Determinants of subnational fiscal outcomes in Latin America: preliminary evidence from Colombia and Peru

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IPD Decentralization Task Force Meeting

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Agenda

- Why look into subnational public finances?
- Fiscal performance at subnational level
- Determinants of fiscal performance: theory and empirical evidence
- Policy issues

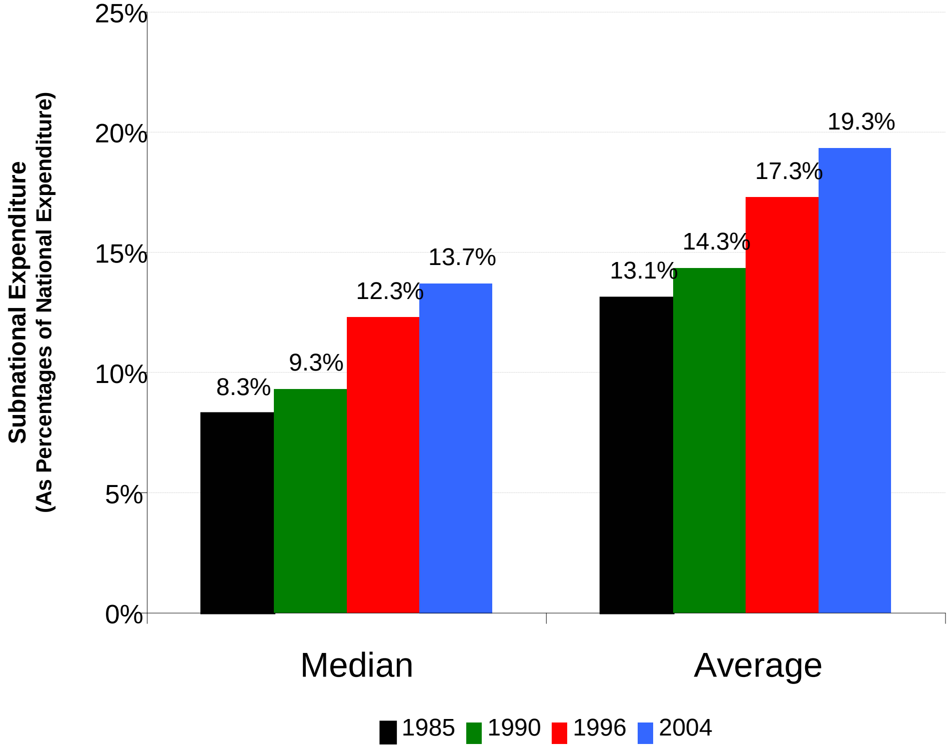
Agenda

- Why look into subnational public finances?

✓ High (and increasing) share in total public expenditures
✓ Key role in sensitive sectors (education, health, water)
✓ Fiscal decentralization has benefits but also risks
✓ Subnational entities are potential clients for the Bank

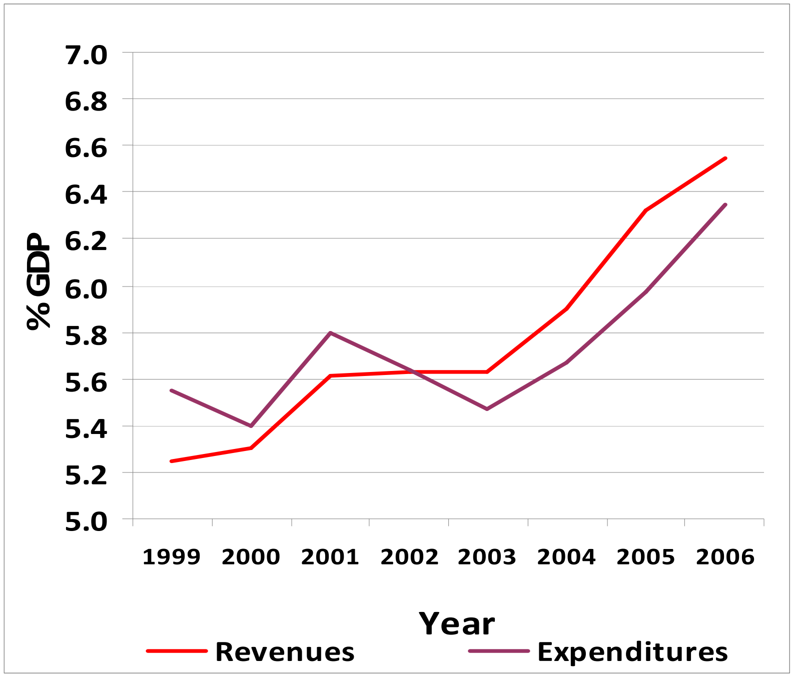
Fiscal decentralization has been increasing in Latin America…

Subnational expenditures
(as a % of national expenditures)



