

# Switch towards tax centralization in Italy: a wake up for the local political budget cycle

M. Ferraresi U. Galmarini L. Rizzo A. Zanardi

# Introduction

- In 2006, just before the end of the electoral campaign, Berlusconi, the right-wing candidate for Prime Minister, said “If you vote for us again, we will abolish property tax for your primary residence”
- Prodi won the 2006 election, but due to the weak majority of its government he was replaced, in 2008, by the right-wing majority guided by Berlusconi, who maintained his promise by exempting citizens from the payment of the property tax levied on principal dwellings

## Political Budget Cycle

- The 2008 local fiscal reform abolished the property tax on principal dwellings, which was political costly because easily related to the local decision maker, and the central government compensated municipalities for the missing revenue through vertical transfers which, differently from the property tax, bear no political cost for the local decision maker

The reform might have generated some incentives for municipalities close to elections to manipulate policy outcome decisions

## Theoretical background

- Rogoff and Sibert (1988) and Rogoff (1990) show that the incumbent leader has an incentive to bias pre-election fiscal policy
  - voters are rational
  - voters are imperfectly informed about the complexities of the government budget

## PBC at the local level

- **Kneebon and McKenzie (2001)**, by using data on Canadian provinces, find that more visible expenditure increases in election years versus non-election years
- **Drazen and Eslava (2010)**, by relying on data on Colombian municipalities, show that infrastructure spending, prior to elections, expands significantly
- **Akhmedov and Zhuravska (2004)** find significant political cycles in budget spending and its composition for Russian provinces
- **Khemani (2004)** shows that in election years tax collection is lower and public investment spending is high

# PBC in Italy

- **Alesina and Paradisi (2014)** employ a quasi-natural experiment, by exploiting the introduction of a new real estate taxes in Italy in 2011
  - they use a cross-section of Italian municipalities
  - they find that municipalities with elections scheduled in 2013 set lower tax rates in 2012

## The 2008 tax reform

In 2008, each municipality received a transfer whose amount was determined by:

- efficiency in tax collection given by the ration between:
  - average value of the revenue from property tax levied on principal dwellings for the period 2004-2006, measured in cash terms
  - average value of the revenue from property tax levied on principal dwellings for the period 2004-2006, measured in accrual terms
- compliance of the domestic stability pact for the year 2007

## The 2008 tax reform

The fulfillment of these two past goals can not be affected by today's policy maker decisions, making the received per capita transfer for the local policy maker exogenous



## Italian Thresholds (1)

- The abolition of the property tax on principal dwelling is not the only institutional policy that took place in Italy in the last 15 years:
  - starting from 2002, municipalities have been granted access to a fixed share of the personal income tax revenues generated in their territory
  - starting from 2009, the local fiscal rules have been frequently changing from one year to another due to the Law 42/2009 on Fiscal Federalism

## Italian Thresholds (2)

- Different policies at the municipal level based on population brackets (**Gagliarducci and Nannicini, 2013**):
  - salary of the mayor (**Gagliarducci and Nannicini, 2013**)
  - compliance with the Domestic Stability Pact (**Grembi et al., 2016**);
  - electoral rules (**Bordignon et al., 2016; Ferraresi et al., 2015**)

The restriction to municipalities belonging to the population range of 3,000 - 5,000 inhabitants over the period 2002-2008 guarantees that there are no other confounding policies.

## The “experiment”

- Imagine that we can observe over a given period, including two pre-electoral years, two municipalities, A and B
- A and B are similar in the demographic, geographic and socio-economic characteristics
- Suppose to flip a coin to decide the timing of elections and, say, that municipality A holds the election one year after the reform

The random assignment of the timing of elections generates a random assignment in which municipality the election will be hold the year after the reform.

