difficult to design but perhaps even more difficult to implement well. Fiscal councils, because of their independence and impartiality, are ideally equipped to perform that role.

According to the most recently available count, fiscal councils have been established in 39 countries around the world.²¹ Among non-Asian emerging countries, that count is 10. The fiscal councils in non-Asian countries have diverse institutional frameworks. In seven non-Asian countries, fiscal councils are charged with monitoring the entire general government—thus covering also subnational governments—while in three of the non-Asian emerging economies, fiscal councils focus exclusively on the central government level. Table 1 describes the adoption of fiscal councils in non-Asian emerging countries.

Table 1. Fiscal Councils in Non-Asian Emerging Countries

Country Name	Name of Fiscal Council	Established in	Coverage	Monitoring of Fiscal Rules
Chile	Advisory Fiscal Council	2014	Central Government	Yes
Colombia	Comite Consultivo para la Regla Fiscal	2012	Central Government	Yes
Hungary	Fiscal Council	2009	General Government	Yes
Iran	Public sector Directorate of	1991	General	Yes

²⁰ Their popularity has increased since many governments have gone through debt and deficit issues associated with the financial crisis in 2007. International organizations such as the IMF and OECD have encouraged setting up fiscal councils especially in countries that have experienced problems with debt sustainability.

²¹ IMF Fiscal Councils Dataset, 2016.

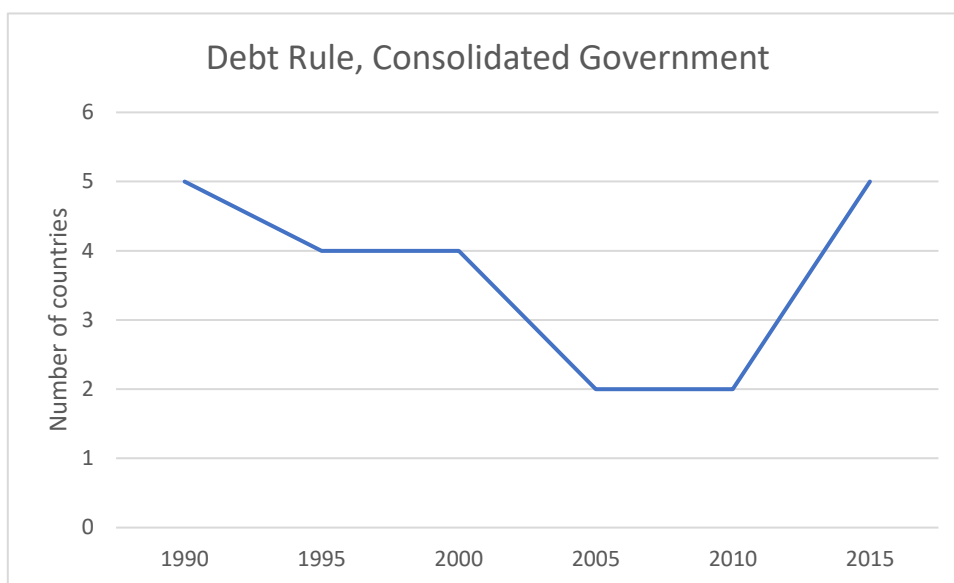
	Parliament (Majlis) Research Center		Government	
Mexico	Centre for Public Finance Studies	1998	Central Government	No
Nigeria	Fiscal Responsibility Commission	2007	General Government	Yes
Peru	Consejo Fiscal	2015	General Government	Yes
Romania	Fiscal Council	2010	General Government	Yes
Serbia	Fiscal Council	2011	General Government	Yes
Slovak Republic	Council for Budget Responsibility	2011	General Government	Yes
South Africa	Parliamentary Budget Office	2014	General Government	No

An important drawback of fiscal councils is that government authorities often resist being criticized by an institution that—even though it is supposed to be independent—is a part of the government establishment. The recent events with Hungary’s Fiscal Council illustrate well this point for how the country’s government reduced its role to avoid criticism. The Fiscal Council of Hungary was established in 2009, but just two years later, the council’s activities were restricted after criticizing the government for lack of transparency and over-optimistic economic forecasts. Typically, the staffing of fiscal councils is technical without regard to any political representation. Among non-Asian emerging economies, that is the case, for example, in the fiscal councils of Slovenia and Hungary. Another option is to incorporate political representation. But in this case, it is much harder to talk about an independent authority, which is supposed to be detached from partisan interests in monitoring fiscal performance. As an example of the latter, the Nigerian Fiscal Responsibility Commission consists of technical staff and elected officials representing not only the central government but also state governments.²² In particular, the representatives of the state

