Different But the Same? Comparing Institutional Textures between Germany and Italy with LAU level data

Nadia von Jacobi
Università degli Studi di Trento

Department of Economics and Management, University of Trento, Italy.

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Different But the Same?
Comparing Institutional Textures between Germany and Italy
with LAU level data

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Abstract
In view of comparing the institutional textures of Germany and Italy (Boltho et al., 2017), I go beyond existing comparable datasets at NUTS2 and NUTS3 level and construct two datasets at the LAU level, which for Germany captures the “Gemeinde” and for Italy the "Municipio". In this paper I briefly present the variables that were identified as comparable across the two countries. The resulting LAUDEIT dataset has been prepared for future empirical investigations of the particularities of institutional architecture (Gertler, 2010) that may contribute to different socio-economic performance within common European governance (Boitani and Tamborini, 2021; Johnston and Reagan, 2017). Descriptive statistics of the dataset hint there may be structural differences between the two countries in terms of commuting and internal migration patterns, size of the firm and - in a related fashion - entrepreneurship rate. Municipal data also confirm that Germany presents higher income per capita, and that Italy is affected by dualism in both, employment rates and income per capita. In terms of institutional differences I find that despite similar tax rates, German municipalities withhold a much greater share of income taxes collected than their Italian counterparts. The latter rely heavily on property taxes, which despite being collected mainly on second homes represent a crucial influx of revenues for Italian municipalities.

JEL codes: P52; O52; O57; O43; Y1;
Keywords: dataset, municipality, Germany, Italy, institutions, regional economics

1 nadia.vonjacobi@unitn.it - I would like to thank the entire Economics and Institutions in Europe (EIE) research group of the Department of Economics and Management for highly constructive comments and suggestions during the preparation of the dataset. I am indebted to all institutions that assisted me during requests for microdata, including personell at Finanza Locale, Ministero degli Interni; within ISTAT; belonging to the project ARCHIMEDE; the Bayrisches Landesamt fuer Statistik; the Bertelsmann Stiftung; and Francesco Porcelli for insights on Opencivitas.
Introduction

This paper presents preliminary findings of an exploratory research into the institutional-structural differences between Italy and Germany. Both countries are key players within the European Union, and global drivers in terms of cultural and economic production. Recently, however, the political narrative of a North-South divide within Europe has made the two countries often assume juxtaposed positions within the European political sphere (Boitani and Tamborini, 2020; 2021). Since the introduction of the common tender Euro, economic trajectories have diverged with Italy assuming position among the Southern Eurozone in which youth unemployment and low growth rates have been much more marked with respect to the Northern European reality (Capussela, 2021; Cuadraro-Roura et al., 2016; Fingleton et al., 2015; Spreafico et al. 2017). While institutional comparisons between Italy and Germany abound (Baudner and Bull, 2013; Boltho et al. 2017, Notermans and Piattoni, 2021; Scherer, 2005), this paper sets a first step for a more fine-grained comparison by relying on comparable municipal data - which is the Local Administrative Unit (LAU) level for EUROSTAT. Using municipal data has the advantage to increase data availability and to provide sharper measures of institutional factors that may easily change at the local level, such as attitudes or social capital (Buonanno and Vanin, 2017; Coffé and Geys, 2016; Tausanovitch and Warshaw, 2014).

In line with institutional economic geography (Gertler, 2010), the data construction effort presented sets the foundation for investigating institutional architectures - more than single factors - and how they matter for socio-economic trajectories. To approximate an institutional architecture, it is preferable to refrain from a single or composite measure of institutional quality (Sindzingre, 2006), but instead to seek to ‘unpack’ different institutional factors and how they relate to each other. This means collecting a series of variables that may capture both, legally stipulated rules which usually account for formal institutions (Hodgson, 2001), but also informally enforced rules, such as social norms that are enacted through peer-pressure by society itself (Acemoglu and Robinson, 2019; Voigt, 2013). As a future extension to the data collection here described, I plan an empirical application of correlation network analysis (Horvath, 2011) in which different institutional and structural factors are mapped according to their interdependencies (von Jacobi, 2018; von Jacobi and Amendolagine, 2021). The key research curiosity behind such setup is to investigate relations between institutional factors, more than single institutional measures - and to put them into connection with economic performance. The methodology proxies institutional textures (or architecture) by computing a complex network of interdependencies - based on quantile regression analysis (Koenker, 2007). In such network, a multitude of symmetric and asymmetric relationships (interdependencies) between institutional and socio-economic factors are synthesized. Such
kind of investigation can be used to identify new facets of institutional development, bottlenecks and policy options for institutional change. In particular, with respect to the comparison of Italy and Germany, the exploratory approach chosen seeks to investigate whether a perspective that analyzes interconnections at the municipality level may change our view on the 'usual suspects' that could be the key drivers of economic performance and differences between the two countries (Boitani and Tamborini, 2021; Boltho et al., 2017; Bonatti and Lorenzini, 2018; Pagano, 2021).

