

The Future of Rural Manufacturing

Case Study of Italy



OECD Rural Studies

The future of Rural Manufacturing: Italy case study



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The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

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Main takeaways and policy recommendations Italy case study

Main findings

The Italy case study on rural manufacturing focuses on two TL3 regions of Arezzo and Grosseto in the wider region of Tuscany. Tuscany is one of the Italian regions where manufacturing has been for long time, and still is, one of the main drivers for economic development. The two regions however are very different both geographically and in manufacturing specialisations. The analysis combines desk research and fields trips to the regions as well as interviews with national policymakers. The case studies reveal a number of challenges, opportunities and policy recommendations.

The challenges, if tackled could effectively boost the performance of the manufacturing sector and regional development. These include the following elements:

- Pursuing a higher degree of integration between rural development and industrial policy can lead to more effective actions for rural manufacturing at all levels. Rural manufacturing is not a policy domain per-se. Still, a number of policies and programmes offer a wealth of opportunities for rural manufacturing, particularly with the use of the inner areas strategy that allows the differentiation between rural areas to be very clearly identified and developed upon. A higher and stronger integration between sectoral and territorial policies is yet to be seized.
- Steps to address the skills gap are being taken slowly but more can be done. There are skill-gaps in both regions due to a combination of ageing, brain drain, lack or weak proximity services, perceived marginality of remote rural areas, etc. At the same time, a well-structured education and training system is in place at the larger regional scale (e.g. TL2 regions), but also often with quite a capillary presence at local level. Tackling this paradox requires parallel action in two factors:
 - to make the matchmaking between offered and demanded skills perform better as a system, with training institutions and businesses finding new and more effective communication and collaboration channels
 - to enhance the appreciation of the local quality of life in rural environment and in the smaller centres as a source of attraction, which is already a trend triggered by COVID-19.
- Accessibility challenges remain and they include physical transport infrastructures deficiencies, digital connectivity bottlenecks and difficulty in accessing primary services. Small businesses are particularly sensitive to these framework enabling conditions. Targeted policy responses are needed to cope with them that can allocate public resources complemented through public-private common initiatives and investments.
- Ensuring that traditional knowhow embraces change and innovation. Rural businesses often specialise in some niches linked to traditional know-how and local consolidated cultural heritage and show a smaller tendency and lower openness to innovation. In such contexts path dependency is a common risk affecting the local industrial systems that must be turned over to make use of the special skills and take advantage of new markets and directions of globalisation.

Main Recommendations

The case studies identify a number of broad recommendations for the two provinces across a number of areas. These are further elaborated in the text.

Arezzo

- Improving the local strategic capacity building offer.

- Putting the circular economy objective higher up the priority list.
- Opening up the dynamic local entrepreneurial box to new sectors.

Grosseto

- Shifting to a more sustainable and resilient development pattern.
- Harnessing the strategic synergies and closer cooperation across territories.
- Embracing new ways of living rural like the Santa Fiora smart village.
- Using FDI to encourage the establishment of new economic activities and to root existing enterprises in the region by supporting processes of expansion, modernisation or co-location of new economic activities.

1 The landscape

Italy is one of the strongest manufacturing countries of the European Union, ranking third (after Germany and France), in terms of total manufacturing turnover and value added, second after Germany in terms of total employment, and first counting the total number of enterprises.¹

The structure of manufacturing in Italy is mostly based on small and medium sized enterprises. These on average are smaller than in the other EU direct competitors and are mostly located in relatively small territorial areas with a high level of specialisation in some sectors. These areas are usually recognised being the site of clusters also known as Italian industrial economics, or industrial districts.

These places are highly specialised in some industry (e.g., textile and apparel, wood working and furniture, mechanics, automotive, jewellery, etc.). They are often classified as non-metropolitan regions, according to the OECD extended typology adopted by the OECD, near to medium and small cities or next to metropolitan regions.

Therefore, the industrial districts' dynamics in Italy are highly relevant for investigating the rural manufacturing, which is the core matter of the present OECD study. Under such a perspective, one of the most affluent and consolidated manufacturing regions inside Italy is the region of Tuscany. In this region, the industrial districts are the backbone of the local productive fabric.

Tuscany is a TL2 large region, and hence, in order to undertake an analysis at a territorial scale comparable to the other OECD country cases considered in parallel, two smaller TL3 regions inside Tuscany have been taken as a sample featuring two very different rural development patterns: the provinces of Arezzo and Grosseto.

The overall objective of the case study analysis is to showcase how, in some selected European regions, rural manufacturing has developed and evolved over the time. It will also investigate the policies that have been put in place to support such a development and ultimately provide policy recommendations to support the sector in the future.

Eventually, the interested reader is offered the opportunity to compare amongst four national cases across Europe including France, Germany and Slovenia, and so to gain further information on the features, performances and challenges of rural manufacturing.

The above offers an insight from these selected cases, are part of the OECD project on the Future of Rural Manufacturing. The overall project aims to better understand the transformation of manufacturing in rural regions over past decades and the opportunities and challenges for the future of rural manufacturing in the context of megatrends such as digitalisation and globalisation.

The document at first describes the main features of the region and its recent trends, also conducting a comparison with other Italian regions. Then, the second section "Visions and Strategies" outlines what are main policies and strategies implemented in recent years in Italy and at the local level to support manufacturing. The analysis of the performances of the sector and the main challenges follows in section

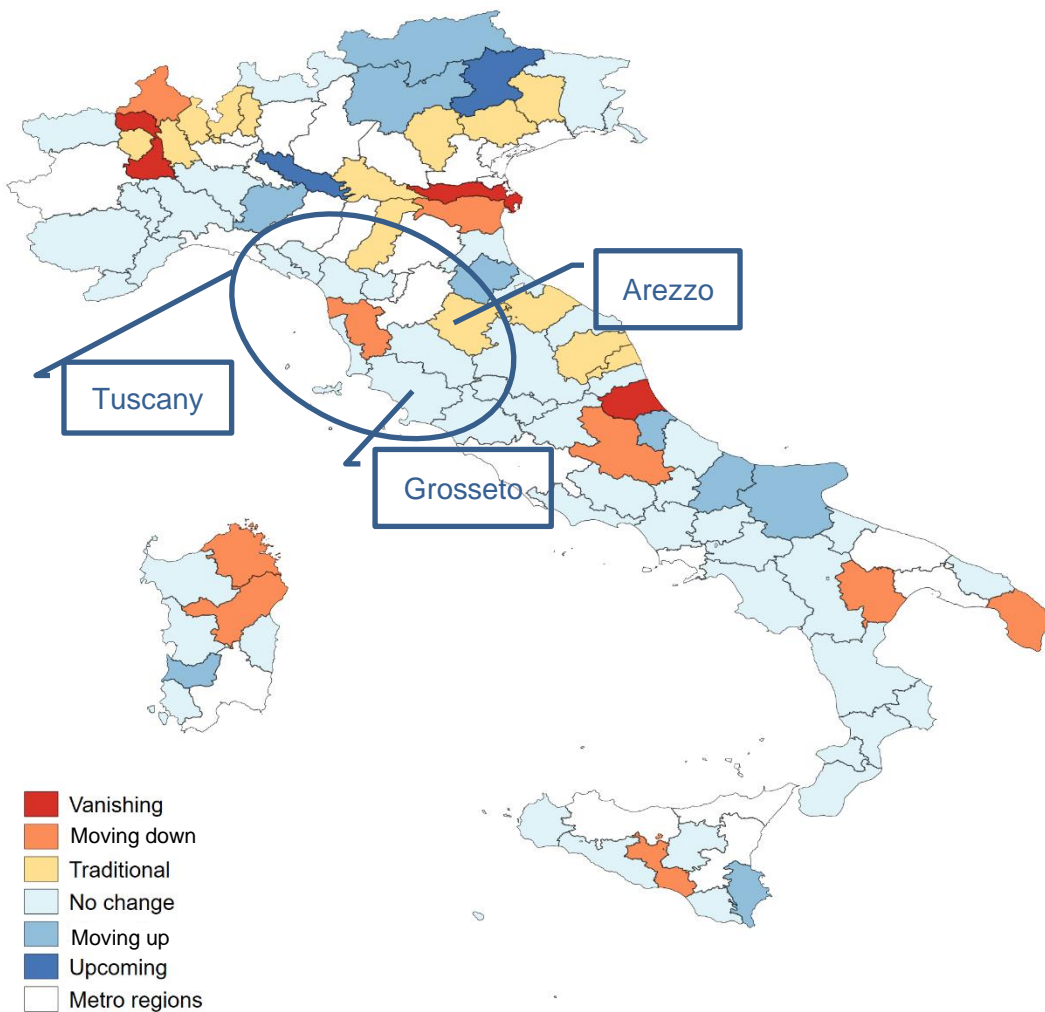
¹ Source: 2023, EUROSTAT Businesses in the manufacturing sector. Statistics Explained (<https://ec.europa.eu/eurostat/statistics-explained/SEPDF/cache/10086.pdf>) 10/03/2023. Last accessed on 07.04.2023.

three, focusing on skills, resources, business environment and the regional governance. The fourth and concluding paragraph presents selected recommendations, at a general level related to the national policy framework regarding rural manufacturing and, more specifically, to the two regional cases of Arezzo and Grosseto.