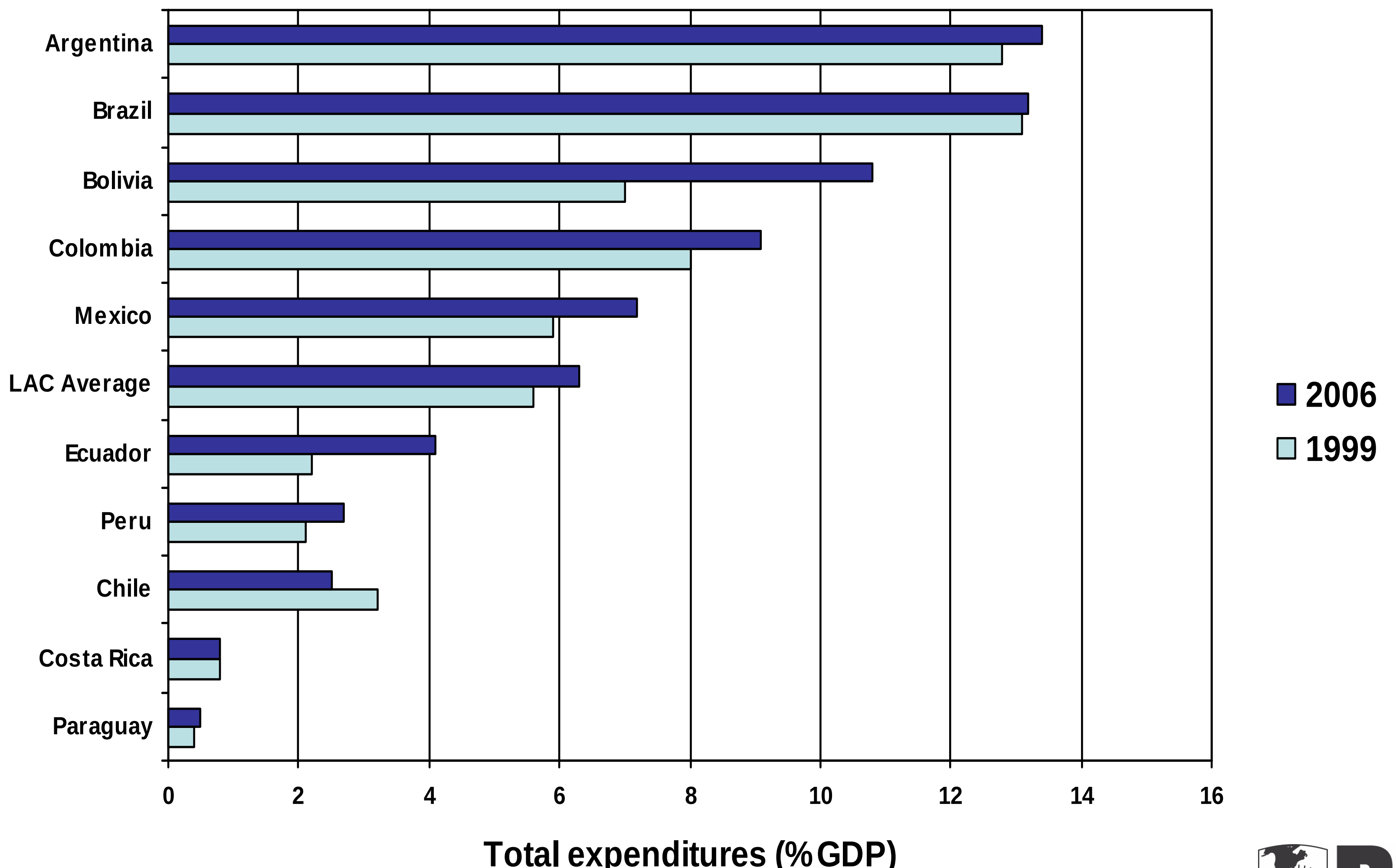
Source: Daughters and Harper (2007)

Subnational revenues and expenditures
(as a % of GDP)



Source: ECLAC (2008).
Simple average of figures for available countries.

…although the situation is heterogeneous



Source: ECLAC (2008). Data from Mexico: 1999 & 2005

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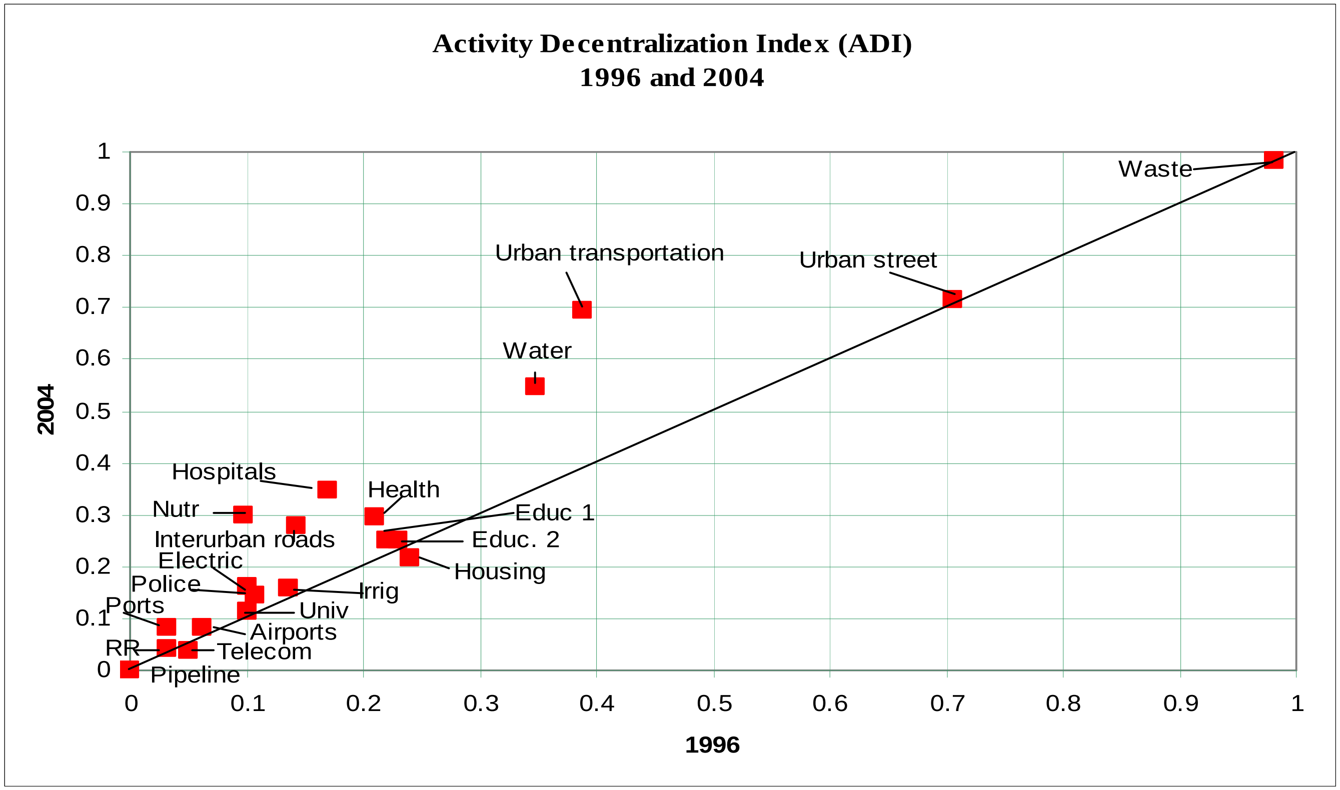
Subnational governments are assuming more responsibilities and autonomy in key sectors



Source: Bonet (2009). Daughters and Harper (2007)

At a fiscal level, decentralization may be beneficial…

- Efficiency. Local governments are in a closer and better position to adapt outputs of public services to the preferences of their constituencies (Oates, 1972)
- Accountability. When local officials have direct responsibility, they will have a greater interest in succeeding. *Accountability brings responsibility (Tanzi, 2002)*
- Competition. In a setting of mobile households, individuals can choose better jurisdictions (Tiebout, 1956). Competition increases quality of delivery.
- Innovation. Decentralization can encourage experimentation and innovation, as individual jurisdictions are free to adopt new approaches to public policy

…but may also have adverse effects

- ✓ If local expenditure is partly financed by *common pool resources*, decentralization could raise total expenditure and lead to unsustainable fiscal outcomes. Local governments do not fully internalize the cost of their public programs. Free riding problems

- ✓ Soft budget constrains, i.e. a situation where local governors expect fiscal bailouts from higher-level authorities, may undermine responsible fiscal decision-making.