In this paper, I summarize first insights obtained from the construction of a dedicated data collection in which institutional factors - jointly with other control variables belonging to economics, demographics, geography and politics are being gathered for Italy and Germany - in a comparable fashion. At this point of the collection process, I obtain 27 comparable variables that cover 19090 municipalities across both countries (11092 in Germany and 7998 in Italy). These resulted from the cleaning, merging and combining of 51 datasets out of the 120 I already negotiated with institutes of the two countries comprising the Statistiches Amt des Bundes und der Länder, Bertelsmann Stiftung, Bildungsministerium (in Germany) and ISTAT, Ministero dell’Economia e delle Finanze, Anagrafe degli Amministratori Comunali, ANBSC, Ministero degli Interni, Opencivitas, Agenzia delle Entrate (in Italy). In what follows, after a quick resume of the data sources used I present the 27 variables gathered in greater detail, with a view to highlight structural differences that are visible already from simple descriptive statistics. I conclude with some considerations for future research.

**Data Sources**

Despite known efforts of EUROSTAT to advance data harmonization across European countries, the current availability of comparable data at the Local Administrative Unit (LAU) level remains scant. Some datasets are available, but in a very scattered way covering random topics in selected countries. For this reason, any comparison at the municipality level requires returning to national data sources. This bears some difficulties as often explanatory and methodological notes are written only in the official country language. Many variables of the data presented have been subject of personal discussions with informed administrative personnel in the two countries in order to avoid misinterpretation and measurement errors.

The German national office for statistics - Statistiches Amt des Bundes und der Länder - provides a series of data at the municipality level, although not all variables are available.
across all Länder. As the German Federal System is very articulated, data collections may differ across states making the selection of comparable variables for all municipalities of the country a challenge to some extent. A relevant harmonization effort has been made by the Bertelsmann-Stiftung, which on the webpage "Wegweiser Kommune" provides a search engine based on a dedicated dataset. The drawback of the Bertelsmann-Stiftung's dataset is that it only covers less than 4000 German municipalities and therefore does not represent the entire country.

The Italian national office for statistics - ISTAT - provides a multitude of data on all sorts of topics, yet it tends to disaggregate available data sources only up to the NUTS3 level, which in Italy is the Provincia. To acquire municipality-level data, it is often necessary to search through the data-browsing site (I.Stat) until a specific variable with the desired disaggregation level can be identified. Recently, however, ISTAT has invested in a more organized municipality-level data source: this has produced the webpage "A Misura di Comune" which offers first comparable datasets for the years 2014/2015/2016. Previously, the project "Opencivitas" was one of the first initiatives to gather municipality-level data for the entire Italian territory. Unfortunately, Sicily is not included in the Opencivitas data collection making it also incomplete in representing the entire country. Additional sources of municipality level data in Italy can be retrieved directly from the webpages of ministries, as they e.g. manage electoral or financial information gathered through administrative data.

Table 1 summarizes the 27 variables so far constructed in a comparable manner. Each variable is measured at the municipality level, covering the entire national territory. For simplicity, I shall refer to the combination of various data sources as the LAUDEIT dataset, which comprises all Italian and all German municipalities, and is constructed for the year 2016.
Table 1: 27 comparable variables collected at the municipality level for Italy and Germany

Source: Elaboration by the author based on LAUDEIT dataset, 2016

To facilitate interpretation, the variables have been grouped according to some thematic areas, i.e. geographical, demographic and economic factors, which represent control factors to the key variables of our interest, namely formal institutions and informal norms, which may reflect in attitudes. In what follows, each single variable is presented singularly, with a focus on distributional patterns that can be observed across Italy and Germany.

Geographical features
I use latitude as first geographical feature, as the North-South divide has been found to have important implications within Italy and between Italy and Germany (Boltho et al. 2017, Felice, 2018; Pinotti, 2015). While the majority of German municipalities locate in the South of the country, at latitude of 48 - 51, the majority of Italian municipalities locate in the North of the country, at a latitude of 44-46. The geographical 'distance' in terms of latitude is therefore rather reduced for the majority of the 19090 municipalities.
I next control for the size of municipal area to verify whether there are structural differences. As can be seen in figure 2, I do not find evident differences, quite contrarily, the distributions of municipality area (measured in ha) is very similar across Italy and Germany.
In figure 3 the comparison of the two distributions is plotted on the same scale which allows us to confirm very similar municipality sizes in the two countries: in both countries there is a prevalence of small municipalities. As the highest values have been truncated, figure 2 more than figure 3 shows that there are few municipalities that are significantly larger in Germany.