## Treated and control municipalities

								REFORM	
Type of municipality	2002	2003	2004	2005	2006	2007	2008	2009	
control	E (58)	IV (58)	III (58)	II (58)	I (58)	E (58)	IV (58)	III (58)	
control	I (25)	E (25)	IV (25)	III (25)	II (25)	I (25)	E (25)	IV (25)	
treated	II (506)	I (506)	E (506)	IV (506)	III (506)	II (506)	I (506)	E (506)	
control	III (32)	II (32)	I (32)	E (32)	IV (32)	III (32)	II (32)	I (32)	
control	IV (112)	III (112)	II (112)	I (112)	E (112)	IV (112)	III (112)	II (112)	

## Dataset

The dataset contains a full range of information of Italian municipalities for the period 2002-2008 organized into three sections:

- 1 municipal financial data
- 2 electoral data covering the results of elections in which the mayors in office during the period covered by the dataset were elected
- 3 municipal demographic and socio-economic data such as population size, age structure, average income of inhabitants

The final sample is a balanced panel of 733 municipalities including 5,131 observations from 2002 to 2008.

## Dependent Variables

- Per capita current expenditure
- Revenue from property tax on non principal dwellings
- Revenue from surtax on personal income
- Revenue from fees and charges

## Descriptive statistics

Panel A: Current expenditure				Panel B: Property tax on other dwellings			
	No pre-electoral year (1)	Pre-electoral year (2)	Difference (3)	No pre-electoral year (1)	Pre-electoral year (2)	Difference (3)	
Before 2008	624.33	600.43	-23.90*** (2.70)	Before 2008	140.70	138.25 (26.09)	
2008	675.69	715.62	39.93** (17.69)	2008	150.42	176.00 (7.93)	
Difference (2008 – Before 2008)	51.36*** (12.27)	115.20*** (7.98)	<b>63.84***</b> <b>(18.49)</b>	Difference (2008 – Before 2008)	9.72 (6.18)	37.75 (26.95)	<b>28.03</b> <b>(30.24)</b>
Panel C: Surtax on personal income				Panel D: Fees and Charges			
	No pre-electoral year (1)	Pre-electoral year (2)	Difference (3)	No pre-electoral year (1)	Pre-electoral year (2)	Difference (3)	
Before 2008	26.33	25.74	-0.59 (0.58)	Before 2008	177.10	174.17 (2.77)	
2008	41.00	53.11	12.11*** (2.61)	2008	154.72	188.37 (13.25)	
Difference (2008 – Before 2008)	14.66*** (1.99)	27.37*** (1.35)	<b>12.71***</b> <b>(2.70)</b>	Difference (2008 – Before 2008)	-22.38*** (8.16)	14.19* (8.08)	<b>36.57**</b> <b>(14.63)</b>

## Control Variables

- population of municipality (**pop**);
- population density (**density**);
- proportion of citizens between 0-5 (**child**);
- proportion of citizens over 65 (**aged**);
- average per capita income proxied by the personal income tax base (**income**);
- per capita transfers from the upper level of government (**transfers**);
- dummy for each electoral year (**election**)



## Timing of Elections

Year	no Elections	Elections	% of municipalities having elections in the year
2002	675	58	7.91
2003	708	25	3.41
2004	227	506	69.03
2005	701	32	4.37
2006	621	112	15.28
2007	675	58	7.91
2008	708	25	3.41

**Notes:** Period 2002-2008. Municipalities with population between 3,000 and 5,000 inhabitants.

## Econometric strategy

$$Y_{it} = \gamma_1 pre\ electoral\ year_{it} + \gamma_2 pre\ electoral\ year_{it} \times after\ reform + \beta' X_{it} + \alpha_i + \tau_t + \lambda Trend_{it} + \epsilon_{it} \quad (1)$$

- *after reform* is a dummy variable equal to 1 in the year when the property tax was replaced by the compensating grant
- *pre electoral year* is a dummy variable equals 1 in the year before the election and 0 otherwise
- *Trend<sub>it</sub>* reflects a complete set of municipality-specific time trends