Geography, economy, and population

Infographic 1.1. Rural Manufacturing in Italy by manufacturing type

Change in manufacturing employment between 2000-2018, TL3



Note: Using manufacturing change adopting the typology developed by Authors

Source: Authors' elaboration based on the OECD Regional Database, (last access: April 2022)

The two TL3 regions of Arezzo and Grosseto (which correspond in the Italian administrative nomenclature, as Provinces, as they will be named hereinafter) are the object of the present research. They are part of the Tuscany TL2 region, one of Italy's 20 TL2 regions that are the main subnational administration recognised by the Italian Constitutional Law as public bodies with political and administrative autonomy.

The two provinces, according to the classification adopted by the OECD methodology for identifying urban and rural TL3 regions - or provinces in Italian case – are considered as follows:

- Arezzo is a non-metropolitan region near to a metropolitan centre (NMR-M)
- Grosseto is a non-metropolitan region near to a small centre (NMR-S)

Box 1.1. TL3 rural typology according to OECD methodology

Non-metropolitan TL3 region, if less than 50% of its population live in an FUA (Functional Urban Area). These regions are further classified according to their level of access to FUAs of different sizes into regions:

- **With access to (near) a metropolitan TL3 region**, if more than 50% of its population lives within a 60-minute drive from a metropolitan area (an FUA with more than 250 000 people); or if the TL3 region contains more than 80% of the area of an FUA of at least 250 000 inhabitants.
- **With access to (near) a small/medium city TL3 region**, if the TL3 region does not have access to a metropolitan area and 50% of its population has access to a small or medium city (a Functional Urban Area of more than 50 000 and less than 250 000 inhabitants) within a 60-minute drive; or if the TL3 region contains more than 80% of the area of a small or medium city.
- **Remote TL3 region**, if the TL3 region is not classified as NMR-M or NMR-S, i.e., if 50% of its population does not have access to any FUA within a 60-minute drive.

Source: (Fadic et al., 2019^[13]), "Classifying small (TL3) regions based on metropolitan population, low density and remoteness" <https://dx.doi.org/10.1787/b902cc00-en>

Table 1 features prominently the main determinants of the two Provinces: Arezzo's economy is highly developed in terms of manufacturing (26.35% of its GVA), which share on the regional GVA is 60% higher than the Italian average, whereas Grosseto is prominent in the primary sector (7% of its GVA), a percentage more than double compared to the former and about four times the average of rural Italy, and conversely has a lower share of in manufacturing (6.6%) and industry overall. Moreover, the GVA share generated by the agriculture in Arezzo (3.2%) is slightly less than twice the Italian rural average (1.9%). These characteristics are the most remarkable difference between the two provinces: whilst both are classified as rural areas, Arezzo has a prominent manufacturing sector that has developed in a rural environment where agriculture still is important for the local economy. Opposingly Grosseto has focus on the primary sector with less of a focus on manufacturing.

For context, Tuscany, is part of central Italy and is the 9th biggest region in terms of population (about 3.67 million inhabitants), the 5th as surface (22 987 km²) and ranks 6th in terms of GDP (114 926 million EUR and 102 748 million EUR in terms of GVA in 2021 according to ISTAT²). Geographically, Grosseto is a large sparsely populated rural province whereas Arezzo is more densely populated relatively. Arezzo Province covers an area of 3 233.08 km² with a population of 337 766 inhabitants. It is fourth among the Tuscan provinces in terms of both number of inhabitants and surface area. The Province of Grosseto covers an area of 4 503.17 km² and is the largest in Tuscany, with a population of 218 350, the 9th out of 10 Tuscan provinces. Grosseto's population is 2/3rds of Arezzo's, whereas the latter has a land territory that is 2/3rds of the former. Both territories have a prominent rural structure, with about one-third of the residents live in the main municipality of the province (Grosseto 81 500 and Arezzo 96 700 inhabitants, respectively) and the rest of the population live in smaller centres or in more rural areas. In Grosseto most part of the population resides along the Tyrrhenian Sea coast, with the rest of the territory that is predominantly hilly rural and sparsely populated, marked by the volcanic cone of Monte Amiata in the eastern part. Arezzo instead has a more polycentric and distributed texture, along four Apennine valleys.

² ISTAT - Data excerpted on 05 Feb 2023, 07h15 UTC (GMT) from I.Stat | http://dati.istat.it/Index.aspx?DataSetCode=DCCN_PILT#

Economically, Tuscany was harder hit by the consequences of the pandemic than other regions of Italy due to its specialisation in the production of semi-durable consumer goods, which have suffered the fall in demand, particularly foreign demand, to a greater extent than other types of production. Tuscany is also more dependent on tourist spending, which has been significantly affected in this crisis. Both manufacturing and tourism quite promptly recovered in the pandemic aftermaths although not necessarily to its full extent (IRPET, 2021₂).

Table 1.1. Key economic statistics for Arezzo, Grosseto and comparators

Characteristic	AR avg	GR avg	TUSC avg	IT average		IT rural average		OECD average		OECD rural average	
				Latest year	Change over time	Latest year	Change over time	Latest year	Change over time	Latest year	Change over time
Manufacturing share of regional GVA	26.35% (04-19)	6.62% (04-19)	18.38% (04-19)	16.53% (2019)	-0.11% (04-19)	15.55% (2019)	+3.12% (04-19)	18 (2019)	+0.04% (05-19)	20% (2019)	+0.40% (05-19)
Agricultural share of regional GVA (including forestry & fishery)	3.21% (04-19)	7.07% (04-19)	2.32% (04-19)	2.12% (2019)	-0.36% (04-19)	1.88% (2019)	+1.95% (04-19)	2% (2019)	-0.91% (05-19)	3% (2019)	-0.57% (05-19)
Industry share of regional GVA (including energy)	29.61% (04-19)	10.30% (04-19)	21.68% (04-19)	19.59% (2019)	-0.36% (04-19)	17.79% (2019)	+3.15% (04-19)	23% (2019)	+0.04% (05-19)	26% (2019)	0.40% (05-19)
Number of active firms 1-9 employees	8,317 (16-20)	5,965 (16-20)	100,668 (16-20)	1,356,239 (2020)	-0.47% (16-20)	Data missing	Data missing	Data missing	Data missing	Data missing	Data missing
Number of active firms 10 employees or more	1,316 (16-20)	464 (16-20)	13,519 (16-20)	187,310 (2020)	+1.28% (16-20)	Data missing	Data missing	Data missing	Data missing	Data missing	Data missing
Population	337,766 (05-21)	218,350 (05-21)	3,674,528 (05-21)	59,049,367 (2021)	+0.2% (01-21)	404,765 (2018)	+0.26% (01-18)	1,371,480,000 (2021)	+1.26% (01-21)	401,062,147 (2020)	+0.41% (05-20)
Population density (pop. per km ²)	105.06 (01-21)	49.19 (01-21)	159.75 (01-21)	198.27 (2021)	+0.2% (01-21)	264.45 (2019)	+0.65% (01-19)	38 (2020)	+0.63% (05-20)	14 (2020)	+0.42% (05-20)
GDP per capita	39,390.56 (01-19)	33,942.51 (01-19)	41,522.48 (01-19)	39,095.77 (2019)	-0.14% (01-19)	25,431.26 (2019)	+2.85% (01-19)	45,342 (2020)	3.09% (01-20)	Data missing	Data missing
Labour Productivity (Regional GVA per worker for total activities, USD per worker)	77,425.69 (04-19)	72,576.69 (04-19)	82,188.18 (04-19)	82,459 (2019)	-0.21% (04-19)	70,971.07 (2019)	+0.8% (04-19)	83,478 (2019)	+0.74% (05-19)	73,481 (2019)	+0.75% (05-19)
Employment rate (% employment over working age population 15-64)	65.41% (04-21)	64.25% (04-21)	64.63% (04-21)	58.2% (2021)	+0.04%	58.36% (2017)	-0.001% (04-17)	65% (2020)	+0.33% (05-20)	63% (2020)	+0.37% (05-20)
Share of population with tertiary education	Data missing	Data missing	Data missing	20% (2021)	+2.15% (15-21)	Data missing	Data missing	19.93% (2021)	-3.2% (15-21)	-	-
Broadband speed (Average kbps)	21,785	22,696	48,233.22	56,730	Data missing	41,785	Data missing	-	-	-	-

Note: Data from 2000-2019 unless specified.

Source: Authors' elaboration on OECD Data.

Cultural and historical context

Part of the centre of Italy, the region of Tuscany has been one of the centres of Italy's prehistoric and preromanic development, where Etruscan culture flourished from the VI century B.C. Later, the region became part of the Roman empire. Of this ancient history, multiple traces and remains have been later incorporated in the Middle Age communal centres, most of them still visible today.

From the Middle Ages, Tuscany is recognised as the cradle of Italian language and culture, being the region where the Renaissance flourished and spread over Italy and Europe. The first forms of participatory democracy and the associations of arts and crafts were born here, which made Tuscany a unique example of cultural, social and economic autonomy. The prosperity achieved by the region are well represented by the Seigniorship of the Medici and the Grand Duchy of Tuscany. Over the years celebrated poets, artists, scientists (Dante, Boccaccio, Petrarca, Leonardo, Michelangelo to name just a few) were born and operated in that region, making it great and known worldwide. Arezzo and Grosseto were both part of this history. While the former was one of the most dynamic centres of cultural and economic development in the region, and integrated into the State of Tuscany - later transformed into the Grand Duchy - since the end of the XIV century, the latter was more peripheral, a more rural area dependent on the Republic of Siena in southern Tuscany, which for a long time fought against the Republic of Florence, which finally conquered it in the mid-XVI century.