To capture how attractive municipalities are for commuters and for internal migration, I compute two attraction indexes in line with the formula proposed in "A Misura di Comune" (ISTAT). Such attraction index computes the ratio of commuters entering the municipality for work/study reasons on all flows entering and exiting and the resident population.

\[
\text{AttractionI} = \left( \frac{\text{Inflow of commuters for work/study reasons}}{\text{(Inflow + Outflow) commuters for work or study reasons + resident population}} \right) * 100
\]

As can be seen from figure 4 and 5, this measure shows that there may be a structural difference between Germany and Italy in terms of commuting patterns: commuting appears to be more prevalent in Italy than in Germany.

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2 *Indice di Attrazione.*
Figure 4: Distribution of the commuters’ attraction index in Germany (left) and Italy (right)

Source: Elaboration by the author based on LAUDEIT dataset, 2016

Figure 5: Distribution of the commuters’ attraction index on a comparable scale

Source: Elaboration by the author based on LAUDEIT dataset, 2016

We compute a similar attraction index in which we use internal migration data instead of commuting ones. Internal migration stands for relocation, often due to work or study reasons and can be seen as a substitute choice with respect to commuting. In analogy to our previous measure, the formula for our migratory attraction index is

\[ \text{MigratoryAttr} = \left( \frac{\text{Immigrated population}}{\text{Immigrated pop} + \text{Emigrated pop} + \text{resident population}} \right) \times 100 \]
Figures 6 and 7 synthesize another structural difference between Italy and Germany in this regard. Internal migration is more pronounced in Germany, whereas relocation/change of residency is less pronounced in Italy. The two attraction indexes may be two sides of the same coin, hinting that relocation for work tends to translate into commuting in Italy, whereas in Germany relocation for work/study reasons tends to reflect in internal migration.

Figure 6: Distribution of the migratory attraction index in Germany (left) and Italy (right), internal migrants

Source: Elaboration by the author based on LAUDEIT dataset, 2016

Figure 7: Distribution of the migratory attraction index on a comparable scale, internal migrants

Source: Elaboration by the author based on LAUDEIT dataset, 2016
Demographic features

Another group of control variables included in the dataset refers to some standard indexes that reflect the demographic realities of Italian and German municipalities. Figure 8 shows that population density is very similar across the population of municipalities in both countries. The only noticeable differences hint that population density may be slightly higher in Italy, where also variability across municipalities is larger.

Figure 8: Distribution of municipal population density on a comparable scale, Germany (left) and Italy (right)

Source: Elaboration by the author based on LAUDEIT dataset, 2016

Similarly, figure 9 hints that the demographic pyramid is very similar in Italy and Germany. The dependency index computed at the municipal level distributes at similar levels and with similar variance. Italy displays slightly higher levels of dependency; such difference is likely to be driven by a slightly higher presence of elderly people - above 65 (figure 10).
In terms of international migration, data that refer to 2016 seem to hint that German and Italian municipalities host a similar amount of migrants. Figure 11 shows that Germany displays a slightly higher incidence of foreigners than Italy, but no evident structural difference can be detected. As data for Germany are not available for the entire sample of municipalities, this variable has not been included in the LAUDEIT dataset.
Economic features

Having checked against some geographical and demographic control factors, I next proceed with the comparison of economic features that can be measured at the municipality level. Figures 12 and 13 depict the employment rate measured at the municipality level. To make a comparison possible the same reference population has been chosen, namely between 20 and 64 years. This is not the typical age range used in Germany, where employment among 15-20 year olds is rather common. Yet, data for that age range were not available at the municipality level in Italy, so a conservative treatment has been preferred that makes the two variables fully comparable across the two countries.
As can be seen in figure 12, there is a clear structural difference between Germany and Italy, which resides in a bimodal distribution of employment rates in Italy. Figure 13 further shows that levels of employment are rather similar between the uni-modal German distribution and the higher-mode segment of Italy’s distribution. The lower-mode segment of Italy’s distribution on the other hand peaks at about 10-15 percentage points below. Such profile emerging from municipal data confirms a strong economic dualism in Italy, which does not seem to exist in Germany in such an evident way (Bothello et al., 2017; Felice, 2018).

Source: Elaboration by the author based on LAUDEIT dataset, 2016
Table 2 displays average employment rates in the three Italian macro-regions North, Center and South and shows that dualism in employment most strongly separates the South from the Northern and Central parts of the country.

Table 2: Breakdown of mean municipal employment rates, by Italian macro-regions

<table>
<thead>
<tr>
<th>Region</th>
<th>Nr. of municipalities</th>
<th>Mean employment rate (%)</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>4450</td>
<td>66.76</td>
<td>6.50</td>
</tr>
<tr>
<td>Center</td>
<td>966</td>
<td>60.70</td>
<td>7.01</td>
</tr>
<tr>
<td>South</td>
<td>2555</td>
<td>49.67</td>
<td>5.81</td>
</tr>
</tbody>
</table>

Source: Elaboration by the author based on LAUDEIT dataset, 2016

I next compare the two countries' distributions of the municipal entrepreneurship rate. Such rate is computed by dividing the number of enterprises registered in a given municipality by its resident population (values are reported per 1000 inhabitants). Unfortunately, comparable data on enterprises are only available for the manufacturing sector. Constraints come from German data availability, which - at the municipality level - is restricted to manufacturing - in Italy data on all sectors are available. Figure 14 displays the entrepreneurship rate of Germany (left) and Italy (right).