- ✓ Are the local government really more likely to react to the local preferences? (higher corruption, lower quality of local bureaucracy)

- ✓ Decentralization can lead to non-optimal outputs because of externalities and economies of scale in the provision of public goods and services

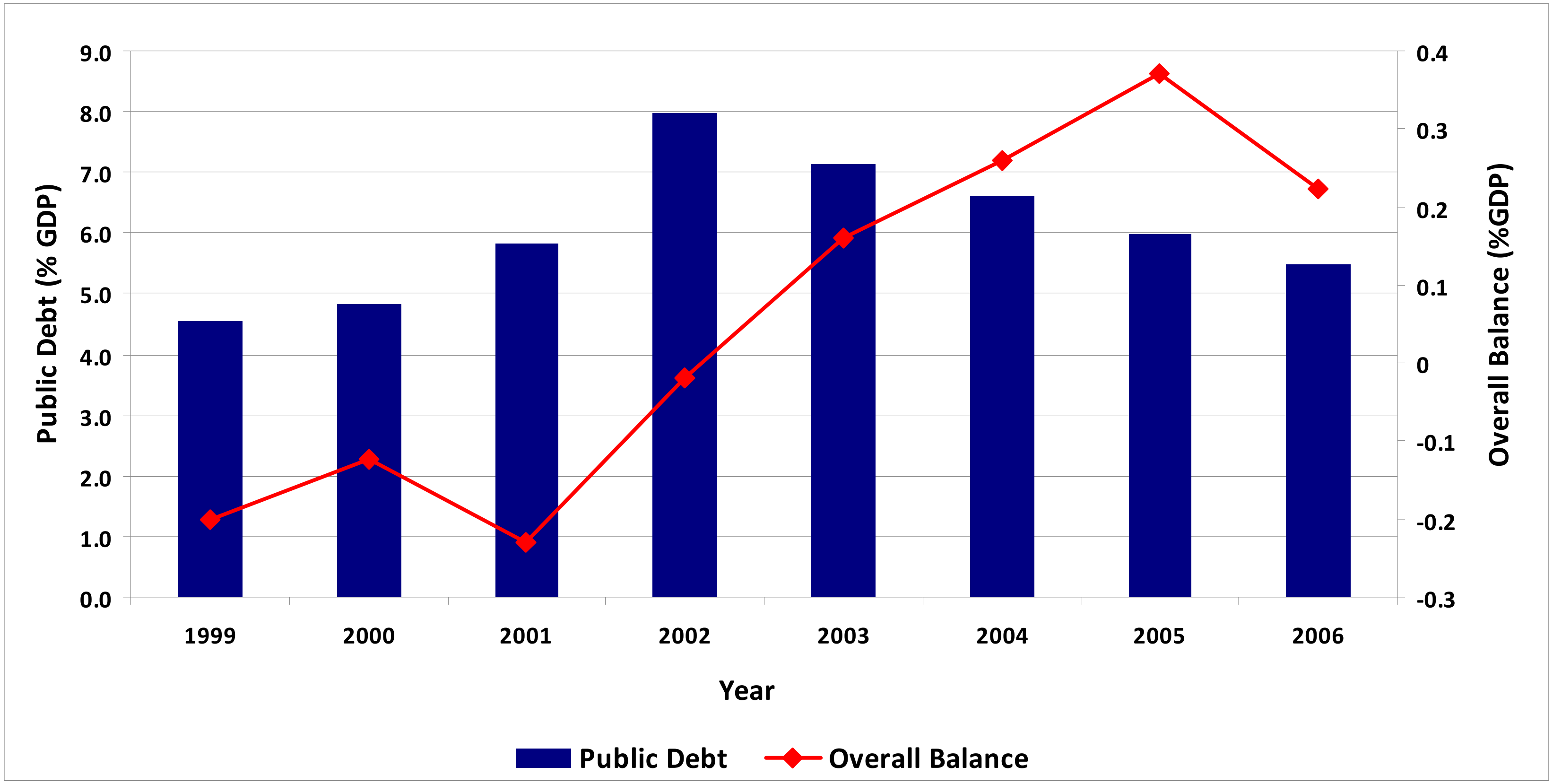
- ✓ Revenue and expenditure rigidities that may introduce inflexibilities at a macro level

So, how does Latin American subnational governments performed in the last decade?

Agenda

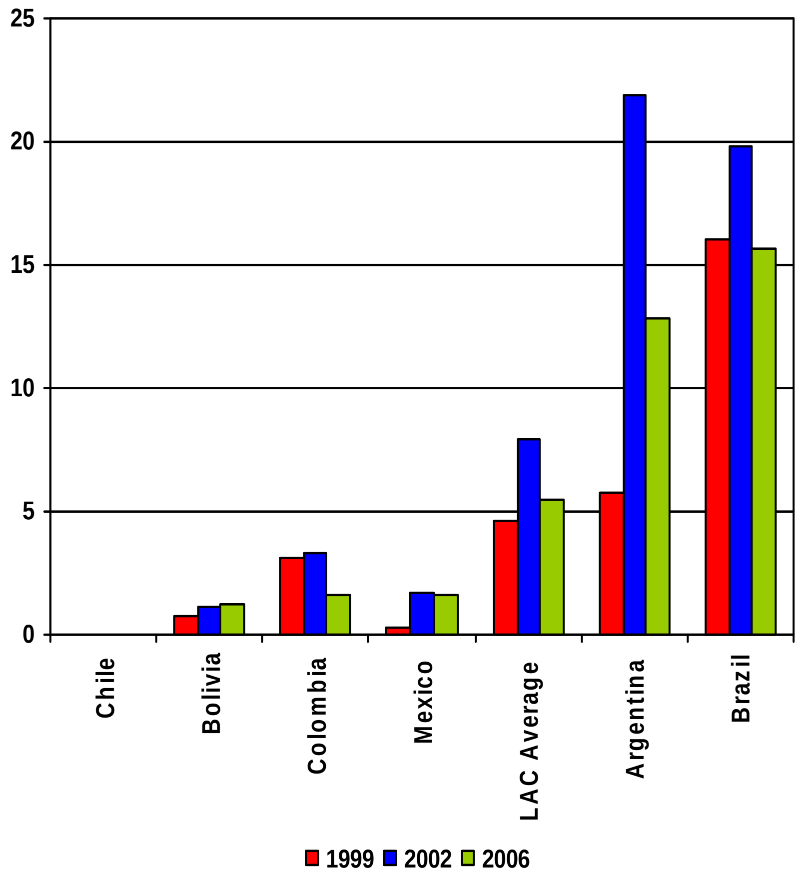
- Fiscal performance at sub national level

