



IRPET Istituto Regionale
Programmazione
Economica
della Toscana

Area Sviluppo Locale, Sistemi Produttivi e Imprese

Measuring local well-being in Italy: the case of Tuscan Municipalities

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Outline of the presentation

1. Aims and motivations of the research programme
1. Framework
2. Research methods, analysis and some (very preliminary) evidence
3. Conclusions and further steps

Aims and research programme

Setting the scene (I)

- Development as a **multi-dimensional** notion (e.g. Burgard and Kalausova, 2015; Osberg and Shape, 2014)
- Beyond GDP and economic/material development (Stiglitz et al., 2009; Sen, 1988; Thorbecke, 2006,...)
- Back to mainstream: well-being may affect economic growth and financial cycle (Royuela et al., 2014; Kumhof et al., 2015)
- Well-being and externalities: linkages among the dimensions of well-being, such as human capital and growth (Broesma et al., 2015)
- Increasing amount of research on well-being, at international (HDI,...) and national levels (BES,...)

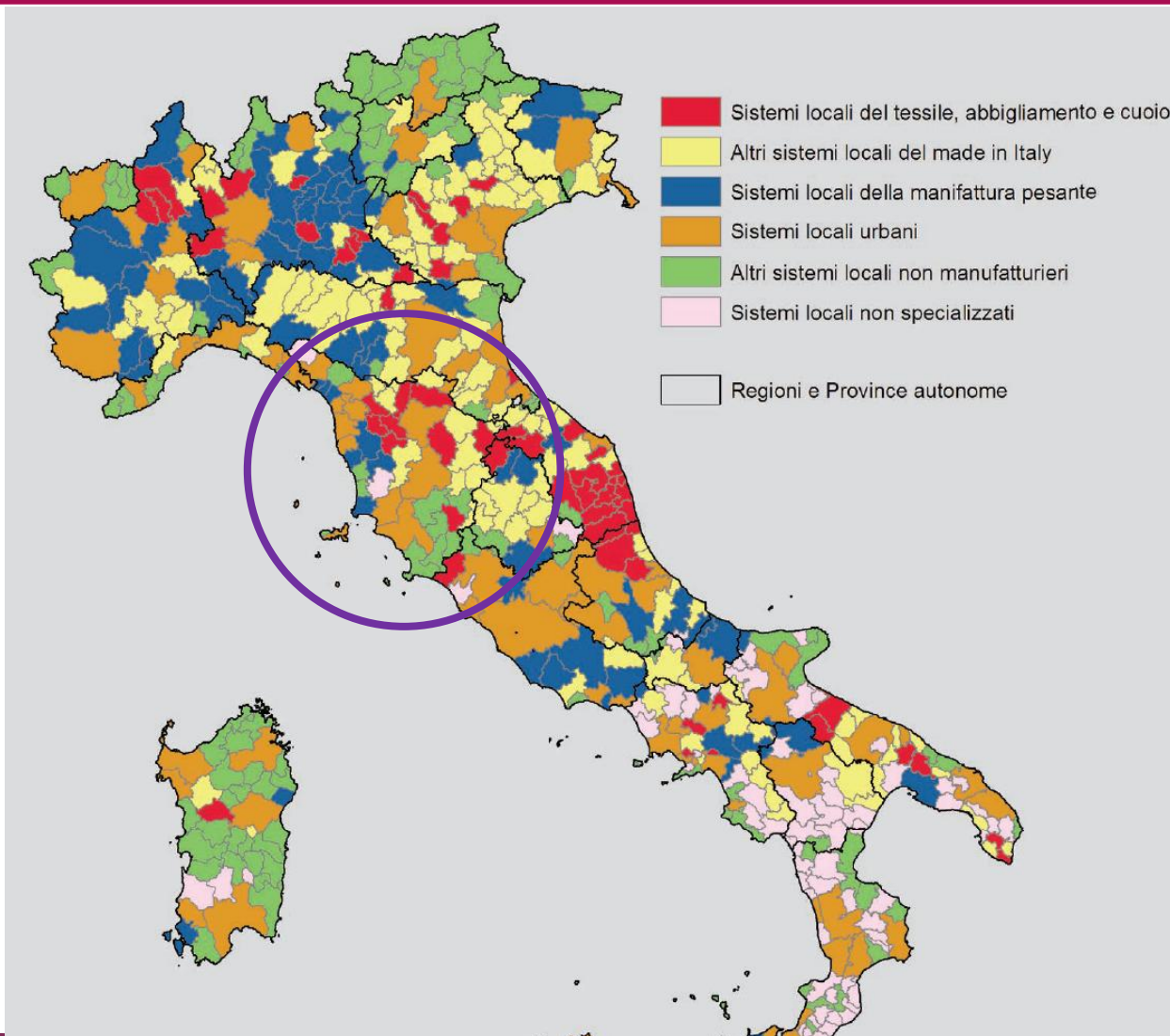
Setting the scene (II)