Figure 14: Distribution of municipal entrepreneurship rates in Germany (left) and Italy (right)

Source: Elaboration by the author based on LAUDEIT dataset, 2016
As can be seen in figures 14 and 15 there is a clear structural difference visible: Italy displays a much higher incidence of manufacturing firms per resident than Germany. Such finding can be explained by differences in the average firm size, which is introduced next. Figure 16 shows that the distribution of firms is highly skewed in both countries, yet the size of firms - as defined by number of employees - is much smaller in Italy than in Germany. Figure 17 highlights such structural difference with greater detail.

Figure 16: Distribution of municipal entrepreneurship rates in Germany (left) and Italy (right)
So the municipal economic comparison firstly characterizes Italy as having more and smaller firms than Germany, which contrarily tends to have fewer but larger firms (cf. Pagano, 2021). Apart from manufacturing, I am able to collect comparable data on the tourism sector - which is of utmost importance to Italy, but very developed in Germany, too. Table 3 summarizes key features of the tourism sector in the two countries, which are measurable at the municipal level. The German data refer to the "Tourismus Statistik" published yearly by the national statistical office - it comprises data for accommodation structures with ten or more beds, as well as camping sites with ten or more campsites. Such restriction is not applied to the Italian data published by ISTAT, which distinguishes broadly between hotel-like accommodation structures and non-hotel-like accommodation structures. Therefore, there may be slight differences in the root data between the two countries, which however should not hamper the comparison in terms of identifying structural disparities.

Table 3: summary municipal statistics on tourism, Germany and Italy

<table>
<thead>
<tr>
<th></th>
<th>Germany</th>
<th>Std. Err.</th>
<th>Mean</th>
<th>Std. Err.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nr. of accommodations per 1000 inh.</td>
<td>3.09</td>
<td>0.14</td>
<td>10.69</td>
<td>0.59</td>
</tr>
<tr>
<td>Nr. of beds per 1000 inh.</td>
<td>163.8</td>
<td>8.4</td>
<td>296.5</td>
<td>11.8</td>
</tr>
<tr>
<td>Nr. of tourists per 1000 inh.</td>
<td>5022</td>
<td>235</td>
<td>4768</td>
<td>203</td>
</tr>
<tr>
<td>Average length of stay</td>
<td>2.97</td>
<td>0.03</td>
<td>3.55</td>
<td>0.04</td>
</tr>
<tr>
<td>Occupancy rate</td>
<td>33.13%</td>
<td>0.28</td>
<td>17.50%</td>
<td>0.22</td>
</tr>
</tbody>
</table>

Source: Elaboration by the author based on LAUDEIT dataset, 2016
As can be seen from table 3, Italy appears as having a more articulated tourism supply infrastructure, with 10.7 accommodation structures every 1000 inhabitants - compared to only 3.0 in Germany. Similarly, the number of beds in accommodation structures per 1000 residents is higher in Italy (ca 297) than in Germany (164). Such difference is smaller than the difference in number of accommodation structures, hinting that many of the three-fold more structures in Italy are indeed small, providing a reduced number of beds. Interestingly, the mean numbers of tourist arrivals - that include international and domestic ones - are slightly higher in Germany than in Italy. Figure 18 shows however outliers drive such difference - once the highest values are truncated, the two distributions appear as highly similar.

Figure 18: Distribution of tourist arrivals per 1000 inhabitants a comparable scale, highest values truncated, Germany (left) and Italy (right)

As international tourism is typically much more pronounced in Italy, such difference suggests that Germany may have a lively business-tourism, in which domestic arrivals for short stays are common. In fact, the average length of stay is smaller in Germany than in Italy. In line with an apparent feature of the Italian tourism sector, namely manifold and small accommodation structures, the occupancy rates are higher in Germany than in Italy. I find that this difference is driven by a highly skewed distribution of occupancy rates in Italy, in which a large number of municipalities displays an occupancy rate of 0% (see figure 20). This may be explained by a large number of accommodation structures that are not used any more or inconsistently. Eventually the German data restriction that excludes micro-accommodation structures "boosts" the efficiency of the tourism sector in that sense. Figure 18 summarizes the key differences in tourism sector performance between Germany and Italy.
Lastly we compare income per capita at the municipal level across the two countries. Figure 21 again shows a structural difference, which mainly resides in an Italian dualism that - as with employment rates - also reflects in levels of income per capita. Figure 22 confirms that according to municipal data, income per capita in Italy is lower than in Germany across the
board. This is different from employment rates, where Northern Italian figures resembled the German ones. Figure 22 confirms that despite similar employment rates, Northern Italian regions have lower income per capita than Germany. In addition, the dualism already observed in employment rates makes income per capita figures in the poorer parts of Italy appear as significantly lower than German income per capita.