Today Tuscany is a vibrant reality of culture, education, trade and manufacturing, with its propulsive centre in Florence. Still today, it maintains a prominent multipolar dynamic, both culturally and economically, with several centres and localities and a variety of cultural initiatives and economic activities across the region, some of them well-known worldwide. Just a sample: the Uffizi Gallery in Florence and its collections of ancient sculptures and paintings, the *Palio di Siena*, historical horse race in the heart of the city of Siena, the *Maggio Musicale Fiorentino* festival of classical music concerts, events, operas and ballets, *Pitti Uomo*, international men's fashion fair, *Oroarezzo*, fair of the Made in Italy and international jewellery production.

As part of this cultural heritage, throughout the region there are long-standing inherited traditions related to of agriculture, craftsmanship and manufacturing, that still are the matrix of the local economy, despite being subjected to drastic transformation over recent decades.

Notably, Florence and Tuscany were already international tourist destinations from the XIX century. Later, in the second half of the past Century, tourism became increasingly important for the regional economy, peaking to 48 million overnight in 2019 [Conti, 2022₁, Conti, 2022₂]. The pandemic heavily impacted the sector during the last three years, though in 2022, substantial recovery in the tourist inflows has been recorded.

Manufacturing landscape

Tuscany is one of the Italian regions where manufacturing has been for long time, and still is today, one of the drivers for its economic development. The local economy, during the first two decades after World War II was mostly relying on agriculture and on the settlement of a few large companies, often state-owned. In fact, primary raw minerals available locally favoured the development of heavy industry, largely on public initiative or thanks to investments from other northern Italian regions. These plants clustered along the coast, manufacture of iron and steel, mechanical, chemical and petrochemical, using mainly crude oil imported at the Livorno port.

Over time, agriculture underwent a technification and transformation resulting in a reduction in direct employment, initially absorbed by these large manufacturing companies. But soon these plants, also due to the exhaustion of the local raw materials, experienced downturns and many either collapsed or relocated. These firms were progressively replaced, in the '60s and '70s, by clusters of micro and small firms.

This transformation consisted of locally agglomerated SMEs that were highly specialised in one or few industries. These firms were cooperating and competing at the same time. By sharing a location and benefitting from a local favourable context they were able to enhance their development. These local systems, in some cases were located inside or next to small and medium sized towns, but quite often

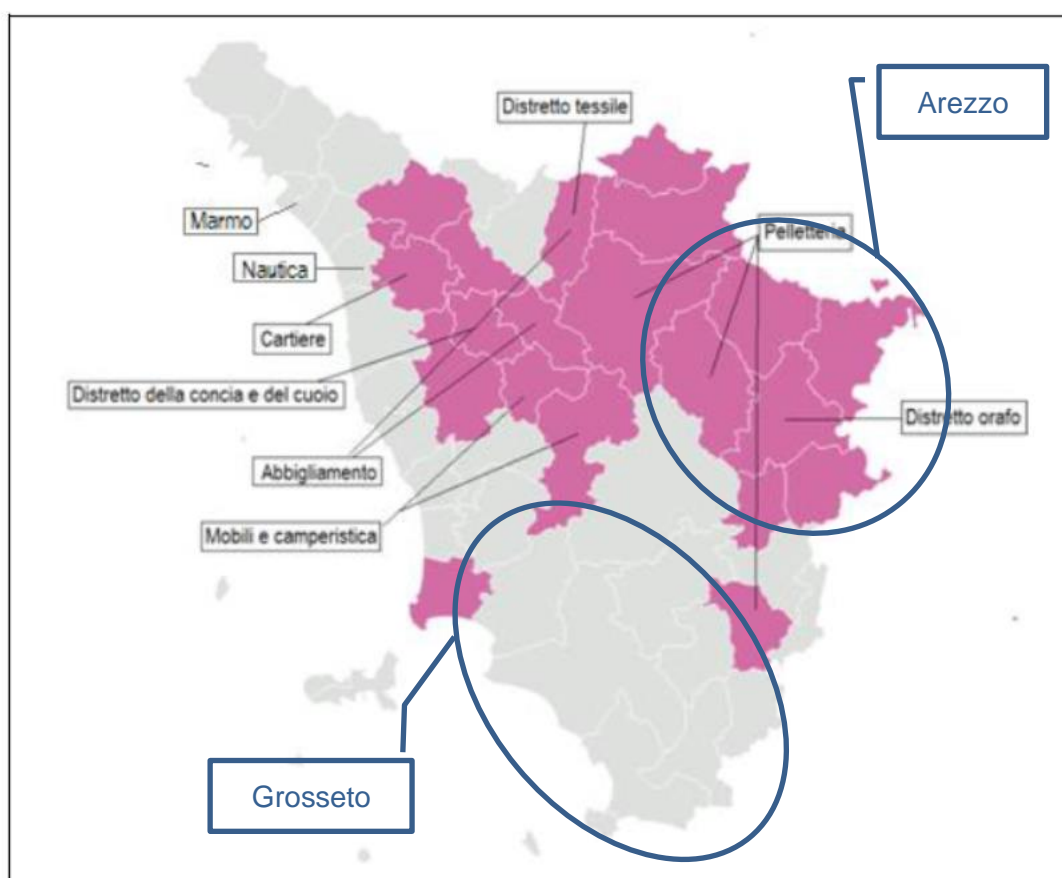
spread out into the rural areas in between, reflecting the polycentric structure of small towns and villages, which is the particularity of the region.

This dynamic turned Tuscany into one of the Italian regions where “industrial districts” developed. Local manufacturing systems were mostly specialised in traditional sectors (e.g. textile and apparel, tanneries, leather and shoemaking, jewellery, metalworking, furniture, mechanics etc.) and were already export oriented. Well-grounded traditional artisanal knowhow and outstanding entrepreneurial attitude, skilled workers available were prior available conditions for their development. Over the last decades, these local manufacturing systems grew, flourished and consolidated. [Becattini, 1975; Bellandi, 2016]

In more recent years, starting from the late '90s, these systems underwent drastic changes under the pressure of “globalisation”, tertiarization of the economy and a progressive shift from manufacturing to services. This resulted in a combination of delocalisation, disruption of the local ecosystems and their insertion in the GVC, often with basic manufacturing moved abroad. [Casini Benvenuti and Maltinti, 2009] This evolution of local manufacturing has been the case in the province of Arezzo, where some of the leading and emerging companies have moved from pure manufacturing to a more mixed environment of services, and manufacturing, which remains a core activity.. The scenario of Grosseto is different, as its manufacturing sector is less advanced.

Today manufacturing still plays a substantial propulsive role in the Tuscan economy and the industrial districts are a substantial part of it. The region is well adapted to changes stemming from the industrial transition vis-à-vis the global megatrends. The firms are innovate through dealing with the generational turnover and changing their business model to incorporate services with manufacturing. In addition they are, , adapting to the changes of their reference markets through selection and stratification processes driven by large international leading companies (which often have grown from inside the districts), sometimes also attracting international FDI. The region has expanded from SME clusters to also benefit from MNEs and a few leading large companies, in particular in the sectors of pharmaceutical, biotech and life science, the automotive sector, chemical and ship building, among others [CDP, 2020].

Figure 1.1. Tuscany's main industrial districts



Note: In the map, the areas highlighted in pink are the territories within Tuscany region where industrial districts are located, identified as Labour Market Areas (“*Sistemi locali del Lavoro*” - SLL according to the Italian acronym) with a prevalence of specific manufacturing sectors. The SLLs are territorial inter-municipal territorial aggregations according to the Italian Statistics Institute (ISTAT), based on the measuring of daily commuting between places of residence and places of work. Therefore, the SLLs identify the local basins where labour supply and demand meet. [see <https://www.istat.it/en/labour-market-areas>].

Source: IRPET (2020), *Il Sistema Produttivo Toscano*, p. 28.

The two provinces, if analysed considering their regional industrial transition probability (see the Section “The relevance of manufacturing in rural regions over time” inside the OECD paper “The future of Rural Manufacturing. A look back to look forward”) follow two different patterns: **Arezzo is a Traditional Manufacturing Hub** (a region that occupied the top quintile of the distribution in both 2000 and 2017) whereas **Grosseto is a static region not manufacturing hub** (a region that has not changed quintile between 2000 and 2017), outside the top performing rural regions.