- **Heterogeneity** in development patterns (Kirman, 2006)
- Uneven distribution of development across space (Krugman, 1991; Ellison and Glaeser, 1997; Brezzi and Veneri, 2014)
- Need to explore more detailed geographical scales than Countries and Regions

Setting the scene (III): the case of Tuscany

1. Tuscany ranks high in several well-being dimensions
 - high levels both before and after the Great Recession (ISTAT, 2015)
 - levels of well-being associated with regional social and economic structure
2. Tuscany is characterized by rich variety of development trajectories

ISTAT: La nuova geografia dei sistemi locali



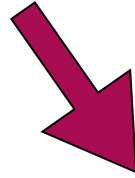
Tuscany shows the highest degree of variety

Setting the scene (III): the case of Tuscany

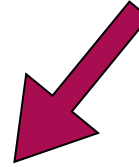
- Tuscany is characterized by rich **variety** of development trajectories
- Huge **heterogeneity** within the region, differences increased after the beginning of the Recession
 - Localized specificities of sub-regional areas may have played a role in shaping the social and economic structure, the performances and the well-being/quality of life in Tuscany
 - Measuring well-being at a regional scale would be affected by fallacy of generalization.
- Remarkable **inequalities** observed in the last decade, especially during the Recession

Aim and method of the work

Development as a multi-dimensional notion



Heterogeneity
Geographical scale matters



**We aim at measuring well-being
throughout a local-based approach**

Aims of our research project:

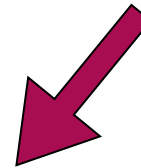
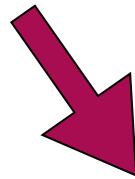
1. Provide a framework to define/measure/misurare local well-being
2. Apply the framework to the case of Tuscany