After a period of deterioration, subnational fiscal accounts appear to have strenghthened in the last years…

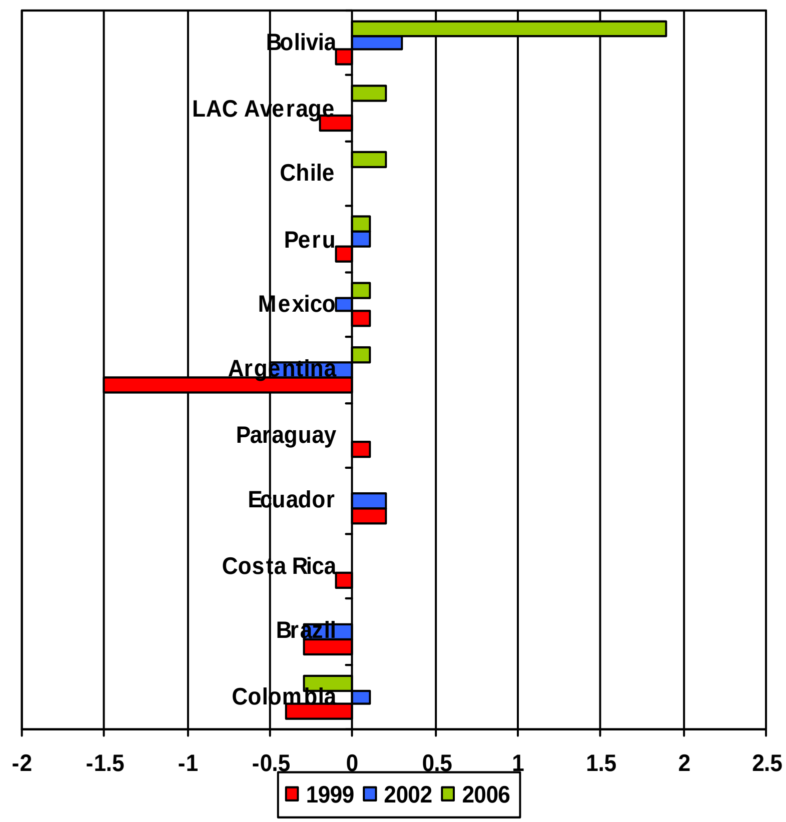


Source: ECLAC (2008). Averages from availabable countries

…several countries achieved fiscal surplus and reduced subnational debt



Public Debt (% GDP)



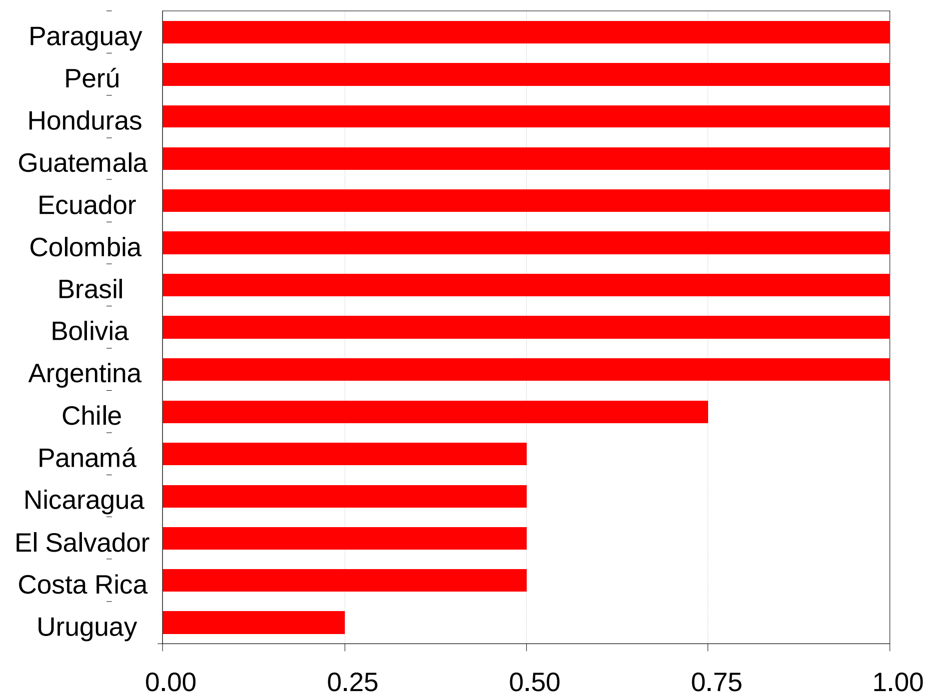
Overall Balance (% GDP)