²² Eichengreen et al. (2011)

governments are supposed to take a role in monitoring and enforcing expenditure and borrowing policies of subnational governments. Finally, consolidated general government debt ceilings can also help with enforcement. Consolidated debt ceilings come about via two avenues: a) imposed by supranational government agreements or b) imposed by the country's own national legislatures. Among non-Asian emerging economies, consolidated debt ceilings for the Eastern European countries are imposed by the European Union, as part of a supranational rule, in this case the Maastricht Treaty. Among other Non-Asian Emerging Countries, consolidated debt ceilings tend to work as a debt ceiling imposed by their own national legislation. The actual number of countries in our sample with this type of constraint has varied over time (Figure 7). The effectiveness of this approach relies either on the oversight and pressure exercised by supranational bodies or on the mutual monitoring exercised between central and subnational governments to see that no one breaks the existing agreements for how to share the consolidated debt limits. The latter is also relevant for those cases where the overall limit is imposed supra-nationally. In both of the modalities, it has proved difficult to reach a modus operandi for sharing the consolidated debt limit. Arriving at the sharing rule may be achieved through discussion and consensus, but often the final say is a central government decision.

Figure 7. Existing Consolidated Government Debt Limits for NAECs



Source: IMF Fiscal Rules Dataset, 2017.

Notes: The sample size is 14 Non-Asian emerging countries, which data is available.

Bailouts, sanctions, and bankruptcy laws for undisciplined governments

Lastly, there is a need for enforcement. Among other things, this includes a clearly established corrective mechanism should noncompliance with the rules be apparent. One of the main difficulties for imposing effective fiscal discipline has been the practice of implementing bailouts for bankrupt subnational governments. The precedent of previous bailouts can signal a lack of serious commitment by central government to enforce hard budget constraints and to sanction noncompliant subnational governments (Plekhanov and Singh, 2007). In reality, a good number of non-Asian emerging economies have a history of subnational bailouts. They have been common in Latin American countries but not exclusively in that region (Table 2).²³

Table 2. Non-Asian Emerging Economy Subnational Bailout History

Country	Bailout	Country	Bailout
Argentina	Yes	Nigeria	Yes

²³ Many of the bailouts, which can be quite expensive, preceded the introduction of FRLs and the introduction of fiscal councils in Latin America. See Table A-2 in the appendix for further details.

Brazil	Yes	Peru	No
Bulgaria	No	Poland	No
Chile	Yes	Romania	No
Colombia	Yes	Russia	Yes
Czech Republic	No	Slovenia	No
Hungary	Yes	South Africa	No
Mexico	Yes	Turkey	No

It is not only a history of actual bailouts that can be damaging to fiscal discipline. Expected bailouts can also play a significant role in subnational debt sustainability. Lenders and financial markets in general are more likely to ignore the unsustainable accumulation of subnational debt if there is a perceived implicit guarantee by central governments. Indeed, some studies have argued that implicit guarantees from the central government played a prominent role on the eventual subnational bailouts in Russia and Mexico in the 1990s (Lanchovichina, Liu, and Nagarajan, 2007; Liu and Waibel, 2008). In the face of noncompliance, central authorities can make use of sanctions and the application of bankruptcy laws. Sanctions are quite common; for example, they are typically included within the framework of FRLs in Latin American countries. In the case of Colombia, under the “traffic light law,” noncompliant subnational governments are prohibited from any new borrowing. In the case of Brazil, beyond prohibition of any new borrowing, the federal government can reduce or eliminate discretionary transfers to the state governments.

Subnational bankruptcy laws are less common among non-Asian emerging economies. To address subnational defaults, Hungary and South Africa have enacted bankruptcy acts in 1996 and 2003, respectively. The main purpose of the acts is to lay out the legal framework and procedures in the case of subnational debt resolution. With the restructuring of the debt, the framework includes provisions for maintaining public services and steps for a return to solvency.

Conclusions and Lessons Learned

Subnational borrowing is efficient and intergenerationally equitable. However, subnational borrowing also poses clear dangers to the macroeconomic stability of fiscally decentralized countries. Because of these dangers, the temptation may be to prohibit it, but that will not provide the optimal solution. The best way out of this dilemma is to allow subnational governments to borrow but also regulate, monitor, and enforce compliance with the rules. In this paper we have explored the experiences of non-Asian emerging economies with the regulation and enforcement of borrowing practices. What are the lessons from those experiences? First, good outcomes on debt governance are not only about borrowing rules and other controls. A well-balanced fiscal decentralization design between expenditure responsibilities and revenue assignments with significant tax revenue autonomy is critical for the fiscal disciplined behavior of local governments regarding not only spending but also deficits and debt. The presence of large vertical fiscal imbalances (due to insufficient tax revenue autonomy) puts into motion perverse local government fiscal behaviors associated with the common pool problem and moral hazard. Irresponsible borrowing and excessive spending and deficits are the symptoms, if not otherwise suppressed and controlled, of an asymmetric design of fiscal decentralization with large expenditure responsibilities and insufficient revenue autonomy.