Aim and method of the work

Development as a multi-dimensional notion

Heterogeneity

Geographical scale matters

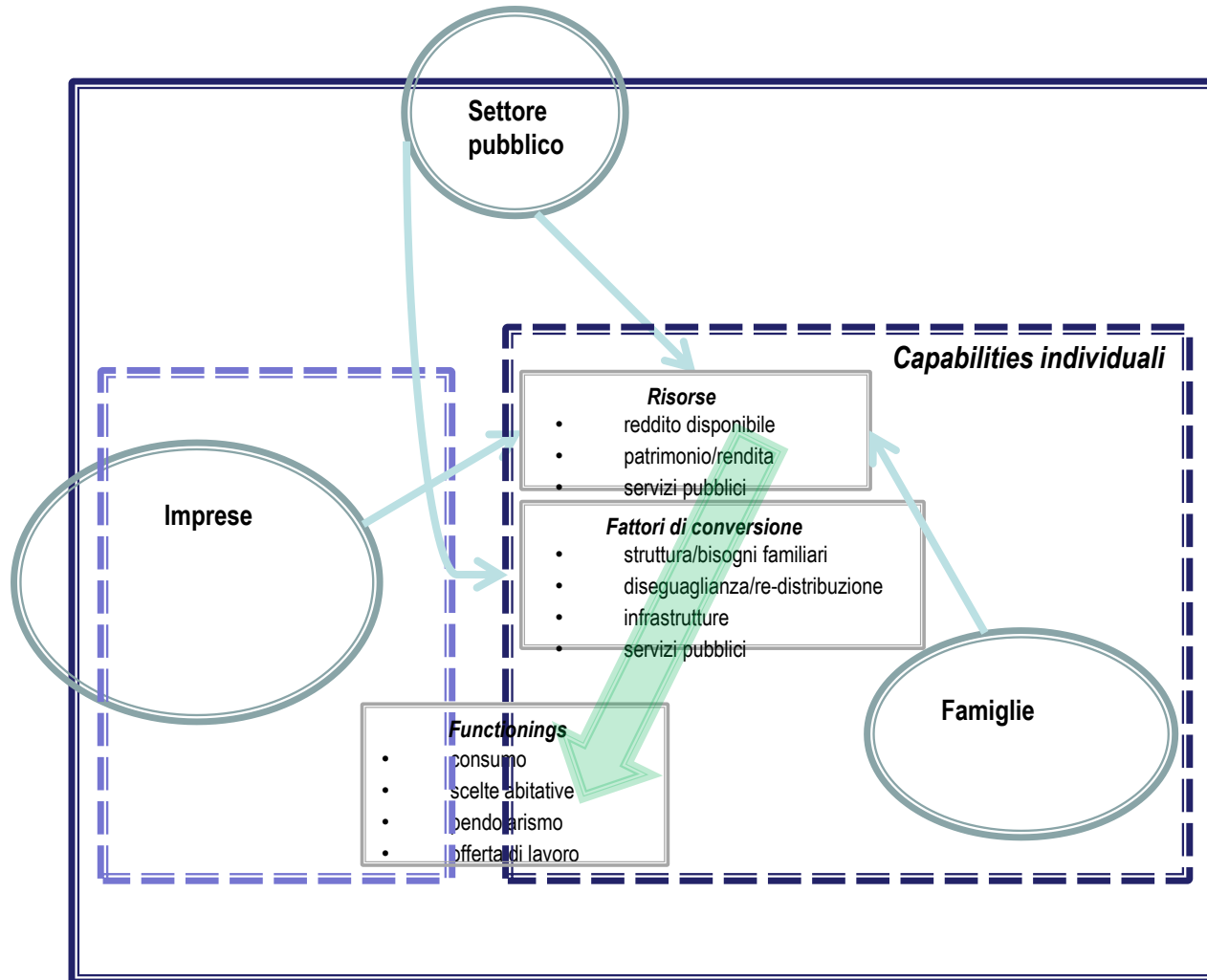


We aim at measuring well-being throughout a local-based approach

A more disaggregated territorial perspective may contribute to better depict the differential impact of economic crisis within and between different local contexts

Defining and measuring well-being at a local scale

Sviluppo locale: il benessere multidimensionale



The domains of well-being

1. Material well-being
2. Education
3. Labour market
4. Health
5. Accessibility to public services

Data and indicators (I)

<u>Dimension</u>	<u>Index</u>	<u>Description</u>	<u>Source</u>
Material well-being	Per capita income	Income declared for tax purposes (IRPEF)	Administrative- IRPET elaboration
	Families suffering from potential economic strains	Proportion of people living in households with at least one child and the reference person aged below 65 where anyone is retired or unemployed.	Census (ISTAT)
	Percentage of Inadequate housing	Proportion of inadequate housing (as caravans, tents, unfit housing, containers, basements, warehouse, garages)	Census (ISTAT)
	Overcrowding Index	Proportion of overcrowded housing (where the average living area per person is below 10 mq)	Census (ISTAT)
Education	Illiteracy rate	Percentage of the population age 6 and above who cannot read and write a short, simple statement on their everyday life.	Census (ISTAT)
	Youth with tertiary education	Proportion of youth aged 30-34 years with tertiary education.	Census (ISTAT)
	Adult Secondary Schooling Level	Proportion of the population of working age (25-64 years) which has completed at least lower secondary education	Census (ISTAT)
	Commuting-to-school flows	Proportion of students commuting outside their municipality of residence to attend school.	Census (ISTAT)

Data and indicators (II)

