



Absorption capacity of Cohesion Policy Funds by Tuscan municipalities

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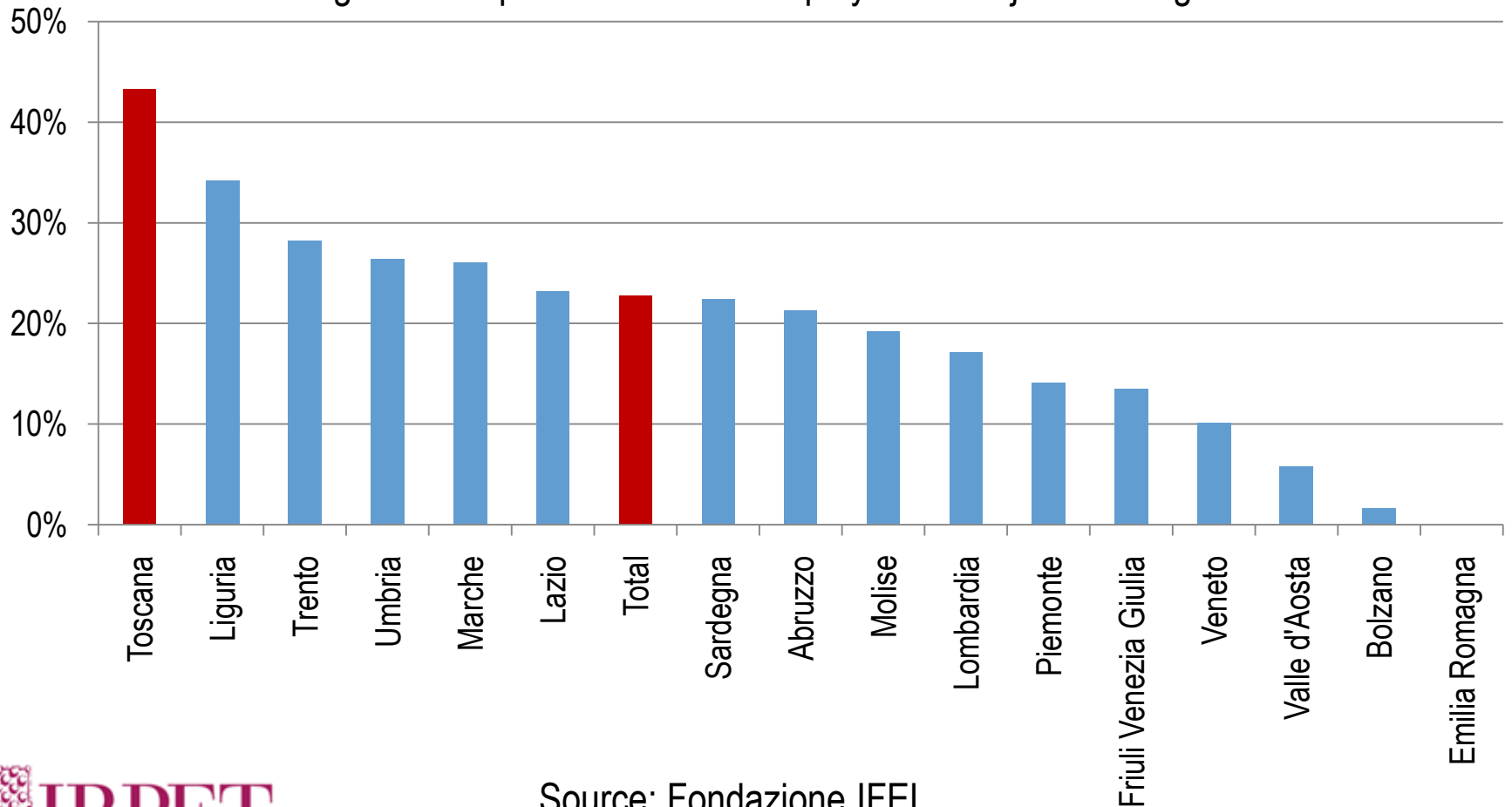
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Context

- In the last years **municipalities** are faced by **more responsibilities** with **less resources**
- **Cohesion Policy Funds** could play a major role in the **financing of municipal investment expenditures**
- In **Tuscany municipalities** are **highly represented** among **implementing bodies**

Municipalities participation by Region

% costs from municipalities as implementing bodies
"Regional competitiveness and employment objective" Regions