Second, there is a need for inclusive definitions and accounting of debt: subnational governments can bypass controls and even prohibitions by adapting less visible or formal forms of debt. Thus, it is important to be able to identify all the forms debt can take either explicitly contracted or otherwise created by sub-central governments (e.g., accruals or arrears in payments to suppliers or providers). Good practice also calls for the accounting of unfunded future liabilities to be part of the overall computation of debt levels of subnational governments. Thus, the coverage

of borrowing regulations is also critical. As we have seen, even though the “traffic light law” in Colombia does not allow subnational governments to borrow if they are in the red-light category, in practice, they do borrow using state-owned enterprises or other “off-budget” instruments.

Third, regarding subnational borrowing rules, among the different options available, non-Asian emerging countries have shown a definite predilection for centrally imposed rules. A good combination of transparency and a high degree of control by the central administration may explain this choice. However, the empirical evidence on the effectiveness of the different borrowing regimes is far from decisive. It would seem that more general cross-cutting rules, such as overall debt limits and the golden rule, are clearly effective, while most specific borrowing regimes tend to be effective as long as they are really enforced.

Fourth, the recent introduction of Fiscal Councils in a good number of developed countries and some developing countries points to their effectiveness in achieving overall improved fiscal discipline at the national level. As some countries are already doing, it would be desirable to empower fiscal councils where they already exist to monitor and exert the same watchdog role for the overall fiscal discipline of subnational governments. And in the case of countries where no fiscal councils have been introduced, it would be a positive step to consider their introduction and, with extended powers, to monitor the borrowing and overall fiscal behavior of subnational governments.

Fifth, adopting Fiscal Responsibility Laws (FRLs) early and with wide scope including the national and subnational governments significantly reinforces the legal framework behind borrowing rules and will help prevent fiscal indiscipline and national fiscal crises. These FRLs should include measures for enhanced fiscal transparency, specific fiscal targets for all government levels with clearly stated escape clauses and monitoring and enforcement institutions.

Sixth, besides fiscal rules and borrowing regulations, enforcement and monitoring mechanisms are vital for the rule strength. Implementation of the first FRL in Argentina is one example that, without enforcement, laws may not work by themselves. We have seen that fiscal rules have a positive impact on the subnational fiscal discipline. However, the design of fiscal rules by itself is not the remedy that cures all the issues in subnational or national fiscal performance. Enforcement and implementation mechanisms are as important, if not more, than the rules themselves.

References

- Asatryan, Zareh, Lars P. Feld and Benny Geys. 2015. "Partial fiscal decentralization and sub-national government fiscal discipline: empirical evidence from OECD countries." *Public Choice* 163.3-4: 307-320.
- Baskaran, Thushyanthan. 2010. "On the link between fiscal decentralization and public debt in OECD countries." *Public Choice* 145.3: 351-378.
- Bevilaqua, Afonso S. and Márcio GP Garcia. 2002. "Debt management in Brazil: evaluation of the real plan and challenges ahead." *International Journal of Finance & Economics* 7.1: 15-35.
- Bohn, Henning and Robert P. Inman. 1996. "Balanced-budget rules and public deficits: evidence from the US states." *Carnegie-Rochester conference series on public policy*. Vol. 45. North-Holland.
- Bordignon, Massimo. 2006. "Fiscal decentralization: how to harden the budget constraint." *Fiscal Policy Surveillance in Europe*: 109-136.
- Braun, Miguel and Nicolás Gadano. 2007. What are fiscal rules for? a critical analysis of the Argentine experience. *Cepal Review*, April 91.
- Buti, Marco, João Nogueira Martins and Alessandro Turrini. 2007. "From deficits to debt and back: political incentives under numerical fiscal rules." *CESifo Economic Studies*, 53(1), pp. 115-152.
- Caceres, Carlos, Ana Corbacho and Leandro Medina. 2010. "Structural Breaks in Fiscal Performance: Did Fiscal Responsibility Laws Have Anything to Do with Them?". *IMF Working Paper: On the Distributive Effects of Terms of Trade Shocks* 10(248).
- Calmfors, Lars and Wren-Lewis, Simon. 2011. What should fiscal councils do? *Economic Policy*, 26.68, pp. 649-695.
- Calmfors, Lars. 2003. Fiscal policy to stabilise the domestic economy in the EMU: What can we learn from monetary policy? *CESifo economic studies* 49.3, pp. 319-353.
- Crivelli, Ernesto and Klaas Staal. 2013. "Size, spillovers and soft budget constraints." *International Tax and Public Finance* 20.2: 338-356.
- De Mello, Luiz R. 2005. "Globalization and fiscal federalism: does openness constrain subnational budget imbalances?" *Public Budgeting & Finance* 25.1: 1-14.