Figure 21: Distribution of municipal income per capita in Germany (left) and Italy (right), 1000s of euros

![Kernel density estimate](image1)

Source: Elaboration by the author based on LAUDEIT dataset, 2016.

Figure 22: Distributions of municipal income per capita on a comparable scale, Germany (left) and Italy (right)

![Kernel density estimate](image2)

Source: Elaboration by the author based on LAUDEIT dataset, 2016
Figures 21 and 22 further show that there appears to be greater inequality in terms of income per capita among German municipalities - the distribution is much more skewed than in Italy. I investigate this structural difference slightly further and check whether inequality appears to be greater in Germany than in Italy. Figure 23 displays the Lorenz Curves of Italian and German municipal income per capita, showing that within-country inequality profiles are similar in the two countries. Using municipal data I obtain a Gini index of 0.153 for Italy and of 0.131 in Germany. When I pool municipal data across the two countries, the Gini rises to 0.174 confirming that inequality between the two countries is slightly greater than the respective within-country measures.

Figure 23: Within-country inequality (left) and territorial concentration (right) in comparison, Italy and Germany, income per capita measured at the municipality level

Concentration curves computed on the same data show that polarization is more pronounced in territorial terms - with few municipalities displaying highest income per capita values. As can be seen from the right panel in figure 23, such concentration is slightly higher in Germany (0.795) than in Italy (0.743). When I pool municipalities across both countries, I obtain a value of 0.777, which locates in the middle between the two countries' values.

**Institutional features (formal institutions)**

Measuring institutions at the local level has advantages and disadvantages. At the municipality level it is impossible to capture macro-institutional differences such as constitutions, legal families or property rights (La Porta et al, 2008). Similarly, macro-cultural factors such as
language stay constant. Yet, the municipal level offers new opportunities to grasp more fine-grained differences in institutional setup and relevance (von Jacobi, 2018). In what follows I present a first - non exhaustive - selection of factors that can be measured in a comparable way across Italy and Germany. Most factors refer to tax collection as these are data that can be found - and that change at the local level (Tausanovitch and Warshaw, 2014). However, other measures are possible and likely to be object of future extensions of this work. German tax data are taken from the “Realsteuervergleich” published by DESTATIS, while Italian micro-data have been obtained from the Ministry of Internal Affairs as part of municipal budgetary data.

I first concentrate on the income tax rate to control whether the incidence of taxes on income per capita is similar in the two countries. Such indicator is computed by dividing the total collected as income tax by the aggregate income computed at the municipal level. Figure 24 shows the distributions of income tax rates of the two countries measured at the municipality level, on a comparable scale. As can be seen, the two distributions are highly similar with a modal value slightly below 20%.

Figure 24: Distributions of municipal income tax rates on a comparable scale, Germany (left) and Italy (right)

Source: Elaboration by the author based on LAUDEIT dataset, 2016

Next, I concentrate on the municipality share on income tax. This indicator measures the amount of euros per resident that the municipality can withhold from the income taxes collected. Figure 25 shows that there is a clear structural difference between Germany and Italy. Italian municipalities withhold a much smaller amount of income tax than their German
counterparts. Furthermore, Italian municipalities all have similar amounts of euros per resident entering through income taxes, whereas the German distribution has much greater variance. It appears that differences across Länder in Germany are much more pronounced than across Italian regions for what concerns tax regulation (Baudner and Bull, 2013). Furthermore, it appears as evident that German municipalities can rely on a much more important inflow of resources based on their residents’ incomes than their Italian counterparts. Figure 26 exemplifies this with even clearer evidence.

Figure 25: Distribution of municipality share on income tax, euros per resident, in Germany (left) and Italy (right)

Figure 26: Distributions of municipal share on income taxes collected, euros per resident, on a comparable scale, Germany (left) and Italy (right)

Source: Elaboration by the author based on LAUDEIT dataset, 2016.
I next look at the collection of property tax, which in Germany is known as "Grundsteuer", whereas in Italy it is currently known as "IMU". An important ex-ante structural difference between Italy and Germany is that property taxes on the so-called "prima casa" (the 'first home' implying the main residency of a person) have been abolished. So while the Grundsteuer in Germany is paid by all owners, the Italian IMU exempts the primary residencies as long as they have not been classified as luxury villas, castles etc. Second homes ("seconda casa"), which may be holiday homes, are not exempt from such tax. Figure 27 shows that despite such structural difference, the amount of euros collected per inhabitant are highly similar in Germany and Italy. While the German distribution is slightly more skewed due to outliers on the higher end, the modal values of both distributions are comparable. It appears as if the frequency of second home possessions, and the tax rates applied to them, compensated the exemption of first homes. Such underlying data structure seems to suggest that property is much more common in Italy than in Germany, which may underpin wealth inequalities in Germany.