<u>Dimension</u>	<u>Index</u>	<u>Description</u>	<u>Source</u>
Participation to the Labour Market	NEET Rate	Proportion of youth not in employment, education or training	Census (ISTAT)
	Unemployment rate	Proportion of the total labor force that is unemployed but actively seeking employment and willing to work	Census (ISTAT)
	Youth unemployment rate	Proportion of the youth labour force - aged between 15 and 24- that is unemployed.	Census (ISTAT)
	Not-in-Employment rate	Person not in employment as a percentage of the population of working age (15- 64 years).	Census (ISTAT)
Health	Crude death rate	Total number of deaths per year per 1.000 people	Tuscan Regional Health Agency
	Hospitalization rate	Number of hospital discharge records divided by the estimated mid-year population per 1.000	Tuscan Regional Health Agency
	Medication use	Numbers of DDDs (average maintenance dose of a medication used for its main indication in adults)per 1000 inhabitants per day	Tuscan Regional Health Agency
	Female life expectancy at 65	Average number of years that a female at that age can be expected to live	Tuscan Regional Health Agency
	Male life expectancy at 65	Average number of years that a male at that age can be expected to live	Tuscan Regional Health Agency

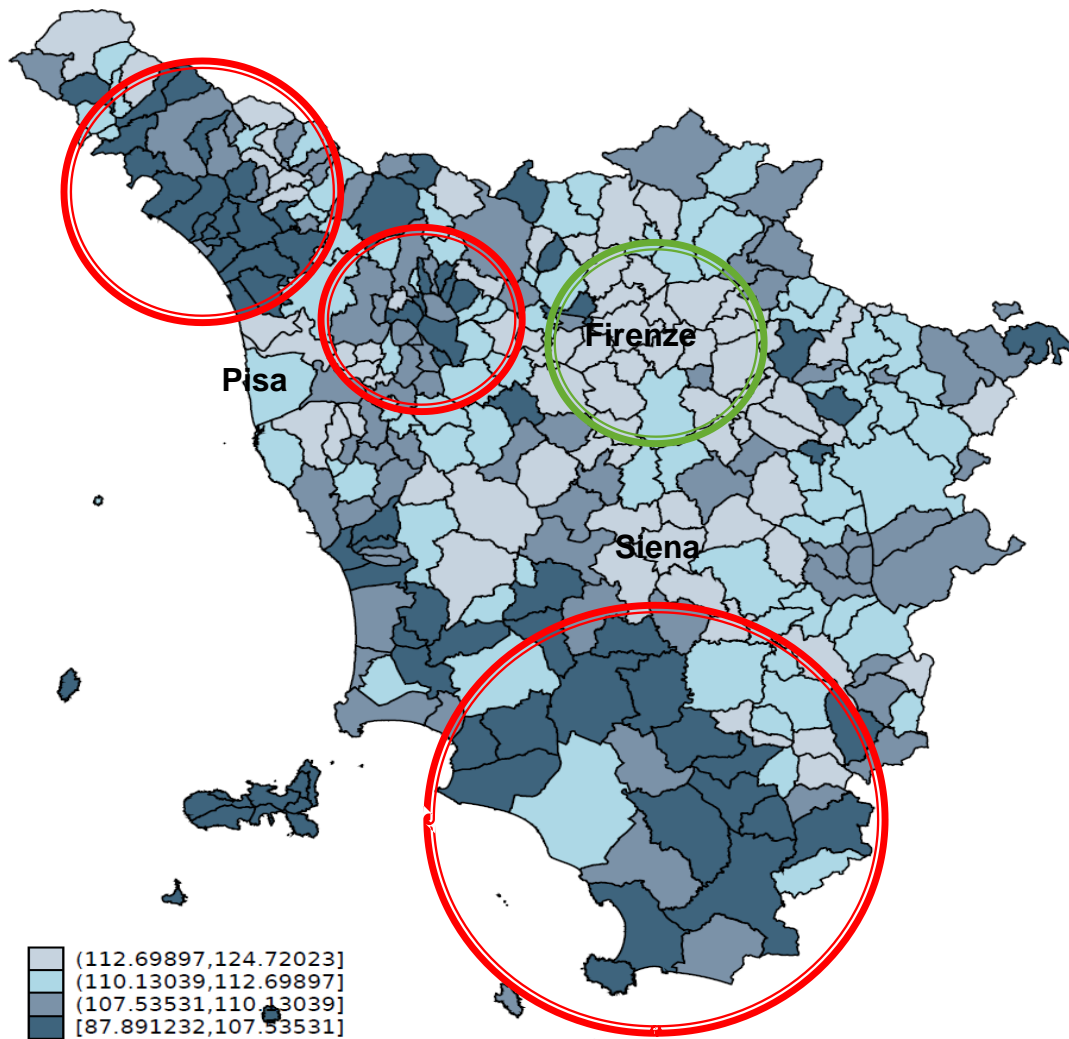
Data and indicators (III)