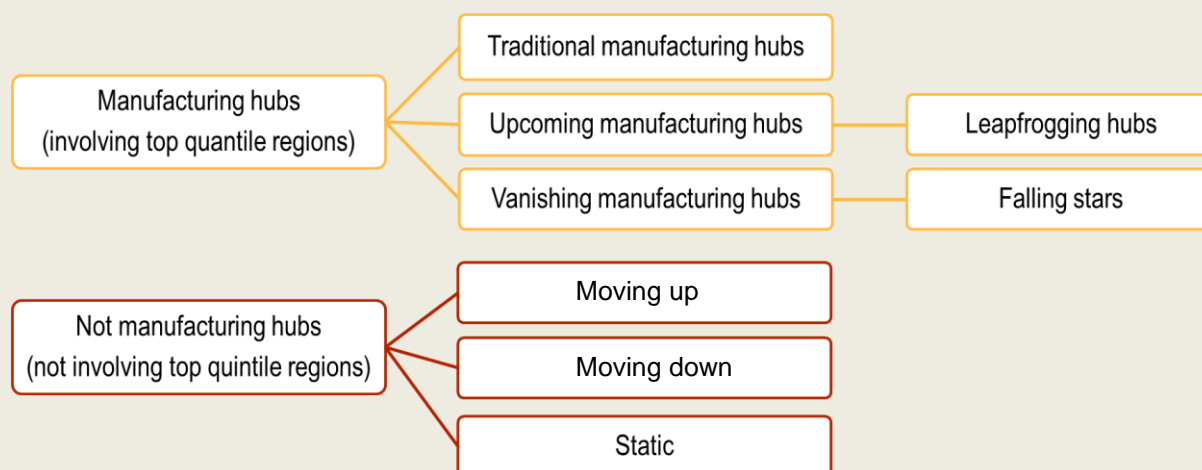
Box 1.2. Manufacturing: OECD typology of non-metropolitan regions

The OECD, analysing their performances between 2000 and 2019, has divided non-metropolitan regions into six categories (see infographic below), which include three categories of manufacturing hubs (involving the top quintile regions).

Traditional manufacturing hubs are those regions that used to be in the top quintile back in 2000 and are still so 20 years after, showing this path dependency type of behaviour.

Upcoming manufacturing hubs are regions that used to occupy a lower quintile in their respective countries back in 2000 and today are in the top quintile. Among those, there are leapfrogging hubs, that is regions that managed to climb to the highest quintile in their country while starting from a very low one.

Vanishing manufacturing hubs are regions that used to occupy the highest quintile in 2000 and slid down the distribution 20 years after. Among those, there are falling stars, that is regions that fell from the top quintile to a much lower quintile.

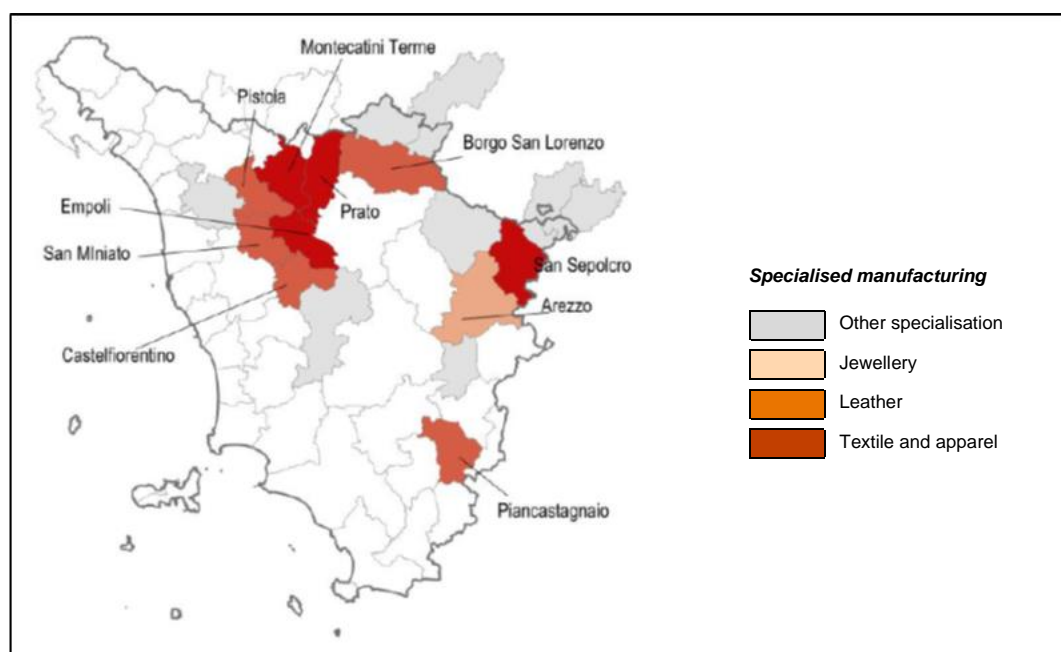


Source: Authors' elaboration.

Arezzo is quite well aligned with the regional entrepreneurial landscape and counts on traditional manufacturing, with a strong SME endowment with industrial districts specialising in jewellery (the leading district of the province with about 1 300 companies and 9 000 employees), textile and apparel, leather and footwear. Several companies are located next to the urban centres, with most of them in the surrounding rural areas.

As part of the jewellery and fashion (including textile, apparel and leather manufacture) sector, over time some local leading companies have grown and now are international groups with billion euros turnover, still based in Arezzo. The main outputs of local manufacturing are finished durable goods ready to the market rather than manufacturing as part of a wider supply chain. However, there are intermediate goods supplied to the local market meeting the demand arising from inside the region, supplying global leaders and fashion houses based in Italy and beyond. The district has a co-leadership, shared with Valenza Po and Vicenza gold districts, in jewellery manufacturing, a sector where Italian leadership is well recognised worldwide. As such the average local successful companies are not competing on the price but more on the quality and the capacity to craft customised or series products, with higher added values.

Figure 1.2. Tuscany's territorial specialisation in fashion industry



Source: IRPET (2021)¹ Una breve analisi del settore moda in Toscana, p.3.

http://www.irpet.it/wp-content/uploads/2021/11/note-rapide-9-2021-faraoni_ferraresi-moda_novembre.pdf [Last accessed on 18 January 2023].

Specifically, the jewellery sector accounts for about 32% of the local productive units³ and 25% of the total employees directly engaged in the manufacture of the sector in the province (part of 24 and 32 ATECO NACE codes, see the Tables⁴). This makes 93% of all units and 86% of workers of the sector across the Tuscan region. The second sector of specialisation is textile, apparel and leather working, which represents 14.9% of local units and 18.5% of total employment in Arezzo manufacturing and 10% of the local units and 19% total regional employment in the sector in Tuscany (ATECO NACE codes 14 and 15). Third to mention is the food and beverages processing, connected to the primary sector. Here in the province this industry is 7.5% in terms of local units and 6.5% of employment (ATECO NACE 10 and 11). If considered as part of the regional food sector, this makes 16.7% of total units and 18.3% of total employment.

Grosseto instead, with a prevailing agricultural rural economy and environment, develops a food processing sector across its inland, with scattered small artisanal workshops often devoted to offering services, such as equipment maintenance and repairing, etc., to the local agriculture producers. Some SMEs are suppliers of regional industrial districts located in other bordering provinces. In addition, the province features some industrial manufacturing activities, which are located along the Tyrrhenian Sea coast with a few big chemical plants (sulphuric acid, titanium oxide) in the municipality of Scarlino. The tourism, both seaside with some well-known localities and rural tourism across the province, mostly agrotourism geared to the agrobusiness, is a further important economic sector completing the framework.

³ A local unit is defined by the Council Regulation on statistical units (N. 696-1993) as an enterprise or part thereof (e.g. a workshop, factory, warehouse, office, mine or depot) situated in a geographically identified place. Source: ISTAT Business Register of local units (ASIA LU)

⁴ Note: 24. Manufacture of basic metals includes 24.41 "Manufacturing of precious basic metals and other non-ferrous metals - Production of precious and semi-precious metals". 32. Other manufacturing includes 32.1 "Manufacture of jewellery, costume jewellery and related articles; working of precious stones".

Given the role of the primary sector in the local economy, 24.5% of the local units and 31.5% of employment in province manufacture are from the manufacture of food and beverage products. This represents about 16% of total units and 13.5% of the employment in the sector in Tuscany. Another specialisation across the province, in part linked to the agriculture, is the manufacturing of fabricated metal products the repair and installation of machinery and equipment (ATECO NACE 25 & 33): this accounts for a third of the local firms and a quarter of the employment are in this sector.

Table 1.2. Number of manufacturing local units

Units, 2020

	Manufacturing Sub-sectors (2 digits)	Arezzo	Grosseto	Tuscany
10	Manufacture of food products	295	276	3184
11	Manufacture of beverages	14	14	189
12	Manufacture of tobacco products	2	-	3
13	Manufacture of textiles	88	20	3188
14	Manufacture of wearing apparel	322	35	6845
15	Manufacture of leather and related products	289	20	5094
16	Manufacture of wood and of products of wood and cork, except furniture, manufacture of articles of straw and plaiting materials	233	104	1829
17	Manufacture of paper and paper products	40	5	490
18	Printing and reproduction of recorded media	74	39	996
19	Manufacture of coke and refined petroleum products	1	8	33
20	Manufacture of chemicals and chemical products	47	17	409
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	1	-	68
22	Manufacture of rubber and plastic products	52	10	747
23	Manufacture of other non-metallic mineral products	140	60	1765
24	Manufacture of basic metals	195	5	339
25	Manufacture of fabricated metal products, except machinery and equipment	564	163	4365
26	Manufacture of computer, electronic and optical products	51	4	364
27	Manufacture of electrical equipment and of non-electric domestic appliances	92	12	594
28	Manufacture of machinery and equipment n.e.c.	143	21	1303
29	Manufacture of motor vehicles, trailers and semi-trailers	15	3	135
30	Manufacture of other transport equipment	6	13	404
31	Manufacture of furniture	147	36	1489
32	Other manufacturing	1096	91	3159
33	Repair and installation of machinery and equipment	193	227	2856
	TOTAL MANUFACTURE	4100	1183	39848

Note: A local unit is defined by the Council Regulation on statistical units (N. 696-1993) as an enterprise or part thereof (e.g. a workshop, factory, warehouse, office, mine or depot) situated in a geographically identified place. Source: ISTAT Business Register of local units (ASIA LU) ...