Figure 27: Distributions of property taxes collected, euros per resident, on a comparable scale, Germany (left) and Italy (right)

Source: Elaboration by the author based on LAUDEIT dataset, 2016

Next I attempt to construct a measure of taxing capacity by looking at the total amount of taxes collected per inhabitant. This is not an easy task as the two countries have different fiscal systems and municipalities collect thematically different taxes. In this measure, I refrain from searching for thematic comparability and simply sum all taxes that the municipalities collect.
In Germany this comprises property tax, business tax, municipal share on income tax and municipal share on value added tax. In Italy, total taxes derive from a variety of different taxes which include property tax and municipal share on income tax, but excludes business tax which is collected at the regional level and value added tax. Summing up the different tax sources, the two countries again appear to be similar (figure 28). There is a slightly higher taxing capacity in Germany, where also greater variability is present in the municipal distribution. Having seen the structural difference in terms of municipal share on income taxes and the similarity in total taxes collected, it appears to be likely that Italian municipalities compensate the lack of income taxes withheld with other, additional taxes, e.g. on property.

Figure 28: Distributions of total amount of taxes collected, euros per resident, on a comparable scale, Germany (left) and Italy (right), outlier values truncated

Source: Elaboration by the author based on LAUDEIT dataset, 2016

Proxies for social attitude (informal institutions)
A last group of variables looks at features that tend to reflect values, beliefs and attitudes as typically captured by culture and informal institutions (Alesina and Giuliano, 2015; Voigt, 2019). These features may be relevant for institutional analysis and comparison because informal institutions act as complements to formal ones by facilitating enforcement (Acemoglu and Jackson, 2017) and credibility or 'success' (Williamson, 2009). In what follows I present a first selection that is likely to be extended in the future. First, as a proxy for gender roles and balance, I compute the share of women on elected politicians. While such information is available for Italy, German data on female participation in politics is available only at the Landkreis level (NUTS3). As the German Federal system is complex, some Landkreise - e.g. kreisfreie Städte also classify as Gemeinden, or the LAU level used in this paper. For this
variable only, values have therefore been imputed at the municipality level. Figures 29 and 30 summarize differences between Italy and Germany in this social indicator. While it is highly unlikely for a German municipality not to have any elected woman amongst its politicians, Italian municipalities tend to have slightly higher shares of elected women, on average. Recent political pressures for female quotas in politics may have triggered this result in Italy.

Figure 29: Distribution of female participation in politics, share of women on elected politicians at the municipality level, in Germany (left) and Italy (right)

Source: Elaboration by the author based on LAUDEIT dataset, 2016.

Figure 30: Distributions of female participation in politics, share of women on elected politicians at the municipality level, on a comparable scale, Germany (left) and Italy (right)

Source: Elaboration by the author based on LAUDEIT dataset, 2016.
Another social indicator I check for is the rate of road accidents with injuries as this measure may associate to a belief-structure that is more or less prone to infringe on existing formal rules. Figure 31 shows that accident rates are comparable across Germany and Italy, with Germany displaying slightly greater variability (highest values truncated) and a slightly higher accident rate. It should be noted that Germany has less speed restrictions (e.g. on highways) than Italy, which could affect the indicator.

Figure 31: Distributions of road accidents with injuries, municipal values per 1000 residents, on a comparable scale, Germany (left) and Italy (right), highest values truncated

As another proxy for social attitude I compute the municipal voter turnout at the European elections of 2014 - the closest year to 2016, which is the reference year for the LAUDEIT dataset. Voter turnout can be seen as proxy for civic attitude, namely sense of duty to express one's political preference. Yet, voter turnout may also be affected by other factors, e.g. the concomitance of other elections. In 2014, EU elections coincided with Italian administrative elections at the municipal level. Maybe for this reason, voter turnout appears to be slightly higher in Italy than in Germany.
Figure 32: Distribution of voter turnout at EU elections at the municipality level, in Germany (left) and Italy (right)

Source: Elaboration by the author based on LAUDEIT dataset, 2016.

Figure 33: Distribution of voter turnout at EU elections at the municipality level, on a comparable scale, Germany (left) and Italy (right)

Source: Elaboration by the author based on LAUDEIT dataset, 2016

The EU election data can be further analyzed - I classify the parties voted for according to their official affiliation in terms of parties represented within the European parliament: specific German or Italian parties are therefore identified as members of the

- European People's Party
- Alliance of Socialist Democrats
- Identity and Democracy Group
who all ran in 2014. I make two important choices: I do not include data on voters of the 5-star-movement in Italy as it did not affiliate to any European party. I group all other smaller parties into "other" - in Italy this comprises the ultra-conservative Fratelli d'Italia. Figures 34 and 35 show differences between Italy and Germany in terms of voting attitudes for European parties.

