

# Federalism, decentralisation and corruption

Sebastian FREILLE (joint with Emranul Haque and Richard Kneller)

Departamento de Economía y Finanzas

August 26, 2008

# Decentralisation

- Decentralisation can be broadly defined as **any form of transfer of powers to subnational levels**
- Decentralisation comes in **diferent forms**: study of these and their interactions is important
- The **aggregate effects of decentralisation** policies and reforms are unknown

# Anecdotal Evidence

- Decentralisation of **public services in Latin America** in early 90's
- **Devolution of power** to national parliaments (UK)
- **Full-scale decentralisation programmes** in poor countries:  
Rwanda, South Africa, Uganda, Sudan and Indonesia

# Why corruption?

- Corruption is often singled out as **the biggest obstacle to economic development**
- Consequences of corruption are well known. Aside from GDP per capita, much **debate over which determinants of corruption** are important
- Is decentralisation **significantly and robustly** associated with corruption? If so, which **forms of decentralisation** should be pursued and which avoided?

# Literature

## Weaknesses and inconsistencies in the empirical literature

- **Decentralisation** leads to **higher corruption** [Goldsmith (1999), Treisman (2000), Wu (2005)]
- **Decentralisation** leads to **lower corruption** [Ames (1994), Barenstein and de Mello (2001), Fisman and Gatti (2002)]
- Only a few studies consider **several types of decentralisation** [Treisman (2002a,2002b), Enikolopov and Zhuravskaya (2007)]

# Framework

## Theoretical grounds

- Long-standing economic and political science theories [Riker (1964), Oates (1972)]
- Theoretical framework proposed in Freille et al. (2008)
  - Simple **overlapping generations model**
  - **Decentralisation** has different **contrasting effects**. Efficiency and informational effects
  - If corruption is high, **decentralisation may be the worst alternative** for development

# Types

**Market decentralisation.** Mostly associated with the fiscal federalism tradition.

**Political decentralisation.** Giving power in political and public decision-making to citizens.

**Constitutional decentralisation.** The establishment of a federal organisation for a country within the Constitution.

**Spatial decentralisation.** Strategies taken to encourage regional development outside major urban areas.

# Interactions

- **Federal countries** are expected to be more **fiscally decentralised**
- **Fiscal** and **political** decentralisation: ambiguous theoretical predictions
- **Spatial decentralisation** should be associated with fiscal decentralisation.



# Approach

- Review and assessment of **major empirical contributions** in the area
- **Re-estimate** corruption equations using alternative decentralisation indicators
- Use **common subset** of countries for regressions
- Inconsistencies are **not due to differences in data or techniques**

# Research Questions

- Are there **multi-dimensional aspects** or any significant **interaction effects**?
- What is the **aggregate effect of decentralisation** on bureaucratic corruption?
- **Is the literature over-estimating** the aggregate effect of decentralisation?

# Data

- **Large dataset** collected from several sources: Government Finance Statistics, Database of Political Institutions, Country Constitutions, Gerring, Thacker and Moreno (2005,2006) and Treisman (2002).
- More **than 100 countries and over 20 decentralisation measures**
- Corruption data: **subjective indexes** [TI, WBC, ICRG] are highly correlated among each other and across time.

# Model Specification

## Issues

- Multicollinearity: correlation analysis and VIF's
- Heterogeneity: rolling regression
- Little variation across time

## Baseline

$$corr_i = \beta_0 + \beta_1 dec_i + \beta_2 gdp_i + \beta_3 pop_i + \beta_4 pf_i + \varepsilon_i$$

# Model Specification

## Full

$$corr_i = \beta_0 + \sum_{K=1}^4 (\beta_K dec_{i,K}) + \beta_5 gdp_i + \beta_6 pop_i + \beta_7 pf_i + \varepsilon_i$$

## Interactions

$$corr_i = \beta_0 + \beta_1 dec_i^m + \beta_2 dec_i^c + \beta_3 int + \beta_4 gdp_i + \beta_5 pop_i + \beta_6 pf_i + \varepsilon_i$$

# Variables

<b>Variable</b>	<b>Description</b>	<b>Type</b>	<b>Obs</b>
exp	Sub-national expenditure (% total exp.)	Market	69
rev	Sub-national revenue (% total revenue)	Market	68
muni	Local governments elected?	Political	127
state	State/province governments elected?	Political	134
stconst	Are senators' constituencies the provinces?	Political	58
author	Sub-national authority in fiscal and legal	Political	61
auton	Existence of autonomous regions	Political	156
federal	Federalism dummy	Constitutional	177
fedindex	Index of federalism	Constitutional	125
unithis	Index of unitary history	Constitutional	106
tiers	Number of elected sub-national tiers	Spatial	127
regj	Number of intermediate jurisdictions	Spatial	61
locj	Number of local jurisdictions	Spatial	108