Source: ECLAC (2008). Brazil: 2001 – 2006. Mexico: 2000 - 2005

Subnationals gained significant debt autonomy

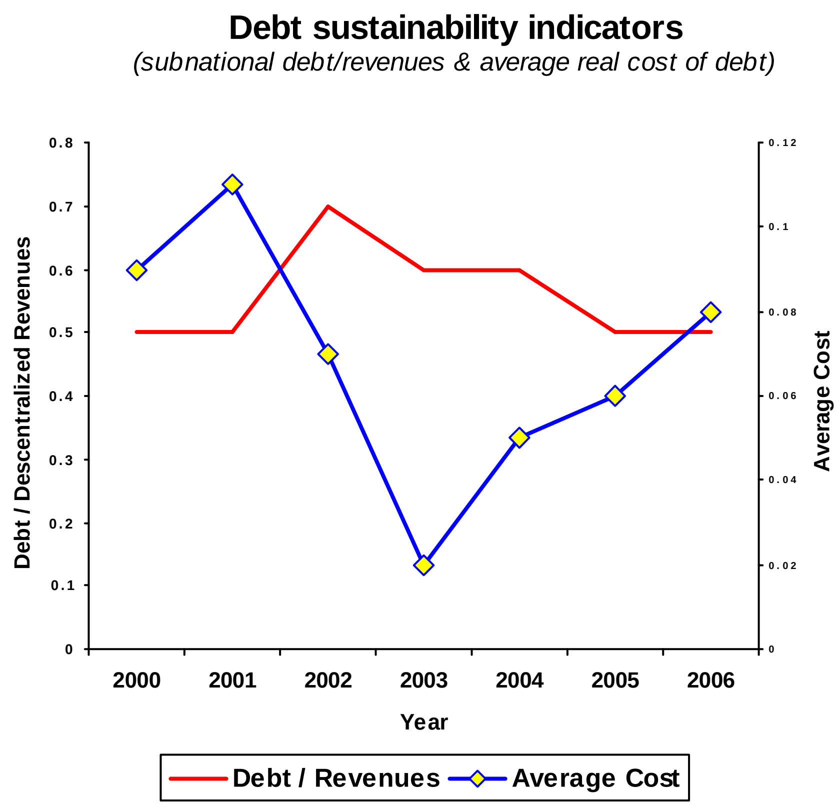
- It is an inter-temporal decision at a subnational level: local investments paid with future local revenues
- However, incentive and time horizon problems may affect a time-consistent commitment to fiscal prudence (Alesina, 1994)
- Moreover, if there is the possibility of bailing out, then there is an incentive for over borrowing (Tomassi, 2002)
- Markets may be not enough and it may be necessary to impose limits to the local debt autonomy and monitor debt sustainability (Ter-Minassian & Craig, 1997)

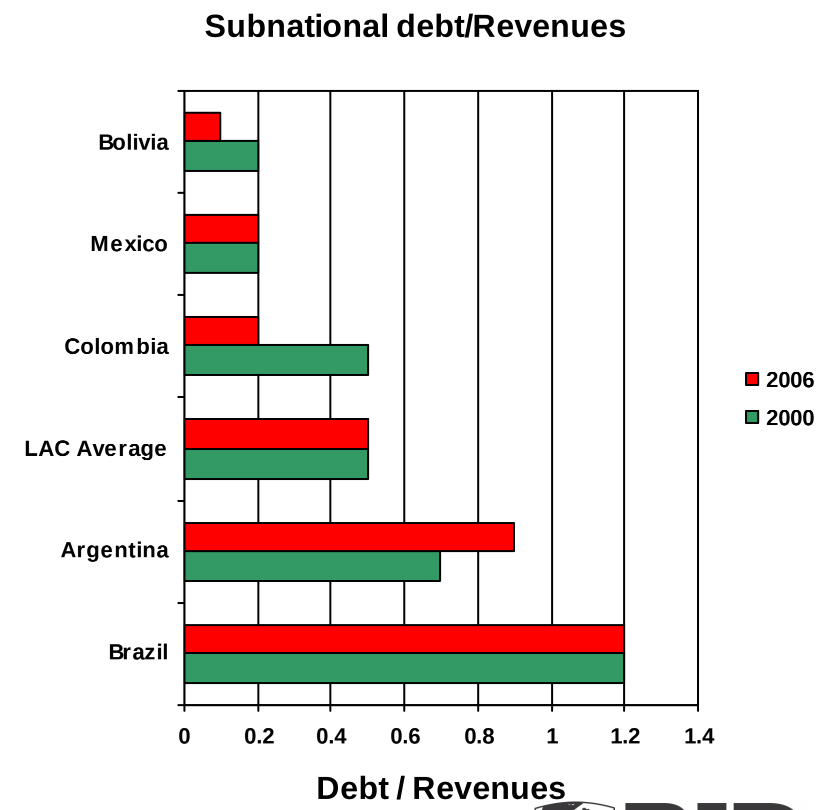
Debt Autonomy in Latin America, 2004



Source: Bonet (2009)