<u>Dimension</u>	<u>Index</u>	<u>Description</u>	<u>Source</u>
Accessibility to public services	Accessibility to a GOLD category railway station	Distance in minutes from the nearest GOLD station	Administrative-IRPET elaboration
	Accessibility to a Grade 1 emergency care hospitals (DEA)	Distance in minutes from the nearest DEA hospital	Administrative-IRPET elaboration
	Index of accessibility to a full range of secondary education schools	Number of types of upper secondary school (among lyceum, technical institute, professional institute) located within 20 minutes from the centre of the municipality, ranging from 0 to 3	Administrative-IRPET elaboration
	Accessibility to elementary schools	Percentage of population with access to at least one elementary school located within one kilometre from the centre of the municipality	Administrative-IRPET elaboration

From individual indicators to composite indices

- For each dimension we draw a synthetic index
- Synthesis: (Adjusted) Mazziotta-Pareto Index (Mazziotta and Pareto, 2013)
 - assumption: non substitutability between indicators (no compensation, each indicator is equally important)
 - indicators independent from both unit of measurement and variability
 - simple to calculate and easy to interpret
- non-linear composite index:
 1. Indicators transformed in standardized variables
 2. Information summarized by means of an arithmetic mean, adjusted by a 'penalty' coefficient related to the variability of each unit
- The AMPI provides a composite measure measure of a set of indicators