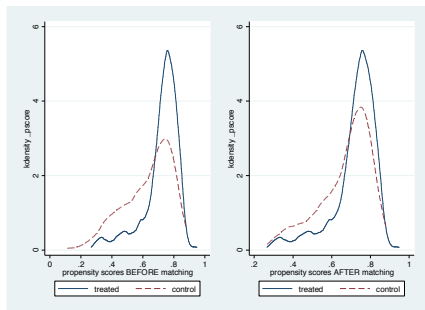
## Results

	current expenditure	property tax on non principal dwellings	surtax on personal income	fees and charges
	(1)	(2)	(3)	(4)
<i>pre electoral year</i>	-0.42 (3.03)	13.28 (12.76)	0.97 (0.86)	-3.04 (2.61)
<i>pre electoral year × after reform</i>	19.04** (7.65)	-21.34 (17.80)	1.05 (2.36)	17.75** (7.54)
Municipality FE	YES	YES	YES	YES
Municipal time trend	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Observations	5,131	2,199	5,131	5,131
Number of municipalities	733	733	733	733
Treated municipalities	506	506	506	506
Control municipalities	227	227	227	227
R-squared within	0.66	0.62	0.49	0.56

**Notes:** Period 2002-2008. Municipalities with population between 3,000 and 5,000 inhabitants. *Pre electoral year* is a dummy variable equals to one in the year before the election and *after reform* is a dummy variable equals to one after the reform (2008). The number of observations in col. (2) is 2,199 since the distinction between revenue from property tax levied on principal dwellings and revenue from property tax levied on non-principal dwellings has been recorded in Italian municipal budget only from 2006 onwards. In all regression we

## Matched sample of municipalities

- We match the sample of treated to a comparable sample of non treated, linking each municipality only to its “nearest neighbor” in terms of municipalities propensity score.



## Matched sample

- From 2001 census set of variables that might affect both treatment and outcome variable:
  - population (**population**)
  - categorical variable equal to 1 if the municipality is located in plain, 2 in hills and 3 in mountains (**altimetry\_zone**)
  - share of population aged over 65 (**aged**) and share of population aged below 5 (**child**)
  - population density (**density**)
  - per capita income (**income**)
  - per capita grants from upper levels of government (**transfers**)
  - number of families (**families**), houses (**houses**) and firms (**firms**)
  - unemployment rate (**unemployed**)
  - average altitude level of the municipal territory (**altitude**)

## Results on the matched sample of municipalities

	current expenditure	property tax on non principal dwellings	surtax on personal income	fees and charges
	(1)	(2)	(3)	(4)
<i>pre electoral year</i>	-0.00 (3.48)	14.06 (16.43)	1.01 (1.04)	-3.78 (3.11)
<i>pre electoral year</i> × <i>after Reform</i>	21.91** (8.67)	-21.51 (21.37)	-1.55 (2.72)	19.82** (8.08)
Municipality FE	YES	YES	YES	YES
Municipal time trend	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Observations	4,669	2,001	4,669	4,669
Number of municipalities	667	667	667	667
Treated municipalities	502	502	502	502
Control municipalities	165	165	165	165
R-squared within	0.65	0.62	0.49	0.56

**Notes:** Period 2002-2008. Municipalities with population between 3,000 and 5,000 inhabitants. *Pre electoral year* is a dummy variable equals to one in the year before the election and *after reform* is a dummy variable equals to one after the reform (2008). The number of observations in col. (2) is 2,199 since the distinction between revenue from property tax levied on principal dwellings and revenue from property tax levied on non-principal dwellings has been recorded in Italian municipal budget only from 2006 onwards. In all regression we

## Confounding factors (1)

- Starting from 2008, each municipality received a transfer whose amount was determined by some past indicators
- As a result, some municipalities received an amount of compensating transfer very similar to the missing revenue from the property tax on principal dwellings, while, on the other hand, some municipalities received an amount of compensating transfer by far different (and lower) than the missing revenue from the property tax on principal dwellings.

The difference in the amount of transfers received by municipality, might drive our results.