Source: Fondazione IFEL

Aims

- But, there is a strong **heterogeneity** among municipalities in how they access to Cohesion Policy Funds
- Our aim is to analyse the **determinants of participation of Tuscan municipalities to Cohesion Policy Funds** → to explain differences in their **absorption capacity**:
 - In terms both of **access** and of **number of funded projects**
 - Focusing on “**demand**” factors, given “**supply**” factors

Outline

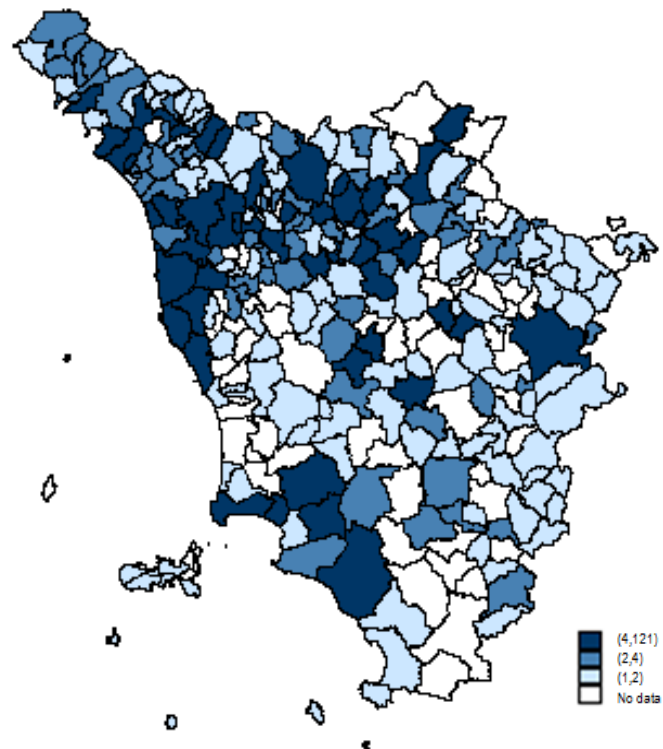
- **Data**
- **Descriptive analysis results**
- **The literature in brief**
- **The choice of the model**
- **The model results**
- **Conclusions**

Main features of data

- **Content:** information on each project funded in the programming period 2007 – 2013 in Tuscany
- **Programs:** FAS, FESR, FSE and IT-FR → no information on FEASR
- **Update:** projects funded until 31 december 2013
- **Implementing bodies:** Tuscan municipalities, not unions or other aggregations → **about 950 projects for 890 million euros**
- **Source:** Region of Tuscany

Intensity and projects by geographical distribution

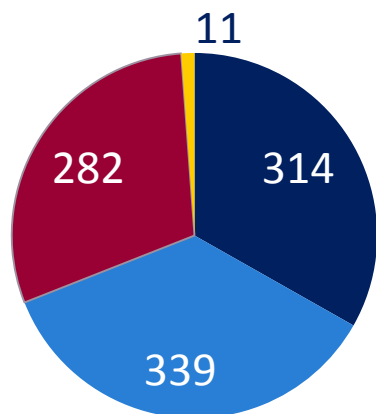
N° projects	N° municipalities	%
No projects	62	22
At least 1 project	223	78
of which:		
1 project	65	29
2-5 projects	119	53
5+ projects	39	17
Total	285	100



- Almost 80% with at least 1 project, but few with more than 5 projects
- Higher concentration on urban and remote areas