Debt has been stabilizing respect to revenues…



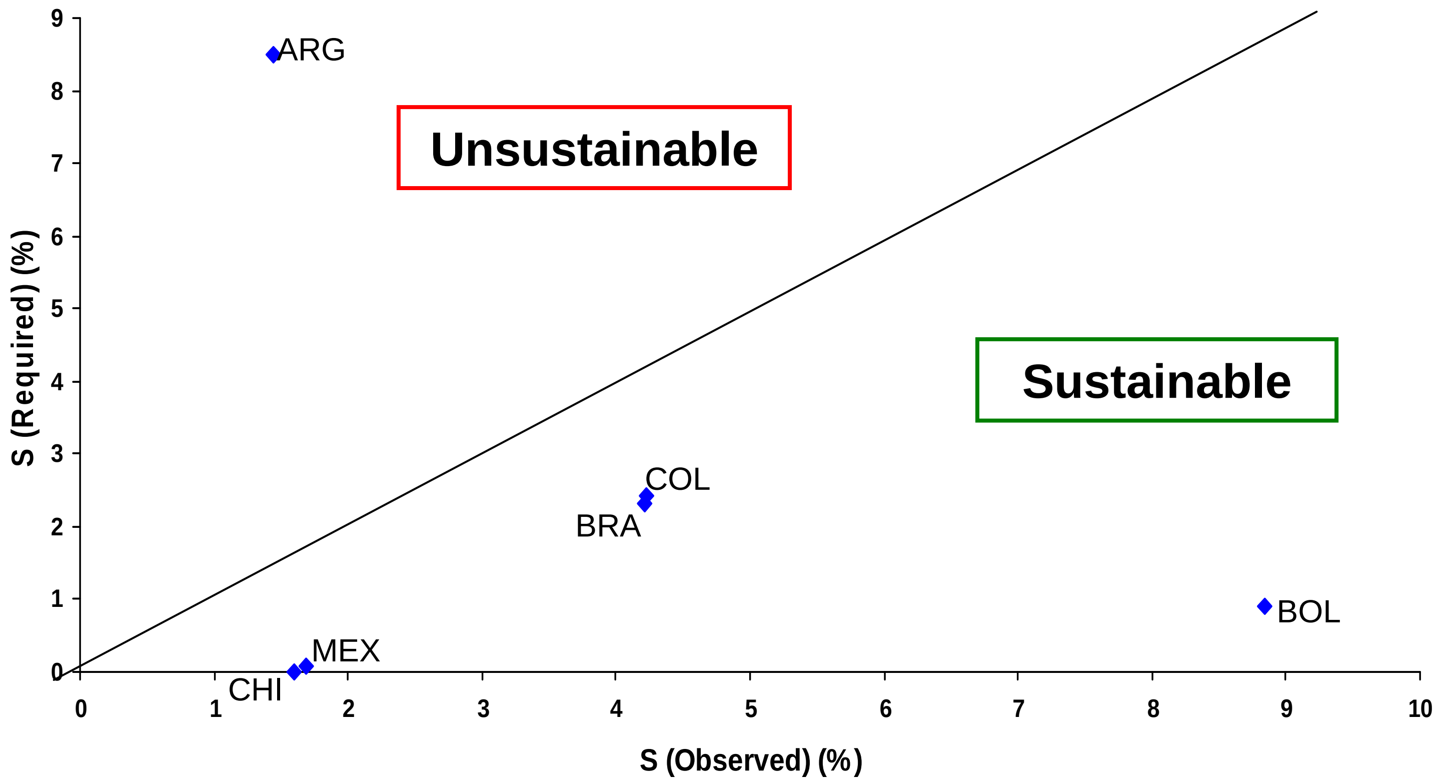


Source: Own calculations based on ECLAC (2008)

…leading to sustainable debt outcomes in most countries

Sustainabiliy Analysis

$$\bar{s} = \bar{b}\left[\frac{(r - g)}{(1+g)}\right]$$



Source: ECLAC (2008). Own calculations based on 2000-2006 averages. Brazil: 2001 – 2006. Mexico: 2000 - 2005

Success story…?

- Fiscal decentralization was a result of economic and political reform after the democratic transition and constitutional reforms.
- First generation reforms led to an expansion of decentralized expenditures and a deterioration of fiscal outcomes
- Second generation reforms introduced a set of fiscal rules at subnational levels aimed at achieving fiscal sustainability. Reforms also included more autonomy to raise revenues and institutional strengthening
  - Colombia: Traffic Light Law (1997) and Law 617 (2000)
  - Brasil: FRL (2002)
  - Mexico: non FRL debt control, market incentives
  - Peru: Decentralization Law (2002) and FRL (2003)
  - Argentina: partial (and failed) FRL (2001)
- At an aggregate level, results suggest there was an significant process of fiscal consolidation of subnational governments

…or just good luck?

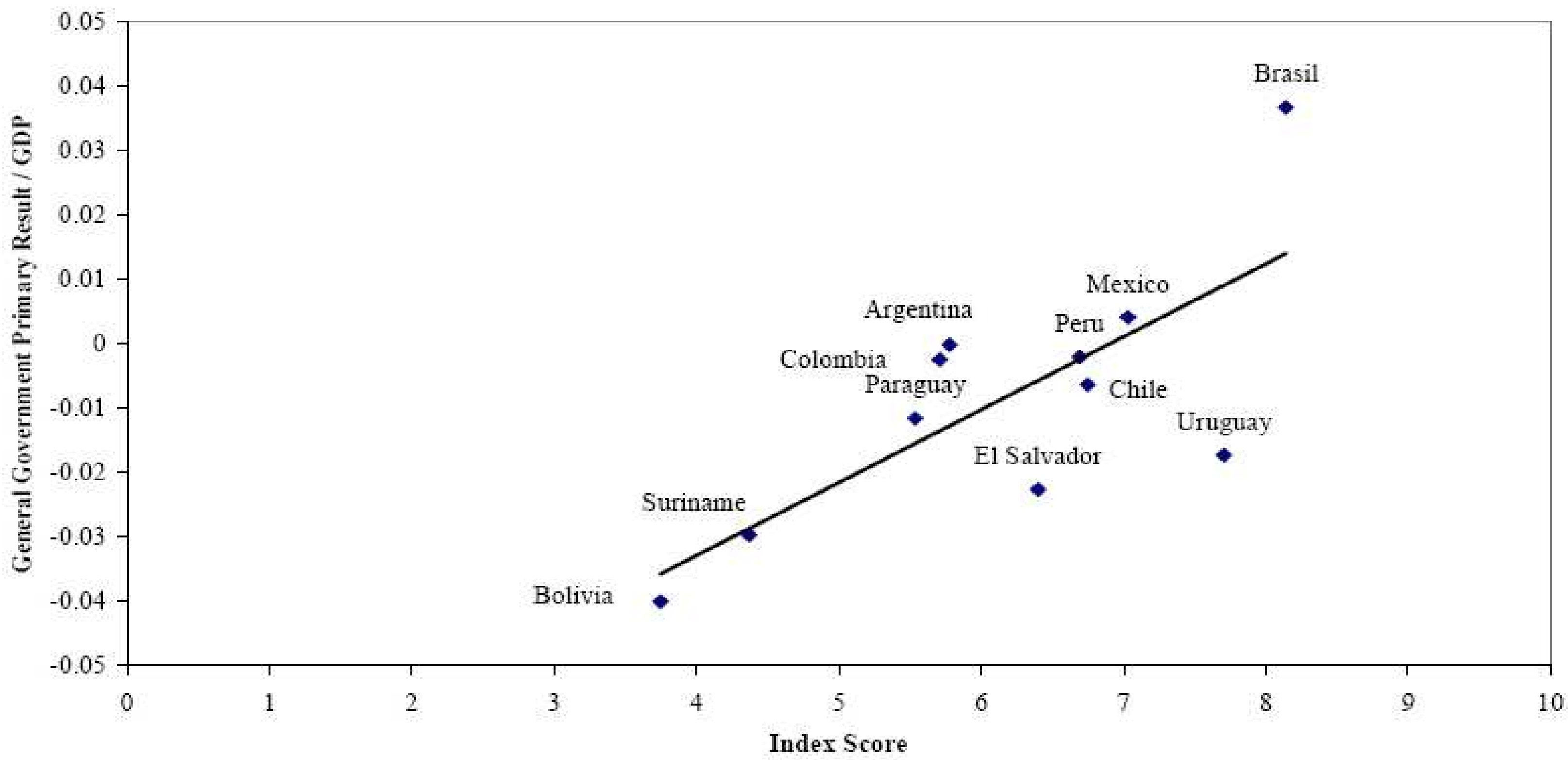
- However, improvement in fiscal performance may be explained by factors other than policy reform:
  - Economic growth: after 2002, Latin America grew at a 5% average. Better fiscal accounts may be reflecting the positive cycle
  - Commodity prices: boom in commodity prices benefited directly and indirectly several local governments (canon minero, regalias, co-participaciones…)
  - Decline in interest rates: domestic interest rates fall after the period of sudden stop of capital flows. Access to financial markets improved
- Moreover, the aggregate picture hides differences between countries and within countries
- Need to better understand determinants of subnational fiscal outcomes, isolating external factors and focusing at an individual level