- Debrun, X., Moulin, L., Turrini, A., Ayuso-i-Casals, J. and Kumar, M.S., 2008. "Tied to the mast? National fiscal rules in the European Union." *Economic Policy* 23.54: 298-362.
- Debrun, Xavier, David Hauner and Manmohan S. Kumar. 2009. Independent fiscal agencies. *Journal of Economic Surveys*, 23.1, pp. 44-81.
- Dovis, A. and Kirpalani, R., 2017. Fiscal rules, bailouts, and reputation in federal governments (No. w23942). National Bureau of Economic Research.
- Echavarria, Juan Jose, Carolina Renteria and Roberto Steiner. 2002. Decentralization and Bailouts in Colombia. In Latin American Research Network Working Paper No. 442. Washington Inter-American Development Bank.
- Eichengreen, B., Feldman, R., Liebman, J., von Hagen, J. and Wyplosz, C., 2011. Public debts: nuts, bolts and worries, Vol. 13. CEPR.
- Eyraud, Luc, and Lusine Lusinyan. 2013. "Vertical fiscal imbalances and fiscal performance in advanced economies." *Journal of Monetary Economics* 60.5: 571-587.
- Fardoust, Shahrokh, and V. J. Ravishankar. 2013. "Subnational fiscal policy in large developing countries: some lessons from the 2008-09 crisis for Brazil, China and India." (No. 6409). The World Bank.
- Farvacque-Vitkovic, Catherine D. and Mihaly Kopanyi, eds. 2014. *Municipal finances: A handbook for local governments*. World Bank Publications.
- Ferguson, Bruce W. 1993. "The design of municipal development funds." *Review of Urban & Regional development studies* 5.2: 154-173.
- Fornasari, Francesca, Steven B. Webb and Heng-Fu Zou. 2000. "The macroeconomic impact of decentralized spending and deficits: International evidence." *Annals of Economics and Finance* 1.2: 403-433.
- Gonzales, C., Paqueo, V. 2003. Social sector expenditures and rainy-day funds, World Bank Policy Research Working Paper 3131.
- Haggerty, T. and J. Griffin (2014): "A Drop In The Bucket: Rainy Day Funds Proved No Match Against Recession-Era Budget Gaps", <http://www.ncsl.org/research/fiscal-policy/a-drop-in-the-bucket.aspx>, retrieved on Oct 21st, 2017.
- Hernández-Trillo, Fausto, Alberto Díaz Cayeros and Rafael Gamboa González. 2002. Fiscal decentralization in Mexico: The Bailout Problem. Inter-American Development Bank, Research Department Publications, No. 3143.

- Hooghe, L., Marks, G., Schakel, A.H., Niedzwiecki, S., Osterkatz, S.C. and Shair-Rosenfield, S. 2016. *Measuring regional authority*. Oxford, UK: Oxford University Press.
- Ianchovichina, Elena, Lili Liu, and Mohan Nagarajan. 2007. "Subnational Fiscal Sustainability Analysis: What Can We Learn from Tamil Nadu?" *Economic and Political Weekly*: 111-119.
- Inman, Robert P. 1996. *Do balanced budget rules work? US experience and possible lessons for the EMU*. No. w5838. National Bureau of Economic Research.
- International Monetary Fund. Government Finance Statistics Division. *Government Finance Statistics Yearbook, 2001*. International Monetary Fund.
- Irwin, Timothy C. 2015. "Defining the government's debt and deficit." *Journal of Economic Surveys* 29.4: 711-732.
- Jin, Jing and Heng-fu Zou. 2002. "How does fiscal decentralization affect aggregate, national, and subnational government size?" *Journal of Urban Economics* 52.2: 270-293.
- Knight, B. and Levinson, A., 1999. *Rainy day funds and state government savings*. *National Tax Journal*, pp.459-472.
- Kotia, Ananya and Victor Duarte Lledo. 2016. *Do Subnational Fiscal Rules Foster Fiscal Discipline? New Empirical Evidence from Europe*. International Monetary Fund.
- Kumar, Manmohan, Baldacci, E., Schaechter, A., Caceres, C., Kim, D., Debrun, X., Escolano, J., Jonas, J., Karam, P., Yakadina, I. and Zymek, R. 2009. "Fiscal rules—anchoring expectations for sustainable public finances." *IMF Staff Paper*, Washington DC. <https://www.imf.org/external/np/pp/eng/2009/121609.pdf>, retrieved on Oct 21st, 2017.
- Lane, Timothy D. 1993. "Market discipline." *IMF Staff Papers* Vol. 40.1: 53-88.
- Letelier S. (2011)
- Liebig, K., Bahrinipour, M., Fuesers, L., Knödler, B., Schönhofen, C. and Stein, M., 2008. *Municipal borrowing for infrastructure service delivery in South Africa: a critical review*. Vol. 34. Deutschland.
- Liu, Lili and Michael Waibel. 2008. "Subnational borrowing, insolvency and regulation." *Macro Federalism and Local Finance* : 215-41.
- Liu, Lili and Steven B. Webb. 2016. "Laws for fiscal responsibility for subnational discipline: international experience." *Applied Economics and Finance* 3.1: 118-137.