24. Manufacture of basic metals includes 24.41 "Manufacturing of precious basic metals and other non-ferrous metals - Production of precious and semi-precious metals". 32. Other manufacturing includes 32.1 "Manufacture of jewellery, costume jewellery and related articles; working of precious stones".

Source: Authors' elaboration on ISTAT ASIA LU Database, data updated at 21 Oct 2022. Data excerpted on 03 Feb 2023 14:57 UTC (GMT) from I.Stat

Table 1.3. Number of manufacturing employees

Units annual average values, 2020

	Manufacturing Sub-sectors (2 digits)	Arezzo	Grosseto	Tuscany
10	Manufacture of food products	2304.55	1628.30	20861.34
11	Manufacture of beverages	127.80	100.00	1768.00
12	Manufacture of tobacco products	15.02		200.72
13	Manufacture of textiles	606.41	33.01	21545.05
14	Manufacture of wearing apparel	2764.73	160.83	36803.36
15	Manufacture of leather and related products	5225.35	169.26	44646.21
16	Manufacture of wood and of products of wood and cork, except furniture, manufacture of articles of straw and plaiting materials	781.01	201.68	5745.46
17	Manufacture of paper and paper products	364.92	17.79	10050.33
18	Printing and reproduction of recorded media	241.35	122.63	4559.49
19	Manufacture of coke and refined petroleum products	3.55	41.36	851.76
20	Manufacture of chemicals and chemical products	663.01	383.49	6239.63
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	2.00		7198.11
22	Manufacture of rubber and plastic products	438.25	28.27	7738.25
23	Manufacture of other non-metallic mineral products	1174.73	335.36	10430.53
24	Manufacture of basic metals	1963.82	29.03	6548.13
25	Manufacture of fabricated metal products, except machinery and equipment	4579.18	710.59	28722.92
26	Manufacture of computer, electronic and optical products	1705.46	9.00	6807.69
27	Manufacture of electrical equipment and of non-electric domestic appliances	2211.64	86.32	6943.29
28	Manufacture of machinery and equipment n.e.c.	2040.55	302.75	19883.05
29	Manufacture of motor vehicles, trailers and semi-trailers	399.49	98.27	5397.79
30	Manufacture of other transport equipment	170.42	68.04	9368.21
31	Manufacture of furniture	1241.80	90.33	8449.15
32	Other manufacturing	7410.69	204.30	13234.16
33	Repair and installation of machinery and equipment	683.27	672.74	11150.68
	TOTAL MANUFACTURE	37119.00	5493.35	295143.31

Note: Units are the total number of workers employed in the local units of the sector in the region, measured as average of the year.

24. Manufacture of basic metals includes 24.41 "Manufacturing of precious basic metals and other non-ferrous metals - Production of precious and semi-precious metals". 32. Other manufacturing includes 32.1 "Manufacture of jewellery, costume jewellery and related articles; working of precious stones".

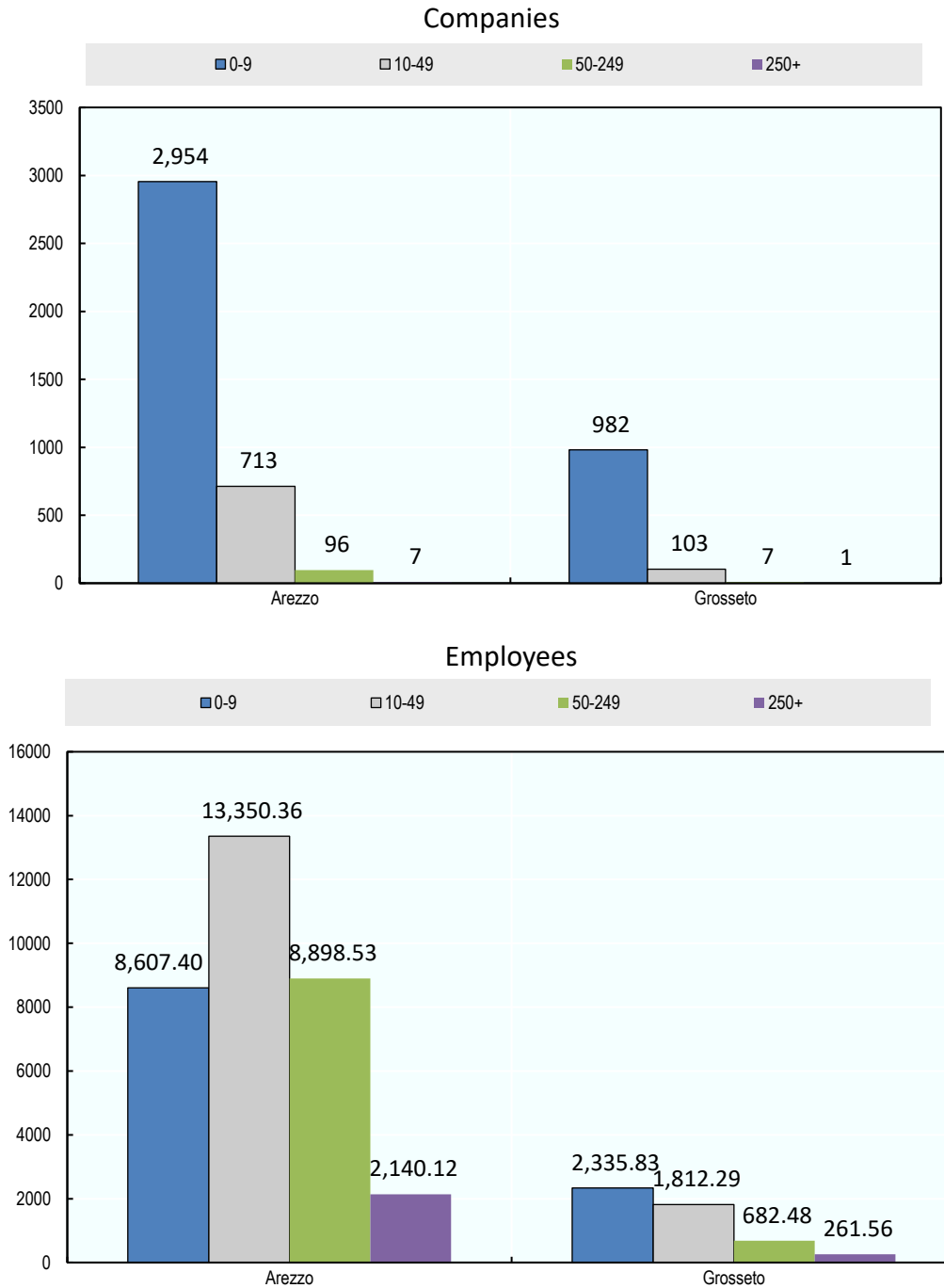
Source: Authors' elaboration on ISTAT ASIA LU Database, data updated at 21 Oct 2022. Data excerpted on 03 Feb 2023 14:57 UTC (GMT) from I.Stat.

The two provinces are confirmed as having a manufacturing sector based on micro and small firms, as already explained by the industrial districts' structure of local industry. Of total manufacturing firms, about 78% in Arezzo and 90% in Grosseto have fewer than 10 workers. These smallest companies make 26% in Arezzo and 45% in Grosseto of total manufacturing employment, as illustrated in Figure 1.3.

But the overall structure is quite different. The employment share among the different groups of companies, as Figure 1.3 displays, is such that the companies up to 50 workers in Arezzo are about 20% of the total in numbers but 40% as employment. And the relatively small group of bigger firms, in Arezzo generate the 36% of total occupation, confirming a more structured and differentiated fabric in local manufacturing.

Figure 1.3. Firms in Arezzo and Grosseto in the manufacturing sector

Number of firms and number of employees, 2020



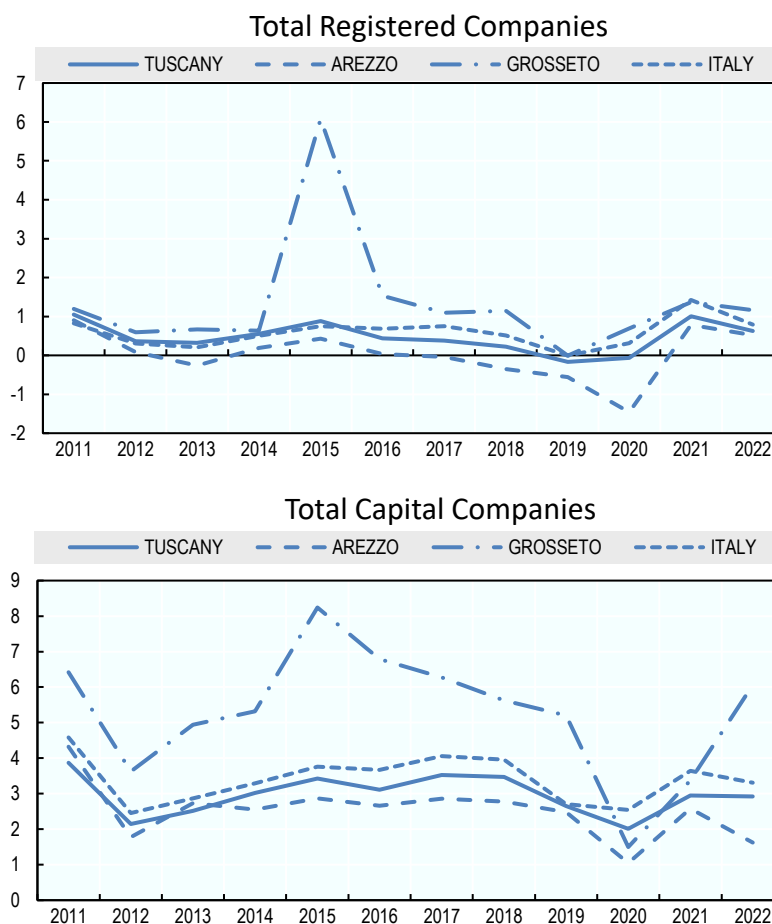
Source: Authors' elaboration on ISTAT ASIA LU Database. Data excerpted on 03 Feb 2023 15:26 UTC (GMT) from I.Stat.