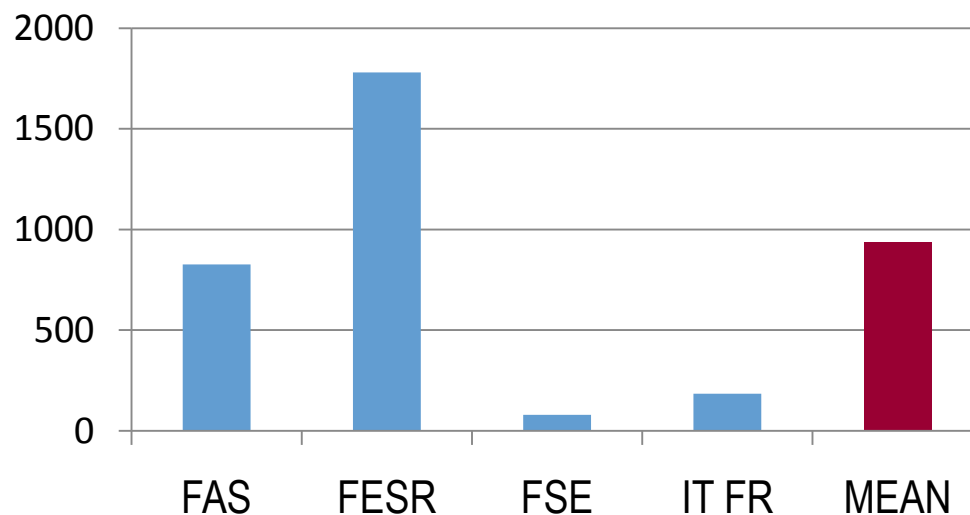
Projects by program

Number of projects



■ FAS ■ FESR ■ FSE ■ IT FR

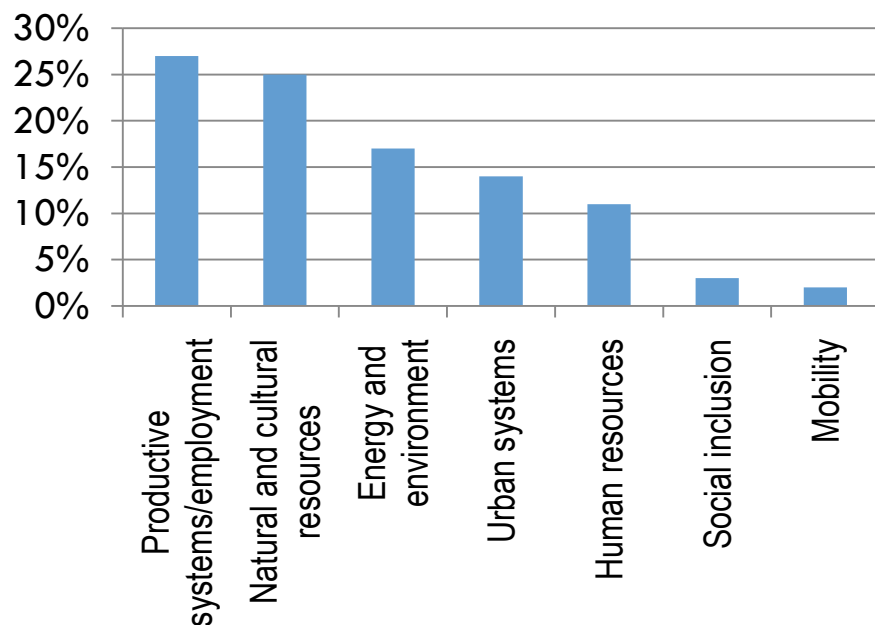
Average financing (Keuro)



- Projects equally distributed among FAS, FESR and FSE
- Higher financing for FAS and, especially, FESR

Projects by priorities

% projects



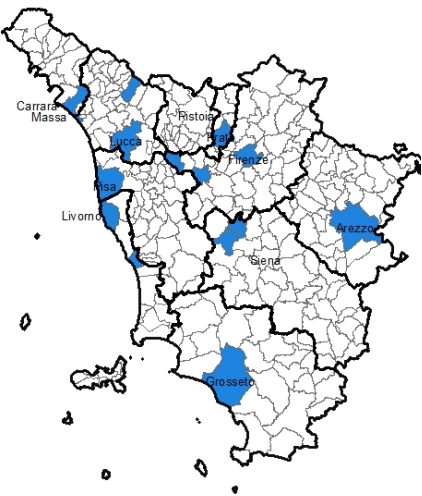
Average financing (Keuro)

Priority	Average financing
Mobility	12,482
Natural and cultural resources	1,107
Urban systems	1,102
Energy and environment	682
Human resources	373
Productive systems/employment	226
Social inclusion	167

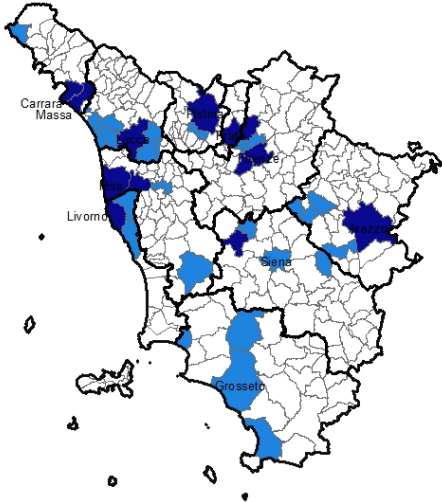
- Widespread with low financing → productive systems/employment
- Concentrated with high financing → mobility