Figure 34: Distribution of % voting for EU Christian democratic party (left) and for EU socialist party (right) at the municipality level, in Germany (DE) and Italy (IT)

Source: Elaboration by the author based on LAUDEIT dataset, 2016.

Germany presents a more centre-right political attitude towards Europe in 2014, whereas Italy displays a tightly more socialist attitude in the same elections. Such findings tend to confirm a North-South divide on European macroeconomic choices (Boitani and Tamborini, 2021). In figure 35, it is possible to see which shares of the population in German and Italian municipalities vote for the EU Identity and Democracy Group (left panel) and for other, smaller parties (right panel). The Identity and Democracy group includes the AfD (Alternative für Deutschland) and the Italian Lega Nord. It can therefore be viewed as capturing populist-right votes. Small parties cover a broad range of political factions - in Italy, the conservative right (Fratelli d’Italia) appears in this residual group.

Figure 35 shows that Germany presents an almost normally distributed, low tendency for a populist right vote at the European level. Italy on the other hand, displays a clear dualism, with an important part of the municipality population basically not voting for right populists. Among the municipalities in which parts of the population vote for populist right, such attitude is slightly more pronounced than in Germany. The right panel of figure 35 shows that there is a more pronounced tendency to vote small parties at the 2014 EU elections in Germany.
than in Italy. Table 4 summarizes descriptive statistics for all variables presented and included in the LAUDEIT dataset.

Figure 35: Distribution of % voting for EU Identity and Democracy Group (left) and for other small parties (right) at the municipality level, in Germany (DE) and Italy (IT)

Source: Elaboration by the author based on LAUDEIT dataset, 2016.
Table 4: Descriptive Statistics of the Comparable Variables Included in LAUDEIT

<table>
<thead>
<tr>
<th>Variable</th>
<th>Germany</th>
<th>Std. Err.</th>
<th>Italy</th>
<th>Std. Err.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latitude</td>
<td>50.43</td>
<td>0.04</td>
<td>43.66</td>
<td>0.04</td>
</tr>
<tr>
<td>Municipality Area</td>
<td>7348</td>
<td>130</td>
<td>5659</td>
<td>121</td>
</tr>
<tr>
<td>Commuting Attraction Index</td>
<td>26.44</td>
<td>0.22</td>
<td>26.55</td>
<td>0.21</td>
</tr>
<tr>
<td>Internal Migration Attraction Index</td>
<td>6.44</td>
<td>0.04</td>
<td>2.36</td>
<td>0.02</td>
</tr>
<tr>
<td>Nr. of Residents</td>
<td>28222</td>
<td>1780</td>
<td>14084</td>
<td>1206</td>
</tr>
<tr>
<td>Population Density</td>
<td>4.01</td>
<td>0.11</td>
<td>3.46</td>
<td>0.11</td>
</tr>
<tr>
<td>Dependency Rate</td>
<td>0.55</td>
<td>0.00</td>
<td>0.58</td>
<td>0.00</td>
</tr>
<tr>
<td>Share of Elderly</td>
<td>22.20</td>
<td>0.08</td>
<td>23.89</td>
<td>0.08</td>
</tr>
<tr>
<td>Employment Rate (20-64)</td>
<td>65.42</td>
<td>0.11</td>
<td>62.74</td>
<td>0.16</td>
</tr>
<tr>
<td>Entrepreneurship Rate (nr. firms p. 1000 inh.)</td>
<td>0.90</td>
<td>0.01</td>
<td>8.36</td>
<td>0.09</td>
</tr>
<tr>
<td>Firm Size (Manufacturing Sector)</td>
<td>117.4</td>
<td>1.9</td>
<td>7.8</td>
<td>0.1</td>
</tr>
<tr>
<td>Nr Accommodation Structures (Tourism Sector)</td>
<td>3.09</td>
<td>0.14</td>
<td>10.69</td>
<td>0.59</td>
</tr>
<tr>
<td>Nr Beds (Tourism Sector)</td>
<td>163.8</td>
<td>8.4</td>
<td>296.5</td>
<td>11.8</td>
</tr>
<tr>
<td>Nr. Tourist Arrivals</td>
<td>5022</td>
<td>235</td>
<td>4768</td>
<td>203</td>
</tr>
<tr>
<td>Length of Stay (Tourism Sector)</td>
<td>2.97</td>
<td>0.03</td>
<td>3.55</td>
<td>0.04</td>
</tr>
<tr>
<td>Occupancy Rate (Tourism Sector)</td>
<td>33.13%</td>
<td>0.28</td>
<td>17.50%</td>
<td>0.22</td>
</tr>
<tr>
<td>Income per Capita (1000s of euros)</td>
<td>19.30</td>
<td>0.10</td>
<td>13.57</td>
<td>0.06</td>
</tr>
<tr>
<td>Income Tax Rate</td>
<td>0.164</td>
<td>0.001</td>
<td>0.169</td>
<td>0.000</td>
</tr>
<tr>
<td>Municipal Share on Income Tax (euros p. cap)</td>
<td>428.5</td>
<td>2.9</td>
<td>58.8</td>
<td>0.6</td>
</tr>
<tr>
<td>Property Tax (euros p. cap)</td>
<td>142.3</td>
<td>0.9</td>
<td>257.5</td>
<td>5.0</td>
</tr>
<tr>
<td>Taxing Capacity (total taxes collected p.cap)</td>
<td>1054</td>
<td>12</td>
<td>570</td>
<td>7</td>
</tr>
<tr>
<td>Female Share among Elected Politicians</td>
<td>24.6</td>
<td>0.2</td>
<td>30.7</td>
<td>0.2</td>
</tr>
<tr>
<td>Road Accident Rate with Injuries (p. 1000 inh.)</td>
<td>3.7</td>
<td>0.0</td>
<td>2.2</td>
<td>0.0</td>
</tr>
<tr>
<td>EU Election 2014 Voter Turnout</td>
<td>44.99</td>
<td>0.20</td>
<td>61.35</td>
<td>0.25</td>
</tr>
<tr>
<td>EU Election 2014: Voting Christ-Dem</td>
<td>39.52</td>
<td>0.21</td>
<td>22.84</td>
<td>0.20</td>
</tr>
<tr>
<td>EU Election 2014: Voting Socialist</td>
<td>24.85</td>
<td>0.19</td>
<td>38.26</td>
<td>0.20</td>
</tr>
<tr>
<td>EU Election 2014: Voting Populist-Right</td>
<td>7.31</td>
<td>0.05</td>
<td>7.53</td>
<td>0.13</td>
</tr>
<tr>
<td>EU Election 2014: Voting Small Parties</td>
<td>9.78</td>
<td>0.09</td>
<td>4.35</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Source: Elaboration by the author based on LAUDEIT dataset, 2016.
Implications for the Comparison of Institutions and Economic Systems and Concluding Remarks