The dynamics of the registered firms, in the two provinces over the last decade, show the province of Arezzo following the same trend as Tuscany region and Italy, though persistently at a slower pace. The number of total firms is ranging around zero growth, with a slowdown and recovery in the latest years,

likely driven by the shock of the pandemic. When considering capital firms (Joint Stock and Ltds.) only, the figures are more promising with a growth of between 2 and 3% over the years (excluding the last triennium).

Figure 1.4. Registered companies churn

Births – Deaths growth rate per year (%)



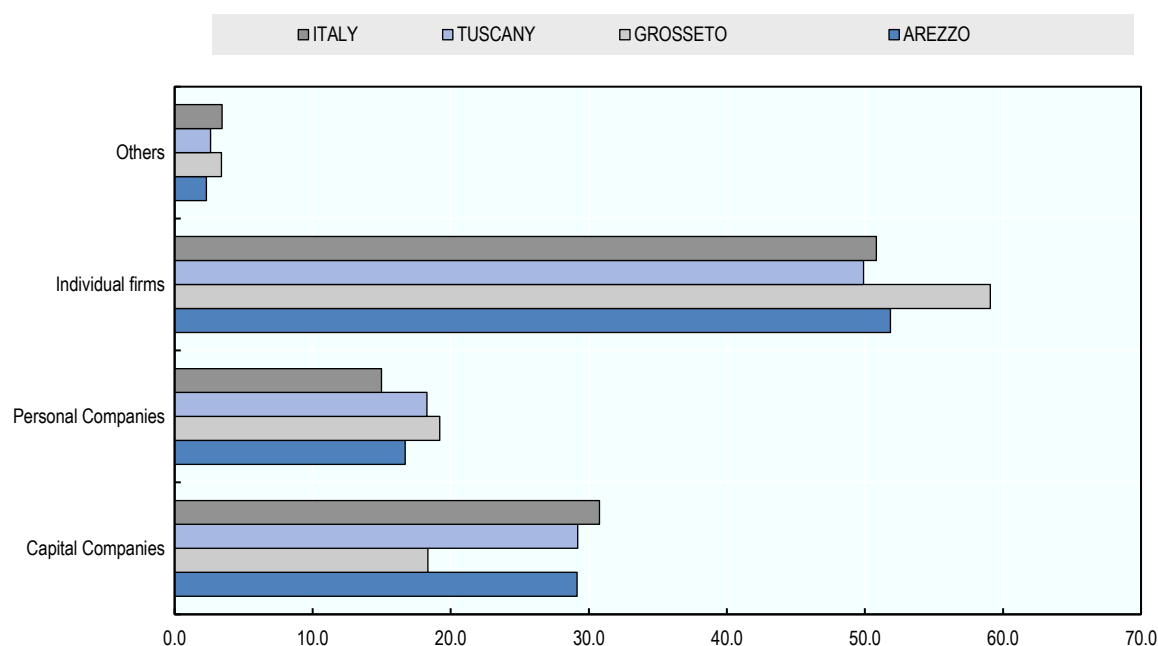
Note: The left Figure refers to births – deaths rate of total registered companies. The right Figure reports the same rate but referred to Limited Liability and Joint Stock companies only.

Source: Authors' elaboration on InfoCamere Data from the Chambers of Commerce Business Register. Movimpresa Dataset, <https://www.infocamere.it/movimpresa>
https://www.infocamere.it/documents/92943824/123158605/2022_reg_prov.xlsx/1b328a63-ca59-7a8f-46f5-c7b7cd14852a?t=1674643610677
 (last access: February 2023).

In the Grosseto's case the trend is quite different and not aligned to the regional and national average. It shows peak in 2015, most likely due to the sudden increase of agricultural businesses' registration coinciding with the launching of the first calls of 2014-2020 EU structural funds programming in Tuscany, that required the registration to the Chamber of Commerce. Besides, here the weight of services, linked to tourism, is having a role, reflected also in the legal status of the businesses (see Figure 1.4) where partnerships (personal companies) and individual businesses are prevailing. This is reflected in the growth trends of settled companies over the decade.

Figure 1.5. Typology of the Companies

2022, Share of total firms %



Source: Authors' elaboration on InfoCamere Data from the Chambers of Commerce Business Register. Movimpresa Dataset, <https://www.infocamere.it/movimpresa>
https://www.infocamere.it/documents/92943824/123158605/2022_reg_prov.xlsx/1b328a63-ca59-7a8f-46f5-c7b7cd14852a?t=1674643610677
 (last access: February 2023)

As far as Arezzo is concerned, manufacturing companies in the sectors in which the province specialises in achieve productivity levels comparable with those at regional level as illustrated in Table 1.4 (or even higher, in the case of the production textile, leather, metals and metal products and in the case of furniture, jewellery and other manufacturing), but generally lower than the national average (with the exception of textile and leather still higher than the national figure). On the contrary, for manufacturing companies in the Grosseto province, productivity is lower than that recorded at regional and national levels for all sectors.

Table 1.4. Productivity in manufacturing sectors

GVA per worker, 2019, €000s

Sectors	Arezzo	Grosseto	Tuscany	Italy
Food processing	49.7	37.9	51.4	59.3
Textile, apparel, tannery, leather products	61.9	36.6	46.4	47.5
Wood, paper, printing	43.9	24.3	59	53.7
Refinery, chemistry, Pharmaceutical	109.8	123.2	137.2	129.2
Rubber, plastics and non-metallic minerals	52.1	45.6	61.1	67.9
Metallurgy, metals and metal products	54.0	39.4	51.4	59.2
Machinery, electrical and electronic equipment	81.9	50.1	83.5	76.2
Means of transport	60.7	42.6	71.2	75.6
Jewelry, furniture and other manufacturing	45.9	35.6	44.4	48.8
Total	58.4	44.5	58.6	64.9

Source: IRPET elaboration on ISTAT ASIA Dataset. Year 2019.

When looking at the technological composition of the manufacturing sector, however, it is Grosseto that is further advanced with around a third of companies considered of high or medium high intensity. Oppositely, this is only around a fifth in Arezzo and more like the regional average Table 1.5.

Table 1.5. Technological intensity of companies

Number of employees and Percentages, 2019

Technology Intensity	Arezzo		Grosseto		Total Tuscany	
	Units	%	Units	%	Units	%
Low	22.189	57,7	2.724	48,5	174.028	57,4
Low-Medium	8.147	21,2	1.090	19,4	52.412	17,3
Medium-High	5.595	14,6	1.700	30,3	59.689	19,7
High technology intensity	2.503	6,5	97	1,7	17.145	5,7
Total	38.434	100	5.611	100	303.274	100

Source: IRPET elaboration on ISTAT ASIA Dataset. Year 2019.

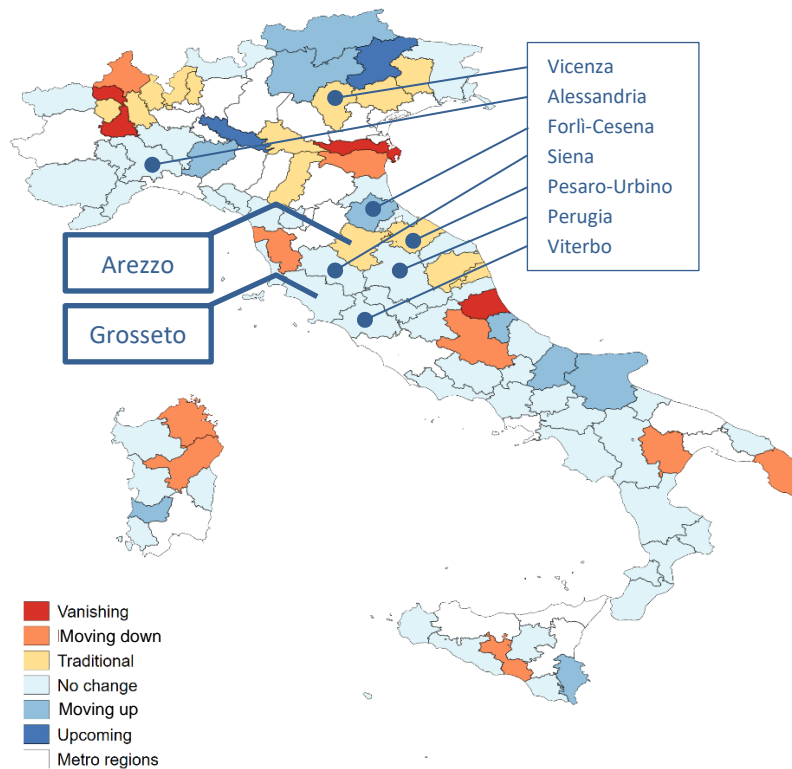
Comparing manufacturing conducted in Arezzo and Grosseto with other Italian provinces