## Confounding factors (2)

<i>icigrants</i>	control group	treated group	Difference (Treated - Control)
Pre reform (2006-2007)	53.53	64.85	11.32*** (3.97)
After reform (2008 )	41.14	47.17	6.03*** (1.85)
Difference (After -Pre)	-12.40*** (2.15)	-17.68*** (2.79)	<b>-5.28</b> <b>(3.52)</b>



## Confounding factors (3)

Dependent variable: <i>icigrants</i>	Whole sample	Sample of matched municipalities
	(1)	(2)
<i>pre electoral year</i>	1.78 (8.76)	1.08 (9.38)
<i>pre electoral year</i> × <i>after Reform</i>	5.85 (14.43)	7.71 (15.13)
Municipality FE	YES	YES
Municipal time trend	YES	YES
Year FE	YES	YES
Observations	2,199	2,001
Number of municipalities	733	667
Treated municipalities	506	502
Control municipalities	227	165
R-squared within	0.57	0.57

## The term-limit effect

- We investigate whether there has been any heterogeneous response to the 2008 reform across municipalities with mayors with a binding term limit
- We build a *termlim* dummy variable, which is equal to one if the mayor is at her second mandate and zero otherwise and interact it with both *pre electoral year* and *pre electoral year*  $\times$  *after reform* in a triple-difference model

## Result on principal expenditure

	Panel A: Whole sample				Panel B: Sample of matched municipalities			
	Current expenditure	Property tax on other dwellings	Surtax on personal income	Fees and charges	Current expenditure	Property tax on other dwellings	Surtax on personal income	Fees and charges
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
<i>pre-electoral year</i>	0.66 (4.39)	12.66 (13.54)	0.71 (1.15)	- 2.15 (4.05)	0.44 (4.66)	8.15 (18.39)	0.82 (1.32)	- 2.86 (4.64)
<i>pre-electoral year × reform</i>	22.37** (10.24)	- 14.27 (21.90)	0.95 (2.83)	27.43*** (9.11)	26.96** (12.03)	- 12.91 (27.56)	- 2.08 (3.36)	29.98*** (10.36)
<i>pre-electoral year × termlim</i>	- 1.94 (6.98)	8.20 (25.13)	0.55 (1.73)	- 1.06 (7.34)	- 0.58 (7.39)	19.54 (32.04)	0.38 (1.85)	- 1.00 (7.95)
<i>pre-electoral year × reform × termlim</i>	- 10.74 (15.17)	- 25.98 (30.99)	0.59 (4.59)	- 30.02** (14.59)	- 14.49 (17.44)	- 29.85 (39.03)	1.67 (5.33)	- 30.53* (15.98)
Year FE	YES	YES	YES	YES	YES	YES	YES	YES
Municipality FE	YES	YES	YES	YES	YES	YES	YES	YES
Municipal time trend	YES	YES	YES	YES	YES	YES	YES	YES
Municipal controls	YES	YES	YES	YES	YES	YES	YES	YES
Observations	5131	2199	5131	5131	4669	2001	4669	4669
Number of municipalities	733	733	733	733	667	667	667	667
Treated municipalities	506	506	506	506	502	502	502	502
Control municipalities	227	227	227	227	165	165	165	165
R-squared within	0.66	0.63	0.49	0.56	0.65	0.63	0.49	0.56

## Conclusion

- We investigated the impact on local policy outcome decisions of a very salient fiscal reform, introduced by the Berlusconi government
- The reform allows to test for the strategic manipulation of policy outcome decisions in anticipation of elections when part of the financial system is switched from decentralized to centralized
- We found that the reform impacts on the political budget cycles, leading municipalities to increase current expenditure and revenue from fees and charges

## Conclusion

- The increase in the expenditure does not depend on the status of being a mayor with a binding term limit, while municipalities that are in the pre-electoral year after the reform increase revenue from fees and charges only if the term limit is not binding for the mayor.

The centralization process of the tax system can generate incentive for municipalities to manipulate policy outcome decisions when close to elections, while, on the contrary, under a decentralized tax system, such incentives do not hold.