- Martinez-Vazquez, J., S. Lago and A. Sachi. 2017. "The Impact of Fiscal Decentralization: A Survey", *Journal of Economic Surveys*, 31, 4: 1095–1129.
- Martinez-Vazquez, Jorge and Robert M. McNab. 2003. "Fiscal decentralization and economic growth." *World development* 31.9: 1597-1616.
- Martinez-Vazquez, Jorge and Violeta Vulovic. 2017. "How Well Do Subnational Borrowing Regulations Work?." in *Central and Local Government Relations in Asia* eds. Naoyuki Yoshino and Peter J. Morgan, Cheltenham, UK Northampton, MA, USA.
- Neyapti, Bilin. 2010. "Fiscal decentralization and deficits: International evidence." *European Journal of Political Economy* 26.2: 155-166.
- Nguyen, Benji, Sylesh Volla and Annabel Wong. 2017. "Policy Responses to Increased Bank Loans to Municipal Government." A Report for The Volcker Alliance. Stanford University. https://www.brookings.edu/wpcontent/uploads/2017/04/volla_final.pdf, retrieved on Oct 21st, 2017.
- Nicolini, J.P., Posadas, J., Sanguinetti, J., Sanguinetti, P. and Tommasi, M., 2002. *Decentralization, Fiscal Discipline in Sub-National Governments and the Bailout Problem: The Case of Argentina* (No. 3160). Inter-American Development Bank, Research Department.
- Oates, Wallace E. 2008. "On the evolution of fiscal federalism: theory and institutions." *National Tax Journal* 61.2, pp. 313-334.
- Oates, Wallace. E. 1972. *Fiscal Federalism* New York. Harcourt Brace Jovanovich.
- Plekhanov, Alexander, and Raju Singh. 2007. "How should subnational government borrowing be regulated? Some cross-country empirical evidence." *IMF Staff Papers*: 426-452.
- Poterba, James M. and Jürgen Von Hagen. 1999. "Introduction to" *Fiscal Institutions and Fiscal Performance*." *Fiscal Institutions and Fiscal Performance*. University of Chicago Press, 1-12.
- Quintanilla, Jaime Coronado. 2009. *Public finance sustainability in subnational governments*. Debt Relief International Ltd. Publication No:12. <https://www.development-finance.org/en/topics-of-work/debt-strategy-information/external-debt-relief/legal-a-institutional-best-practice/subnational-debt.html>
- Rodden, Jonathan, Gunnar S. Eskeland and Jennie I. Litvack, eds. 2003. *Fiscal decentralization and the challenge of hard budget constraints*. MIT Press.