Geographical distribution of projects by priority and municipal characteristics

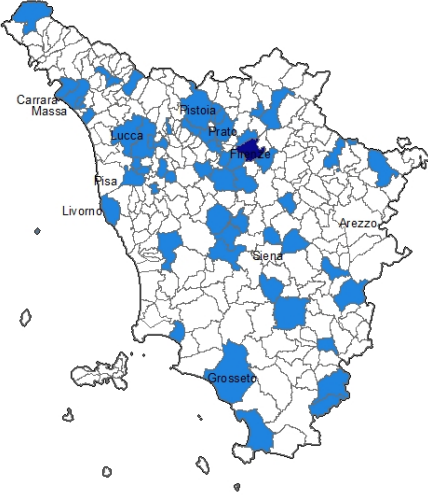
Large and not mountain municipalities



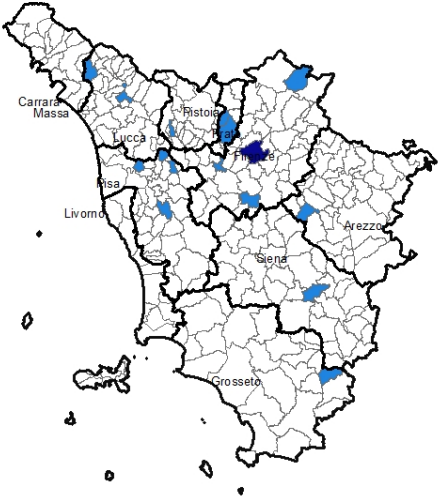
Mobility



Urban systems



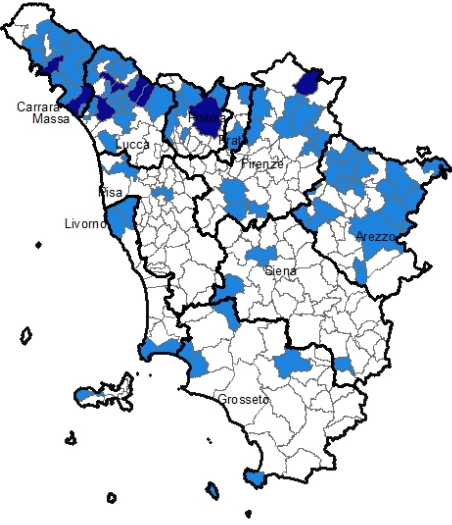
Human resources



Social Inclusion

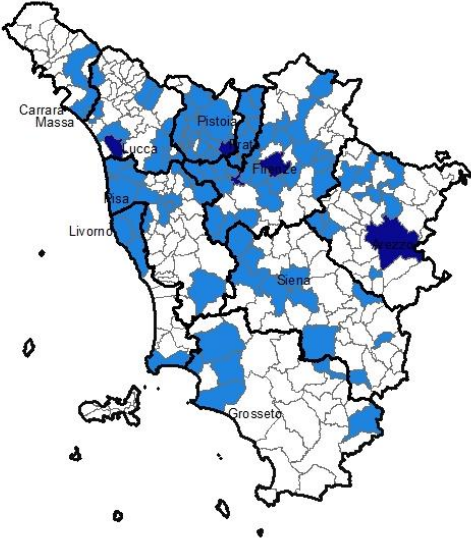
Geographical distribution of projects by priority and municipal characteristics