Some results: material well-being

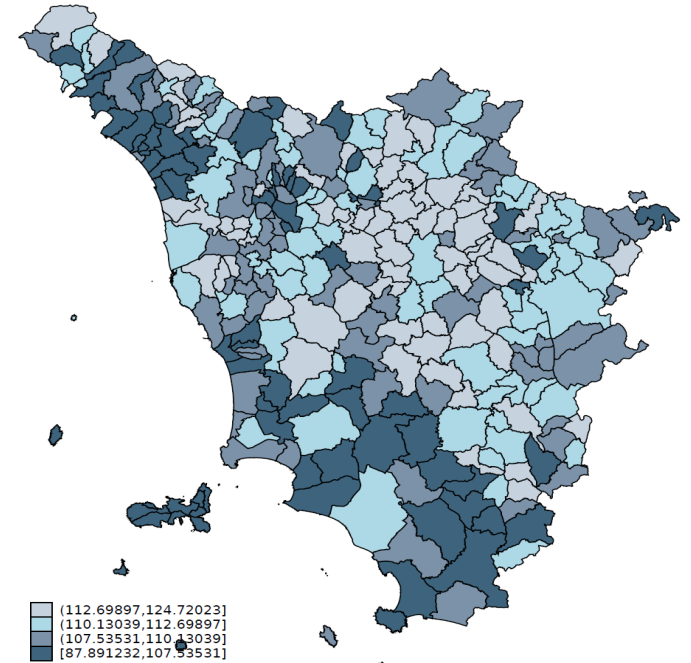
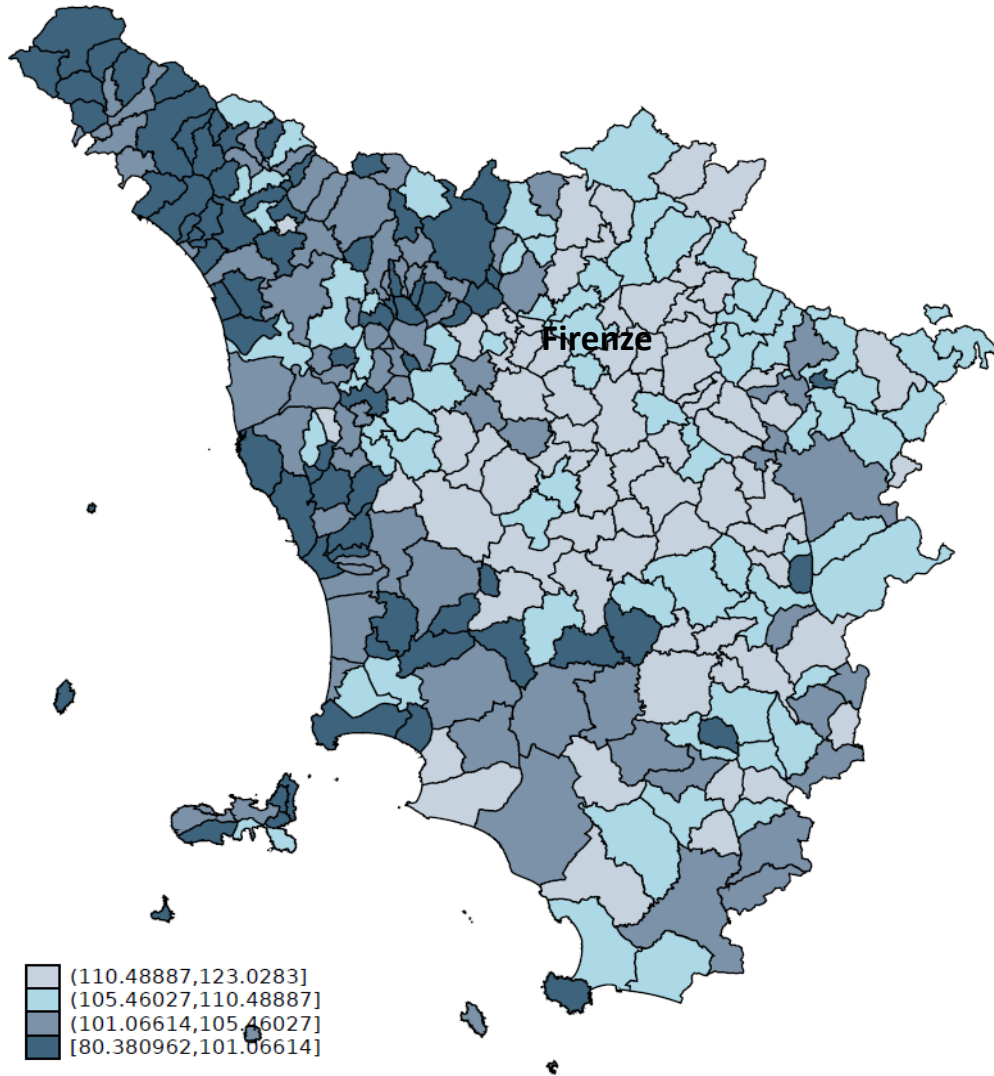