Agenda

- Determinants of fiscal performance: theory and empirical evidence

    - √ Budget institutions and fiscal rules
    - √ Subnational debt constraints
    - √ Political and financial autonomy
    - √ Political characteristics
    - √ Other idiosyncratic characteristics

At a national level, there is evidence of the relation between budget institutions and fiscal results…



Source: Filc and Scartascini (2004)

Budget institutions establish rules of the game that can mitigate incentives to overspend and overborrow

- Rules can be quantitative (limits to debt, real expenditure growth, etc.), procedural (more hierarchical), transparency, or can be part of a long term planning exercise (increases time horizon)
- Contain discretional expenditure and mitigate electoral cycles
- However, setting rules does not guarantee their observance
- Are endogenous (Braun and Tommasi 2002) and different for every country
- Countries with FRL are successful and others not. Some with no FRL are still fiscally responsible (Webb 2004)

Degree of financial autonomy

Vertical fiscal imbalances

- Dependence on transfers from central governments may lead to excessive spending (common pool problem, moral hazard and adverse selection)
- Fiscal laziness (raise own taxes)
- Worst if combined with debt autonomy

Debt autonomy

- Access to debt should be favorable, under the right incentives
- However, it has proven risky.
- Debt and share of own resources should be a sign of financial strength
- In contrast, debt and high dependence on external transfers may be a weakness.

Rules of decentralization

- How inflexible are expenditures
- Clear competences between levels of governments
- Autonomy to modify expenditures and/or raising revenues

Poltical characteristics

- Institutional organization (federal, unitarian, levels of subnationals and degree of autonomy)
- Subnational electoral structure and cycles
- Political parties (representation at local level; local versus national; same as President or opposition)
- Political representation of subnational at the central government level (Congress? Political parties? “street”?)
- Weak representation may lead to weak cooperation
- Size
  - Votes matter
  - “Too Big to Fail”

At a subnational level, different rules have been establish to control fiscal outcomes

Table 1: Channels for control of deficits and debt

	For borrowers	For lenders
***Ex-ante* controls**	***All governments:*** - debt ceilings - deficit targets - restrictions on international borrowing **SNGs only:** - regulation of SNGs' borrowing, based on fiscal-capacity criteria (regulations by central government, central bank, or other institution)	***All governments:*** - no direct central bank financing - restrictions on international borrowing - regulations by central bank or other financial supervision agency **SNGs only:** - credit rationing to states - increased capital requirements for lending to risky SNGs
***Ex-post* consequences** (as incentives for ex ante caution)	***All governments:*** - limits on central bank financing - no bailouts (from central government or from international community) and no debt workout without adequate conditionality - publication of detailed fiscal results **SNGs only:** - central government does not accept SNG debt - debt service withheld from transfers to SNGs	***All governments:*** - strong supervision of banks **SNGs only:** - regulations require capital write-offs for losses from SNG debt

Source: Webb (2004)

The cases of Colombia and Peru

- Colombia has a long tradition of decentralization and is one with the highest degrees of fiscal decentralization (1968 reforms, 1991 Constitution)
- Peru is a late-comer to the process and has a low level of fiscal decentralization (Decentralization Law, 2002)
- Colombia experienced a period of weakening of its fiscal accounts. After several policy reforms, subnational fiscal balance has improved
- Peru is accelerating its descentralization process while enjoying a period of windfall gains due to strong commodity prices and mining royalties. Unique case of decentralization followed by subnational FRL

An IDB research project proposes a simple model to evaluate the fiscal performance at sub-national level…

Braun y Llach (2008)

Fiscal Performance = f (Political Variables, Institutional Variables, Fiscal Dependency Variables, Social and Economic Development Variables, fixed and time effects)

In the case of Colombia, Sanchez (2009) proposes:

$$Fiscal\ Performance_{i,t} = (\alpha + \beta 0{*}Population_{i,t} + \beta 1{*}Own\ Resources_{i,t} + \beta 2{*}Transfers_{i,t} + \beta 3{*}Tax\ Income_{i,t} + \beta 4{*}Ley617_{i,t} + \beta 5{*}Pol\_Matching_{i,t} + \beta 6{*}Pol\_Parties_{i,t} + \beta 7{*}Pol\_Participation_{i,t} + \beta 6{*}Mayor_{i,t} + EF_{i,} + ET_t) \quad (2)$$

i = local entity = 1, 2, …, 1098 municipalities
t = year = 1996, 1997, …, 2007

Variables Description

	Variable	*Description*
Fiscal Performance	*Fiscal Surplus i,t*	Total Surplus over Total Revenues
		Operational Surplus over Current Revenues
	Debt Stock i,t	Debt Stock / Total Revenues
		Debt Stock / Current Revenues
Political	*Pol_Matching* $_{i,t}$	Dummy variable; 1 if the local government belongs to the same political party of the national government, 0 otherwise.
	Pol_Parties $_{i,t}$	Number of effective Political Parties. N= 1/ sum of squared seat proportion of each political party in the Town Council
	Pol_Partecipation $_{i,t}$	Electoral turn-out in local elections
	Mayor $_{i,t}$	Votes obtained by the winner party (local elections) / Total votes
Institutional	*Ley617* $_{i,t}$	Degree of accomplishment of Law 617. Dummy variable; 1 if the ley is accomplished. (the ley limit the operational expenses of each municipalities, depending on category)
Fiscal Dependency	*Own Resources* $_{i,t}$	Share of Taxes on Total Revenues (Taxes/Total Revenues)
	Transfers $_{i,t}$	Share of Transfers on Total Revenues (Transfers/Total Revenues)
Social and Economic Development	*Tax Income* $_{i,t}$	Log_n of per capita tax income in the municipality.
	Population $_{i,t}$	Log_n of municipality population

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Local Governments Fiscal Performance in Colombia
Fixed Effect Panel Estimation