Rural Provinces

To conduct a comparative analysis between the two provinces of Arezzo and Grosseto and some other Italian provinces, the below criteria was used for selecting the latter:

- **Alessandria** and **Vicenza**, these are the two provinces (from Piedmont and Veneto region respectively) that share with Arezzo the Italian leadership in jewellery manufacturing and related value chain. Both these provinces are rural, according to the taxonomy adopted by the OECD, Alessandria falls under the category no change whereas Vicenza, like Arezzo, is a traditional one -according to the typology adopted by the OECD (see Box 1.2);
- **Siena** is a third province of Tuscany region in between Arezzo and Grosseto, with various factors of integration: important primary sector and industrial clusters that are developed across the three provinces (e.g. textile and leather);
- **Forlì-Cesena**, **Perugia**, **Pesaro-Urbino** and **Viterbo** are neighbouring rural provinces belonging to the surrounding regions (Emilia Romagna, Marche, Umbria and Lazio), with variable patterns of rural development and displaying some integration or intersection with the two provinces of Arezzo and Grosseto.

Figure 1.6. Italian Provinces location map



The selected provinces, analysed considering their regional industrial transition probability (see Box 1.2), feature a variable pattern, as described in the Table 1.6.

Table 1.6. Industrial transition. Size and Typology of the Rural Provinces

Province	Population 2021	Typology	Quintile 2000	Quintile 2019	Industrial Transition Trend
Arezzo (Tuscany)	337 766	NMR-M	5	5	Traditional Hub
Grosseto (Tuscany)	218 350	NMR-S	1	1	No change
Alessandria (Piedmont)	409 392	NMR-S	4	4	No change
Forli-Cesena (Emilia-Romagna)	392 642	NMR-M	3	4	Moving up
Perugia (Umbria)	645 506	NMR-M	3	3	No change
Pesaro-Urbino (Marche)	353 272	NMR-M	5	5	Traditional Hub
Siena (Tuscany)	263 801	NMR-S	3	3	No change
Vicenza (Veneto)	854 962	NMR-M	5	5	Traditional Hub
Viterbo (Lazio)	308 830	NMR-S	2	2	No change

Note: see Box 1.1. for details on the OECD rural typology. NMR-M is a non-metropolitan TL3 region near to a metropolitan TL3 region, NMR-S a non-metropolitan region near to a small centre.

Source: Authors' elaboration on OECD data (2000 – 2019). Population 2021.

The structure of the manufacturing of the analysed provinces is rather variable, displaying a wide range of performances: Arezzo, Pesaro-Urbino and Vicenza are traditional hubs, whereas the others are covering the full range of possibilities in terms of performance. A common feature is that these rural regions have access either to a small-medium city or to a metropolitan TL3 region, none of them being remote rural regions. This corresponds to the overall fabric of Italy, where rural areas are always connected to an urban

centre. The overall picture is quite different, if considered from the industrial transition probability; it shows only one single case of evolving transition, the case of Forlì-Cesena, which is increasing its employment in manufacturing share of total regional employment by more than other regions in the country. All the rest in 2019 are keeping the position they had in 2000. In general terms they feature a quite limited tendency to evolve. On the contrary, their manufacturing performances are pretty stable over time.

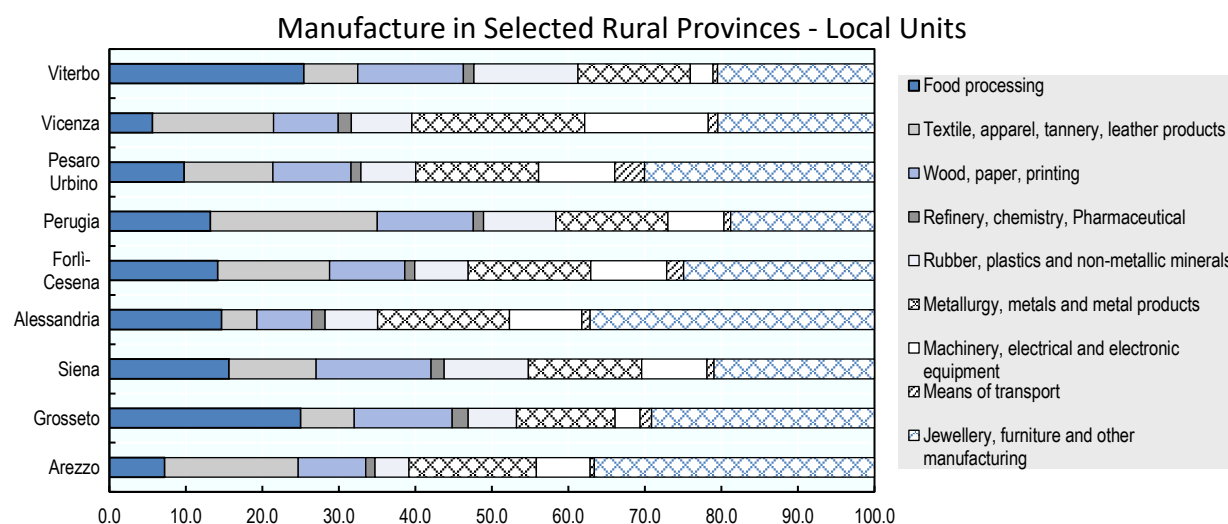
This is reflected in the business structure and its productivity. Some observations on the manufacturing structure: while most rural provinces (i.e. Grosseto and Viterbo) show a prominent food processing sector, depending by a local economy where agriculture and primary sector in general play an important role. A peculiar case of this is Forlì-Cesena where the sector is aligned to the other provinces in terms of number of businesses (14%) but higher in terms of employment (20%), as the sector in this province is more concentrated and quite well developed.

In addition to Grosseto and Viterbo, in all other provinces, textile, apparel and leather goods contribute a high share (except Alessandria): this corresponds to a quite consolidated, manufacturing sector specialised in the fashion industry across these provinces. Arezzo, Perugia and Vicenza in particular are outstanding. Likewise, metallurgy, metal working, mechanics and machinery are well developed in most of the provinces, showcasing the widespread solid tradition in these sectors across these Italian provinces, where industrial districts flourished, though with different specific specialisations inside the provinces: electronics in Vicenza, wood-processing machines in Pesaro-Urbino, metalworking and machinery in Forlì-Cesena, and metalworking in Alessandria.

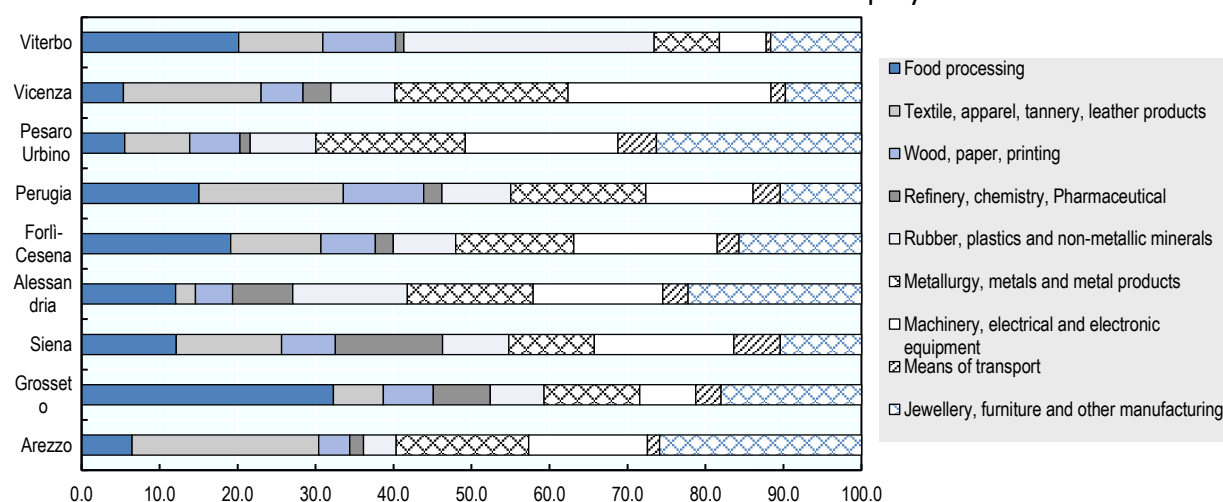
A fourth remarkable feature across the selected provinces regards furniture, jewellery and other manufacturing. In his case the three provinces of Alessandria, Arezzo and Vicenza are the three centres of Italian jewellery, whereas furniture manufacturing takes a good share more evenly spread across most of the regions, albeit outstanding in this sector are Pesaro-Urbino at first and again Vicenza.

Figure 1.7. Manufacture in selected rural provinces from Italy (Firms and employment)

Productive Local Units and Employees, %, 2019



Manufacture in Selected Rural Provinces - Employees



Note: the figures refer to the manufacturing sectors' percentages on total manufacture in the selected provinces

Source: Authors' elaboration on IRPET data from ISTAT ASIA Dataset. Year 2019.