Links with local economic structure and performances

Clusters of low values in areas characterized by economic (industrial) crisis

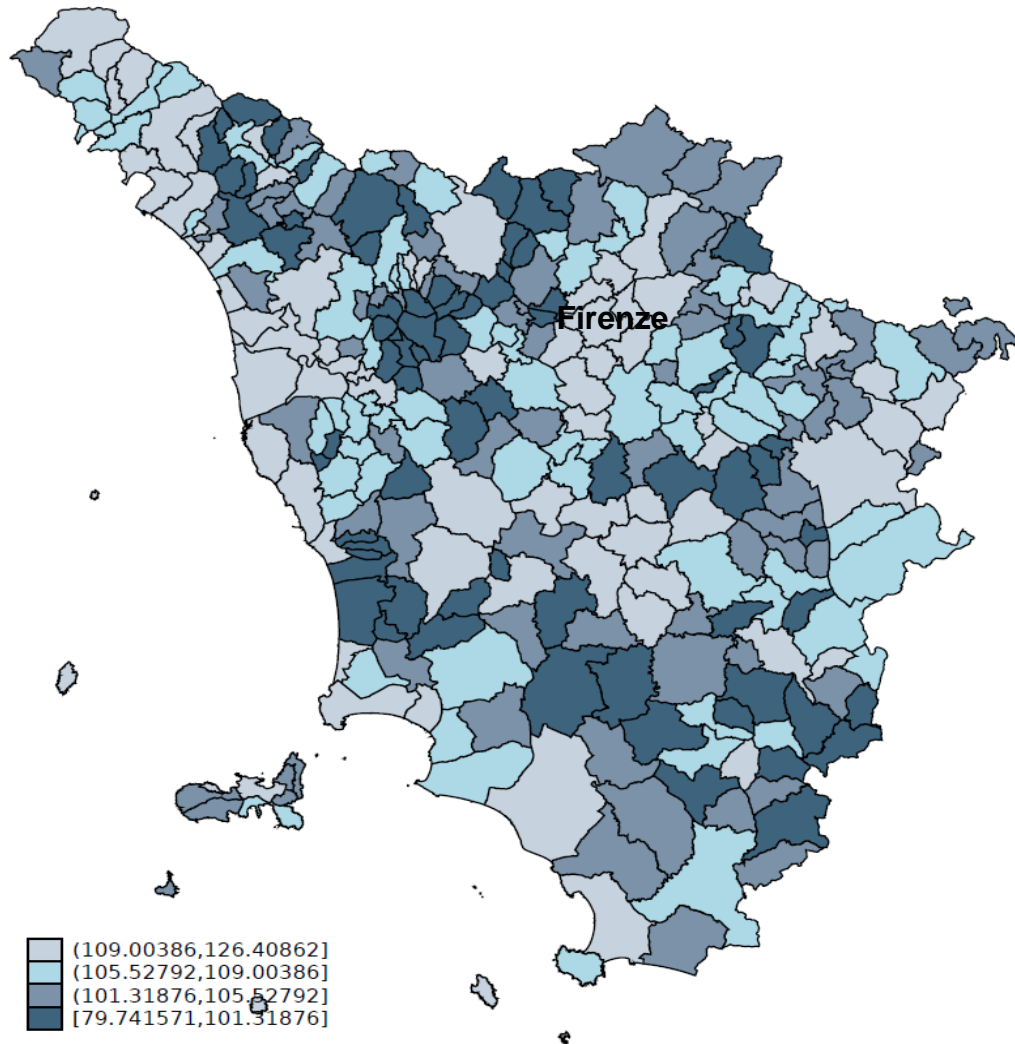
Higher values in urban areas and (some) industrial districts