The descriptive statistics here presented may be helpful for future research that seeks to investigate differences between Germany and Italy, in particular with regards to key structural elements that make similar institutions work differently in the two countries. For example, the structural difference in terms of firm landscapes (Pagano, 2021) that municipal data confirm hint that differences in labor market institutions between the two countries are not only likely but may be necessary. Similarly, Italian municipal data seem to suggest that lower earnings are partially compensated by greater property, as can be deducted comparing property tax collections in the two countries. Furthermore, mobility patterns are likely to be slightly different - while commuting is more common than internal migration in Italy, this does not seem to be the case in Germany. Different property patterns may again play a role in this regard, suggesting for a complex nexus that ties property to labour market and entrepreneurship choices, affecting the functioning and performance of markets in the two countries. Investigations of data on tourism performance, for example, hints that Italy's supply side may be more articulated but less productive. In terms of informal institutions here proxied with attitudes, the data so far included suggest that there may be a slightly more pronounced tendency towards political centre-right values in Germany than in Italy, which appears to be more oriented towards the centre-left - at least for what concerns European politics. However, such evidence may be affected by the temporal contingency of the EU elections in 2014, which saw the centre-right CSU particularly strong in Germany and the centre-left PD particularly strong in Italy. Time-series analysis and the inclusion of national voting data are likely to provide greater clarity in this regard.

Generally speaking, the variables presented in this paper only capture a portion of the socio-institutional and economic landscape of the two countries compared. Yet, the exercise provides interesting insights into the usual 'suspects' underpinning differences between Italy and Germany - from a perspective informed by a completely new data basis, namely municipal data. In this sense, the analysis confirms the strong dualism that affects Italy (Boltho et al., 2017; Capussela, 2021; Felice, 2018) - in terms of employment rates and income per capita. While Northern Italy presents similar employment rates to Germany, its income per capita is lower. Institutional factors captured at the municipal level suggest that the German federal system favours municipalities in terms of revenues, whereas Italian municipalities are strongly dependent on property tax (on second homes) for their overall budget.
The data collected represent a first step towards a more fine-grained analysis of interdependencies between structural, institutional and economic factors (Amable, 2011; von Jacobi, 2018; Kuran, 2009), which may help underpin a European governance model not necessarily centred on convergence but on the co-existence of institutional varieties (Baldwin and Giavazzi, 2016; Bongardt and Torres, 2013; Notermans and Piattoni, 2021).
References