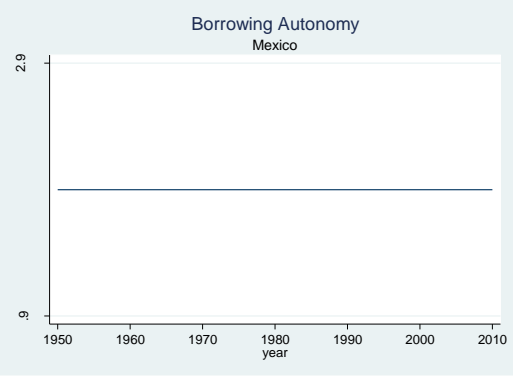
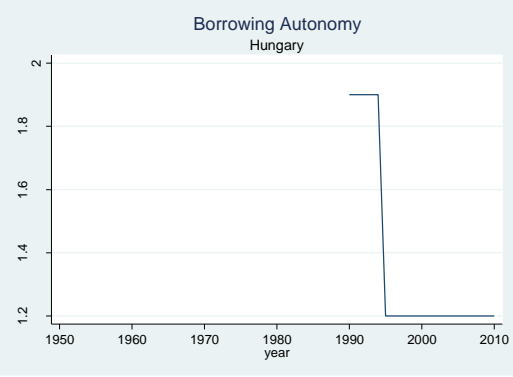
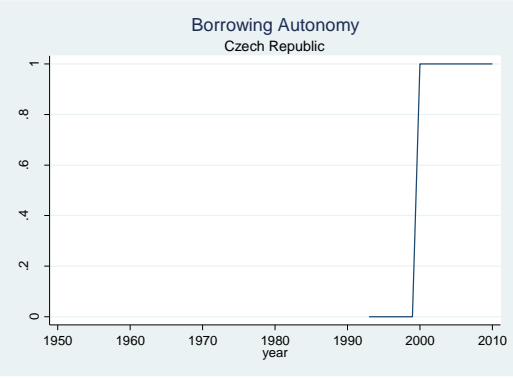
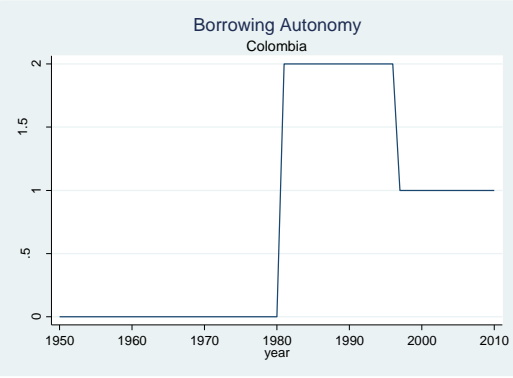
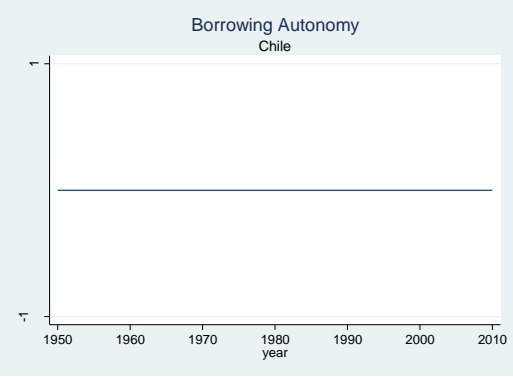
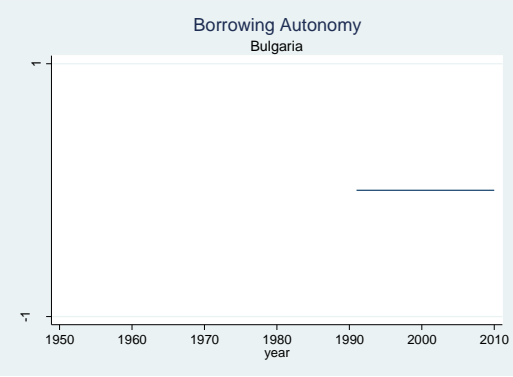
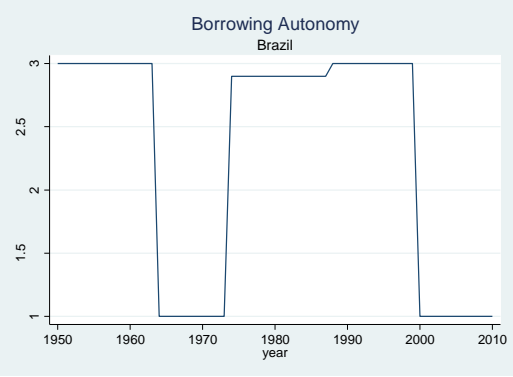
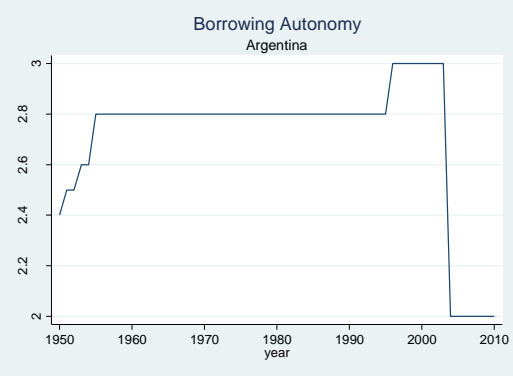
- Rodden, Jonathan. 2002. The dilemma of fiscal federalism: Grants and fiscal performance around the world. *American Journal of Political Science* Jul 1: 670-687.
- Schaltegger, Christoph A., and Lars P. Feld. 2009. Are fiscal adjustments less successful in decentralized governments? *European Journal of Political Economy* 25.1: 115-123.
- Sobel, R.S. and Holcombe, R.G., 1996. The impact of state rainy day funds in easing state fiscal crises during the 1990–1991 recession. *Public Budgeting & Finance*, 16(3), pp.28-48.
- Ter-Minassian, Teresa and Jon Craig. 1997. Control of subnational government borrowing. in *Fiscal Federalism in theory and practice*, ed. Teresa Ter-Minassian. International Monetary Fund.
- Ter-Minassian, Teresa, ed. 1997. *Fiscal federalism in theory and practice*. International Monetary Fund.
- Ter-Minassian, Teresa. 2015. Promoting responsible and sustainable fiscal decentralization. *Handbook of Multilevel Finance* ed. Ahmad, E. and G. Brosio. Edward Elgar Publishing.
- Thornton, John. 2009. Do fiscal responsibility laws matter? Evidence from emerging market economies suggests not. *Journal of Economic Policy Reform*, 12.2, pp. 127-132.
- Von Hagen, Jürgen and Guntram B. Wolff. 2006. What do deficits tell us about debt? Empirical evidence on creative accounting with fiscal rules in the EU. *Journal of Banking & Finance* 30.12, pp. 3259-3279.
- Von Hagen, Jürgen and Ian J. Harden. 1995. "Budget processes and commitment to fiscal discipline." *European Economic Review*, 39.3, pp. 771-779.
- Wildasin, David E. 2004. The institutions of federalism: Toward an analytical framework. *National Tax Journal*, Jun 1, pp. 247-272.
- Wyplosz, Charles. 2005. Fiscal policy: institutions versus rules." *National Institute Economic Review*, 191.1, pp. 64-78.
- Zhao, B. 2016. Saving for a rainy day: Estimating the needed size of US state budget stabilization funds. *Regional Science and Urban Economics*, 61, pp.130-152.