Small and mountain municipalities



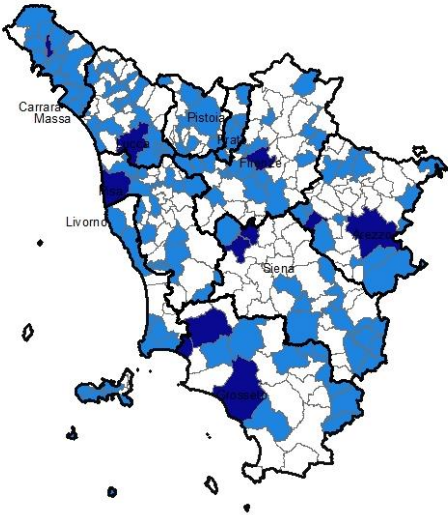
Energy and environment

Medium/large and not mountain municipalities



Productive systems and employment

All municipalities



Natural and cultural resources

Absorption capacity: the determinants in literature

- Only scanty and recent literature. Often qualitative approaches, (Soutaris and Zerbinati, 2004, Anci Toscana, 2010) and on Eastern european countries (Tatar, 2010, Lorvi, 2013). Few quantitative approaches (Veiga, 2012).
- Usually absorption capacity depends on:
 - Administrative capacity** → e.g. availability of human resources, competence of internal or external resources
 - Financial aspects** → e.g. budget constraints, financial problems, availability of financial resources for co-financing
 - Political factors** → e.g. political cycle, political party
 - Experience** → e.g. past experience in EU funds

A model to predict absorption capacity for Tuscan municipalities

- **Absorption capacity:** number of projects financed for each municipality $\rightarrow Y_i$ is a “**count variable**” with only non negative values $0,1,2,\dots$
- Usually $Y_i \sim \text{Poisson}(\lambda)$, but $E(Y_i) = \text{VAR}(Y_i) = \lambda$ and no excessive presence of zeros
- **Hurdle model** with 2 processes:
 - One that generates zeros \rightarrow logit model to predict the probability to have at least one project with respect to zero
 - One for positive values \rightarrow negative binomial model to predict the count variable truncated at zero

Covariates considered

GEO-DEMOGRAPHY

	EXPECTED SIGN
--	---------------

Population	+
Capital municipality	+
Demographic density	+
Municipalities participating in inter-municipal projects	+
Geographical area	It depends

HUMAN RESOURCES

	EXPECTED SIGN
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Employees endowment	+
% graduated employees	+
Average age of employees	Uncertain
% external staff	+

FINANCIAL ASPECTS

	EXPECTED SIGN
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Revenue p.c.	+
Operational deficit	-
Internal Stability Pact objective p.c.	-

EXPERIENCE

	EXPECTED SIGN
--	---------------

% propensity to invest in 2000-2006	+
Years with EU financing in 2000-2006	+

POLITICAL FACTORS

	EXPECTED SIGN
--	---------------

Number of government changes	-
Political party	It depends
Major's education	+
Major's age	Uncertain

Logit for the probability to access

	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
Demographic density	0.005	0.002	2.920	0.003	0.002	0.008
Geographical area						
<i>Firenze-Prato-Pistoia</i>	1.212	0.492	2.460	0.014	0.246	2.177
<i>Lucca-Massa Carrara</i>	3.714	1.066	3.480	0.000	1.624	5.804
<i>Grosseto-Siena-Arezzo</i>	0.763	0.402	1.900	0.058	-0.025	1.550
Propensity to invest. 00-06	0.840	0.532	1.580	0.114	-0.202	1.883
N° years EU fin. 00-06	0.315	0.134	2.350	0.019	0.052	0.577
Constant	-1.305	0.594	-2.200	0.028	-2.470	-0.140

Negative binomial for the number of projects

	Regression 1	Regression 2
Capital municipality	0.814*	0.660*
Geographical area		
Firenze-Prato-Pistoia	0.263***	0.147
Lucca-Massa Carrara	0.553*	0.536*
Grosseto-Siena-Arezzo	0.143	0.203
% graduated employees	1.192***	1.371***
log (employees)	0.336*	0.433*
Revenue p.c.		
1.000 -1.300 euro	0.184***	0.199
> 1.300 euro	0.148	0.248***
Operational deficit 08-11	-0.196***	-0.153
Internal Stability Pact objective p.c.		-1.945*
N° government changes		
1	0.006	0.04
2	-0.263***	-0.257
Political party		
Lista civica	-0.021	-0.073
Centro-destra	-0.324***	-0.304***
Constant	-0.714*	-0.876**

Significance levels: *10% **5% ***1%

Conclusions

Key findings

- The probability to access depends on dimensional-geographical aspects and on the experience
- Human resources, financial and political aspects affect the number of funded projects
- Results are in line with literature (Soutaris and Zerbinati, 2004, Anci Toscana, 2010, Tatar, 2010, Lorvi, 2013, Veiga, 2012)

Main policy implications

- More investment in training and human resources
- Optimal dimension to increase absorption capacity
- Less stringent budget constraints and not any co-financing in Internal Stability Pact