Some results: labour



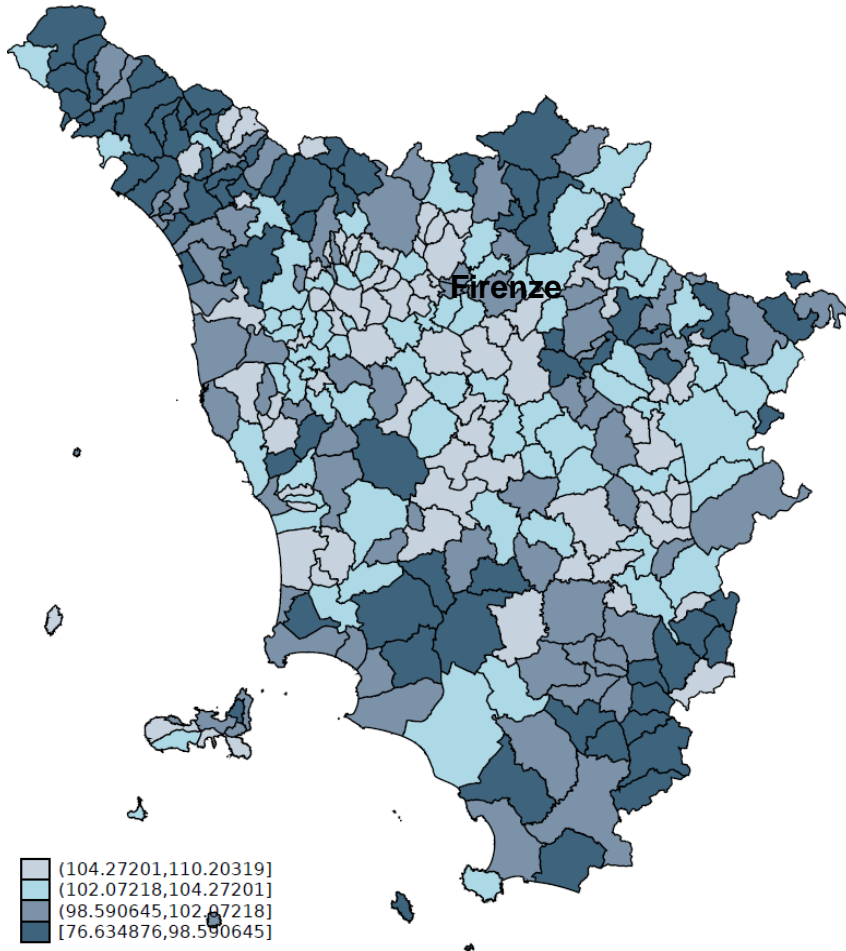
Material well-being

Some results: Education and human capital

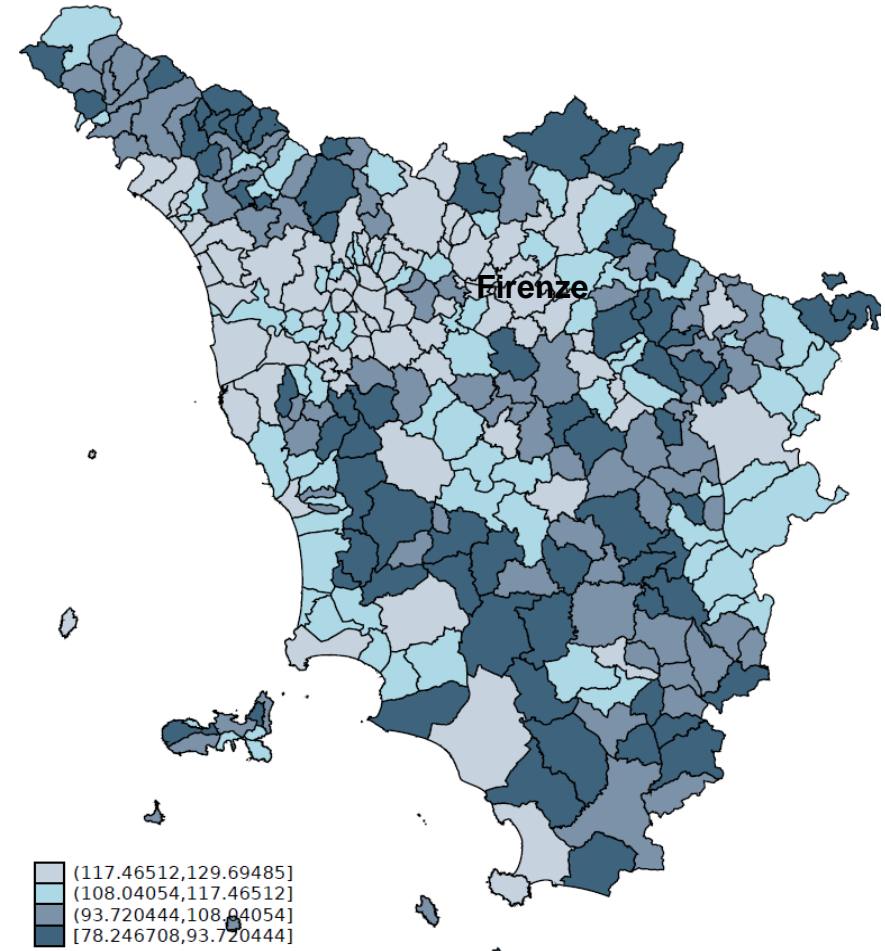


Literature: poor evidence about the role of geographic factors in explaining education/schooling performances

Health



Accessibility



Conclusions and further steps

- Our approach can represent a tool to describe and interpret well-being at a very detailed geographical scale
- Features:
 - multidimensionality
 - Synthesis of a set of data for each dimension
 - geographical detail
 - comparability (e.g. BES)
- Room for for further analysis:
 - More domains to be added (environment,...)
 - Links between indices/dimensions
 - Analysis over time
 - Spatial correlation/dependence (from municipal well-being to local systems)
 - ...

Grazie per l'attenzione...
...e per la pazienza!

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