Appendix 1. Borrowing Autonomy Index, Non-Asian Emerging Economies²⁴

Borrowing Autonomy: the extent to which a regional government can borrow (0–3):

0. The regional government cannot borrow (e.g. centrally imposed rules prohibit borrowing)
1. A prior approval is required: the regional government's borrowing is subject to central government approval and with one or more of the following centrally imposed restrictions:
 - i golden rule (e.g. no borrowing to cover current account deficits)
 - ii no foreign borrowing or borrowing from the central bank
 - iii no borrowing above a ceiling
 - iv borrowing is limited to specific purposes
2. The regional government may borrow without any prior approval by the central government; but under one or more of i, ii, iii, iv is in place.
3. The regional government may borrow without any imposed restrictions by the central government.

²⁴ Hooghe, Liesbet, Marks, Gary, Schakel, Arjan H., Chapman-Osterkatz, Sandra, Niedzwiecki, Sara, and Shair-Rosenfield, Sarah. (2016). *Measuring regional authority. Volume I: A postfunctionalist theory of governance*. Oxford: Oxford University Press.



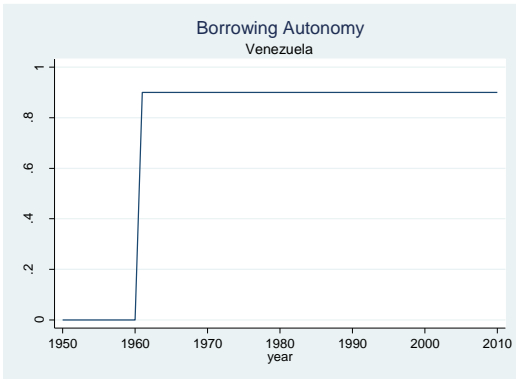
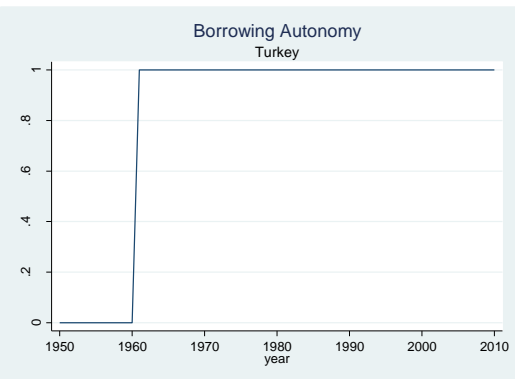
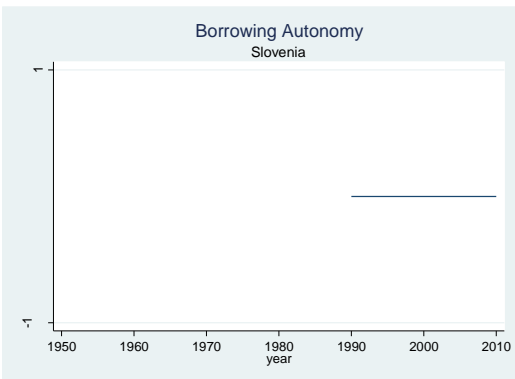
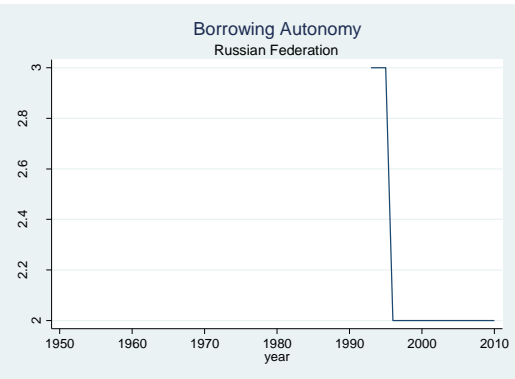
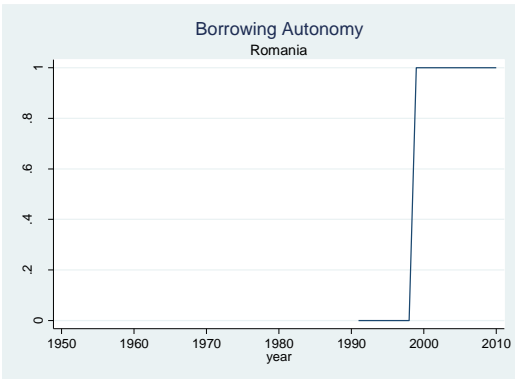
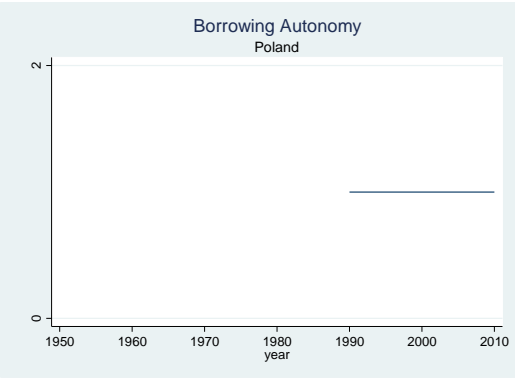
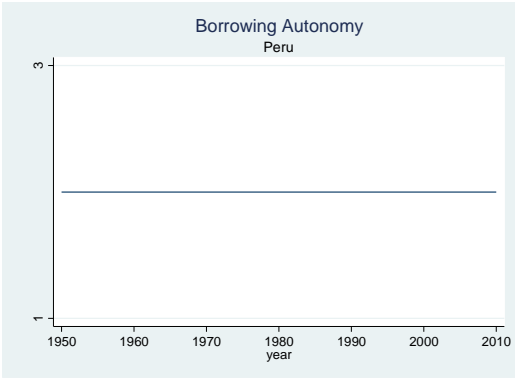


Table A-1. Non- Asian Emerging Country List

Latin America	Eastern Europe	Other Countries
Argentina	Bulgaria	Nigeria
Brazil	Czech Republic	Russia
Chile	Hungary	South Africa
Colombia	Poland	Turkey
Mexico	Romania	
Peru	Slovenia	
	Ukraine	

Notes: Data are not available for the following emerging countries: Egypt, Iran, Israel, Mauritius, Oman, Qatar, United Arab Emirates. Therefore, they were excluded from the analysis.