# Direct Effects

	1	2	3	4	5	6	7	8
rev	0.02 (4.19)				0.03 (7.79)	0.02 (3.60)	0.030 (7.34)	0.02 (4.91)
gdp	1.95 (12.65)	1.17 (7.16)	1.33 (6.74)	1.35 (10.83)	1.88 (11.07)	2.15 (12.06)	1.98 (11.47)	2.08 (10.86)
pop	-0.16 (-2.02)	0.05 (0.74)	0.09 (1.18)	-0.07 (-0.71)	-0.12 (-1.54)	-0.13 (-1.30)	-0.10 (-1.16)	-0.14 (-1.10)
pf	-0.01 (-3.41)	-0.02 (-4.47)	-0.01 (-3.81)	-0.01 (-4.74)	-0.00 (-0.95)	-0.01 (-2.73)	-0.00 (-0.54)	-0.01 (-1.08)
unithis		0.01 (2.11)			0.01 (5.31)		0.01 (4.73)	0.01 (4.03)
muni			-0.16 (-2.02)			-0.19 (-1.42)	-0.11 (-0.68)	-0.08 (-0.45)
locj				0.00 (1.12)				0.00 (1.53)
Adj R2	0.85	0.72	0.68	0.75	0.90	0.85	0.89	0.89
obs	65	101	120	104	53	55	47	41

Note: Robust standard errors (t-ratios are reported in parentheses).

# Heterogeneity

- Test for **heterogeneity in the relationship** between decentralisation and corruption
- Ideally, threshold effects model. Used **rolling regression** instead
- **Split the sample** and rank the values of the variable of interest
- **Record estimates and confidence interval** for all the possible subsamples of equal size



# Heterogeneity

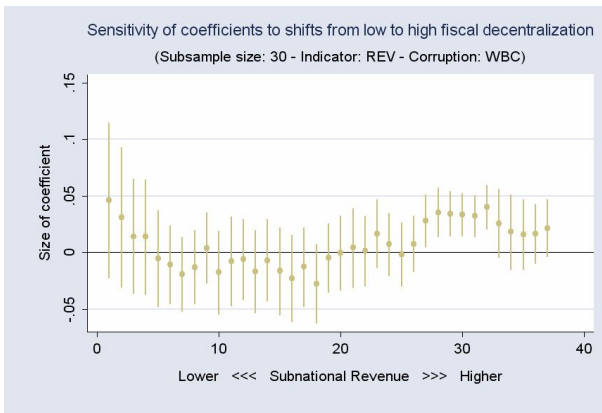


Figure: *rev* and *wbc*

# Heterogeneity

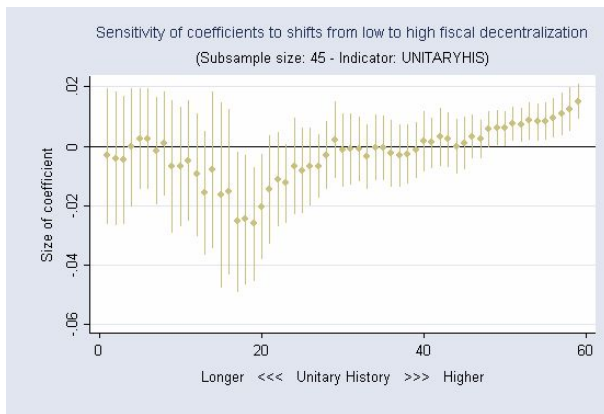


Figure: *unitaryhis* and *wbc*

# Indirect Effects

	1	2	3	4	5	6
rev	0.037 (6.87)	0.031 (0.86)	0.031 (7.78)	0.030 (7.51)	0.040 (5.34)	0.038 (6.22)
unithis	0.013 (4.25)	0.009 (4.67)	0.031 (3.18)	0.018 (0.67)	0.008 (3.59)	0.032 (3.26)
rev.unithis	-0.000 (-2.11)					
muni		-0.107 (-0.43)	-0.456 (1.73)			0.407 (1.50)
unithis.muni			-0.011 (-2.24)			-0.010 (-1.86)
unithis.gdp				-0.002 (-0.33)		
regj					0.007 (2.37)	
rev.regj					-0.001 (-2.58)	
Adj R2	0.90	0.89	0.90	0.90	0.90	0.90
obs	53	47	47	53	30	47

Note: Robust standard errors (t-ratios are reported in parenthesis).

# Summary

- **Multiple dimensions of decentralisation** should be included in the corruption specification
- Market decentralisation is associated with lower corruption. But, constitutional decentralisation is associated with higher corruption.  
**Evidence of offsetting effects**
- Certain forms of **political decentralisation (local elections) worsen the positive effect** of constitutional centralisation on corruption

# Ongoing and Planned Work

- Develop **spatial decentralisation indicators** using geographic data (shapefiles)
- Code and arrange **qualitative administrative decentralisation data** (BID, World Bank)
- Use **ethno-linguistic fragmentation data** to assess the empirical relevance of the argument of federalism as a mechanism of accommodating ethnic and linguistic disparities

# Ongoing and Planned Work

- Develop model with **both administrative and political decentralisation**. Politicians maximize probability of reelection; bureaucrats maximize bribe collection. What if politicians are also corrupt?
- Model of federalism, ethno-linguistic conflict, and the split-up of countries
- Regionalism and federalism and yardstick competition: a model of intergovernmental competition