Variables	*Fiscal Performance*			
	TS/TR	*OS/CR*	*DS/TR*	*DS/CR*
Population $_{i,t}$	-0.092** (2.01)	-0.202 (1.33)	-0.067*** (5.23)	-0.170*** (2.72)
Own Resources $_{i,t}$	-3.078*** (32.80)	-0.901*** (2.89)	0.606*** (22.92)	0.206 (1.60)
Transfers $_{i,t}$	-0.001*** (78.74)	-0.001 (0.53)	-0.001*** (5.63)	-0.001 (1.25)
Tax Income $_{i,t}$	3.377*** (17.82)	1.473** (2.34)	-0.781*** (14.63)	-0.548** (2.11)
Ley617 $_{i,t}$	0.118*** (13.15)	0.495*** (16.53)	-0.007*** (2.62)	-0.085*** (6.85)
Pol_Matching $_{i,t}$	-0.019** (0.04)	0.052* (1.65)	0.003 (1.21)	-0.029** (2.24)
Pol_Parties $_{i,t}$	-0.005 (0.99)	-0.027 (1.52)	-0.009*** (5.73)	-0.020*** (2.66)
Pol_Partecipation $_{i,t}$	0.035 (0.73)	-0.148 (0.93)	0.058*** (4.23)	0.230*** (3.46)
Mayor $_{i,t}$	-0.098** (2.54)	-0.206 (1.60)	0.024** (2.20)	0.063 (1.19)
Year Dummies	YES	YES	YES	YES
Constant	1.003** (2.290)	1.736 (1.19)	0.721*** (5.84)	2.054*** (3.42)
Groups	1,041	1,041	1,041	1,041
Observations	11,170	11,170	11,170	11,170

Notes: t-statistics in absolute value with robust standard errors in parenthesis.
*Significant at 10%; ** Significant at 5%, *** Significant at 1%.

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Local Governments Fiscal Performance in Colombia
Summary Table

Variables	***Fiscal Performance***			
	TS/TR	*OS/CR*	*DS/TR*	*DS/CR*
Population $_{i,t}$	-		-	-
Own Resources $_{i,t}$	-	-	+	
Transfers $_{i,t}$	-		-	
Tax Income $_{i,t}$	+	+	-	-
Ley617 $_{i,t}$	+	+	-	-
Pol_Matching $_{i,t}$	-	+		-
Pol_Parties $_{i,t}$			-	-
Pol_Partecipation $_{i,t}$			+	+
Mayor $_{i,t}$	-		+	

Notes: **+** positive and significant coefficient, **-** negative and significant coefficient

Preliminary results suggest….

- **Fiscal rules were effective**: municipalities where Law 617 was accomplished show better fiscal performances
- **Wealth matters:** richer municipalities have higher surplus and lower deficit
- **Financial autonomy is key:** availability of own resources improves results and have better debt capacity
- **Empirical results on political variables are less clear**, and higher levels of electoral competition seem to lead to somehow better fiscal performance.

Agenda

- Policy issues

Fiscal performance is important, but…

- Policy reforms and fiscal responsibility laws appear to have been effective to strengthen subnational fiscal outcomes
- Improving financial autonomy appears to have returns in terms of fiscal management
- However, aggregate results may be influenced by the economic cycle, are heterogeneous across countries and across local entities
- Empirical evidence at a country level suggests that reforms were effective to achieve fiscal consolidation
- Fiscal performance is important, but does not guarantee efficiency and quality of public goods and services provided by subnationals

Thanks

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References

Alesina, A. (1994), "Political Models of Macroeconomic Policy and Fiscal Reforms," in S.Haggard and S. B. Webb ed., *Voting for Reform, Democracy, Political Liberalization, and Economic Adjustment*. Oxford University Press, New York.

Avarado, B. (2009), "Descentralización Fiscal en el Perú: Contexto y exploración del desempeño municipal". BID, mimeo

Bonet, J. (2009), "¿Por qué es necesaria una gestión fiscal local? BID, mimeo.

Braun, M. and L. Llach, " Estableciendo y Evaluando Resultados Fiscales: Una metodologia". BID, mimeo.

Braun, M. and M. Tommasi, 2002. "Fiscal Rules for Subnational Governments. Some organizing principles and Latin American experiences." G. Kopits ed., *Rules and Practice in Intergovernmental Fiscal Relations,* IMF and World Bank, Washington, DC..

Daughters, R. and L. Harper (2007), "Fiscal and Political Decentralization Reforms", in E. Lora (editor), *The State of State Reform in Latin America* ,Inter-American Development Bank, Washington, D. C.

ECLAC (2009), "Economic Survey of Latin America and the Caribbean 2007-2008", ECLAC, Santiago de Chile

Filc, G. and C. Scartascini (2004), "Budget Institutions and Fiscal Outcomes Ten years of inquiry on fiscal matters at the Research Department", paper prepared for the Research Department 10th Year Anniversary Conference, IDB, Washington D.C.

Oates, W. (1972), "Fiscal Federalism", Harcourt Brace Jovanovic , New York

Sanchez Torres, F. (2008), La Descentralización En Colombia: El Desempeño Fiscal de las Entitades Subnacionales", Final report, IDB

Tanzi, V. (2000), "Policies, Institutions and the Dark Side of Economics", Edward Elgar, Cheltenham, U.K.

Ter-Minassian, T., and J. Craig (1997), "Control of Sub-National Government Borrowing", in T. Ter-Minassian (editor), *Fiscal Federalism in Theory and Practice*, IMF, Washington D.C.

Tiebout, C.M. (1956), " A Pure Theory of Local Expenditures", *Journal of Political Economy* 64 (October): 416-424

Tommasi, Mariano (2002), "Fiscal Federalism in Argentina and the Reforms of the 1990's" Mimeo, Center for Research on Economic Development and Policy Reform, Stanford University.

Webb, S.B. (2004), "Fiscal Responsibility Laws for Subnational Discipline: The Latin American Experience", World Bank Policy Research Working Paper 3309,

Standard approach to debt sustainability

$$B_t = (1+r)B_{t-1} - \overbrace{(REV_t - G_t)}^{S_t}$$

Back

Dividing by revenues (Y_t) and $Y_t = Y_{t-1}(1+g)$:

$$b_t = \left[\frac{(1+r)}{(1+g)}\right] b_{t-1} - s_t$$

In equilibrium: $b_t = b_{t-1} = \bar{b}$ $\quad s_t = \bar{s}$ Then: $\bar{s} = \bar{b}\left[\frac{(r - g)}{(1+g)}\right]$

where

$b_t = B_t/Y_t$

$s_t = S_t/Y_t$

g = growth rate of revenues

Assuming invertibility condition r-g>0