Sources: IMF, S&P, EMGP (Colombia University).

Table A-2: Bailout Cases and Corresponding Legal Actions in Emerging Latin America Countries

Country	Characteristics	Cost ²⁵	Year of the FRL	Year of Fiscal Council	Fiscal Council Coverage
Colombia	Performance Agreements (1995) Loans to subnational governments, which signed the performance agreements.	US\$ 115.7 million	They strengthened subnational borrowing including new fiscal rules in 2001 and 2002. By including the national government into the framework, it passed FRL in 2003	2012	Central Government
Argentina	Pension Fund Nationalization (1994-1996) The federal government took over the pension systems in 11 provinces.	US\$ 1,523.1 million	Fiscal Solvency Law in 1999. in 2004, it is extended to all sectors of the government.		Argentina and Brazil do not have an independent body that scrutinizes the government's budget plans and compliance with fiscal rules.
	Credits to the highly indebted Provinces from the Federal Government (1992-1994)	US\$ 800 million			
	Financial assistance to Province of Cordoba (1995-1996) The financial crisis originated from bank of Cordoba, a public entity.	US\$ 240 million			
Brazil	First subnational bailout due to excessive borrowing (1989)	US\$ 8.8 billion	2000		
	Second subnational bailout (1993)	US\$ 32.8 billion			

²⁵ Based on 1998 constant U.S. dollars.

	Third subnational bailout (1997)	US\$ 72.5 billion			
Mexico	Financial Strengthening Programs (1995-1998) Federal government had to bail out almost all states which were highly indebted. The federal government made "extraordinary" transfers to states which signed performance agreements	US\$ 3.7 billion	2013	1998	Central Government