Table 1.7. Manufacturing GVA of the selected Provinces

GVA, €millions, 2019.

Sector	Arezzo	Grosseto	Siena	Alessandria	Forli-Cesena	Perugia	Pesaro Urbino	Vicenza	Viterbo
Food processing	123.6	68.7	104.2	310.3	338.2	407.6	75.7	523.2	70.7
Textile, apparel, tannery, leather products	569.5	13.2	93.3	25.2	206.9	448.8	130.5	1 699.8	36.0
Wood, paper, printing	66.8	8.8	46.7	92.9	134.4	226.9	109.8	458.6	27.5
Refinery, chemistry, Pharmaceutical	75.0	50.4	305.5	496.5	75.1	98.5	32.1	587.0	9.7
Rubber, plastics and non-metallic minerals	83.8	17.7	71.4	383.0	201.0	275.9	196.4	741.3	175.8
Metallurgy, metals and metal products	352.3	27.1	110.4	232.0	342.4	451.8	457.8	2 082.9	20.3
Machinery, electrical and electronic equipment	479.2	20.2	176.2	411.1	495.5	392.1	493.2	2 819.6	33.1
Means of transport	36.8	7.8	90.1	70.7	80.5	102.9	116.4	156.8	4.9
Jewellery, furniture and other manufacturing	456.7	35.9	73.9	399.9	397.6	201.6	456.9	699.5	39.4
TOTAL	2 243.7	249.8	1 071.7	2 421.6	2 271.6	2 606.1	2 068.8	9 768.7	417.4

Source: IRPET elaboration on ISTAT ASIA Dataset. Year 2019.

Analysing the productivity in these provinces we have considered the GVA generated by the sectors. The Table 1.7 and the Figure 1.8 display their specialisation, in general the province of Vicenza shows a very strong overall performance in manufacturing, in fact it is one of the strongest provinces in Italy. Indeed, the province is the largest of the sample in terms of population, but the manufacturing doubles the others also in weighted values.

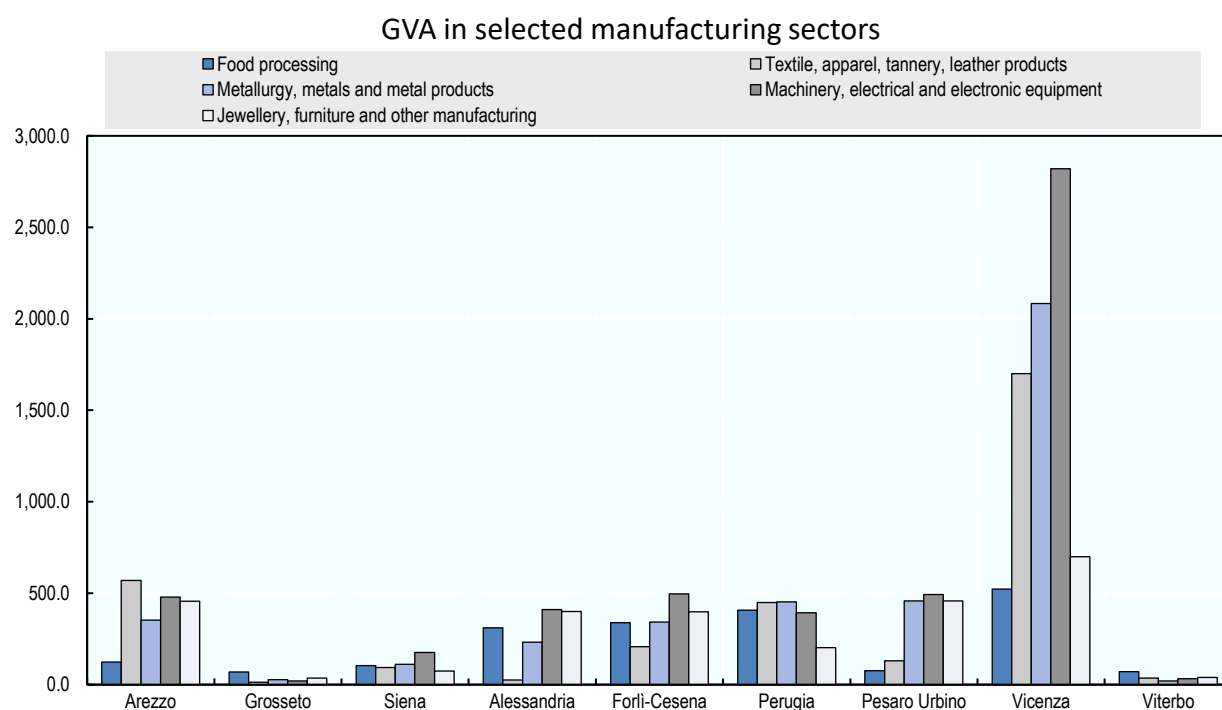
All the other provinces have similar profiles, with a GVA corresponding to their specific specialisation, generally reflected also in the productivity performances.

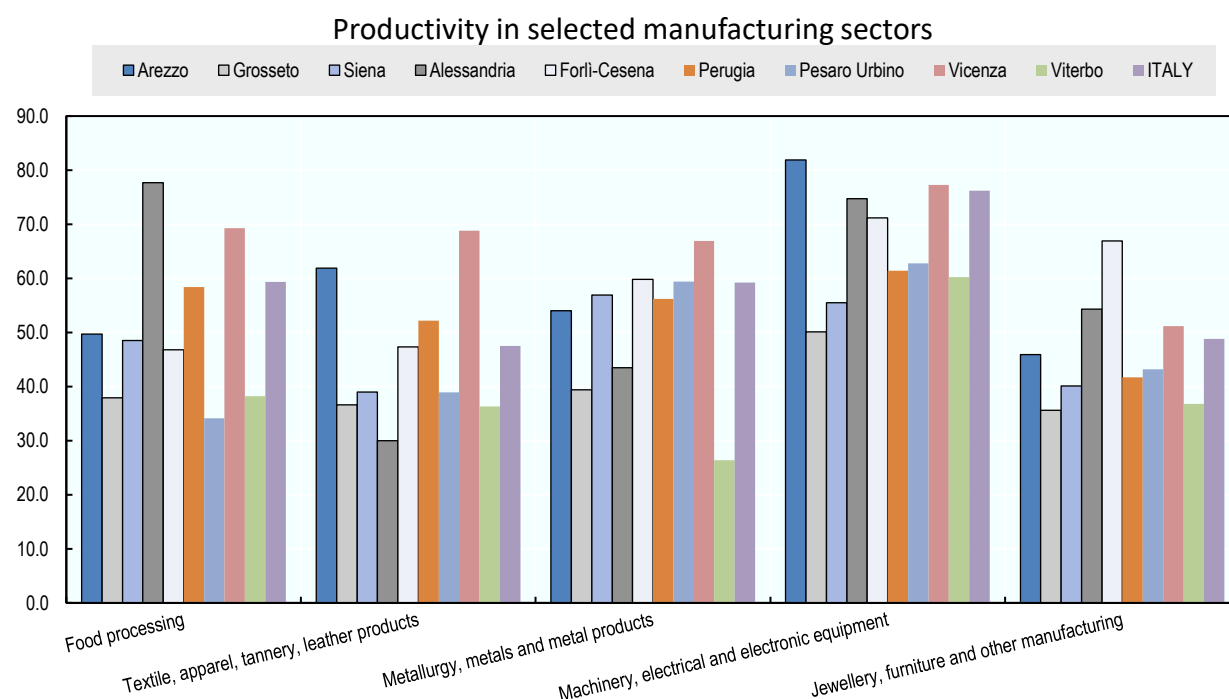
Arezzo is usually ranging in the middle in terms of both GVA and productivity, sometimes below the Italian average, with some exceptions worth to note: textile, apparel and leather, that is the first sector in terms of value inside the province manufacture and the second considering the productivity with the other provinces, just overlooked by Vicenza; machinery, electrical and electronic, which is the second sector of manufacturing inside the province and by far the leading one in terms of productivity, compared to the other provinces.

By contrast, the two provinces with a more primary sector related economy, Grosseto and Viterbo, are predicably lagging in terms of manufacture. The weak productive structure is reflected both in terms of GVA and productivity.

Figure 1.8. GVA and productivity in selected rural provinces from Italy

GVA, € millions, 2019. GVA per worker, €000s, 2019.





Source: Authors' elaborations on IRPET data from ISTAT ASIA Dataset. Year 2019.

Urban Provinces

A further comparison, to analyse the two provinces of Arezzo and Grosseto and shed light to their manufacturing structure and performance as rural regions, is offered by comparing them with the structure and dynamics of metropolitan areas. To make it, two reference cases have been selected: Florence and its metropolitan area, that is the main town of Tuscany and the leading regional hub for Arezzo at first, which manufacturing is highly integrated with Florence and for Grosseto also, although the latter is more loosely interacting with Florence manufacturing. Hence, Florence, being the administrative and business reference centre of Tuscany, all the provinces have substantial linkages with the regional capital, also in development and industrial policy making.

Table 1.8. Industrial transition. Arezzo and Grosseto vis-a-vis selected urban areas

Province	Population 2021	Typology	Quintile 2000	Quintile 2019	Industrial Transition Trend
Arezzo (Tuscany)	337 766	NMR-M	5	5	Traditional Hub
Grosseto (Tuscany)	218 350	NMR-S	1	1	No change
Reggio Emilia	527 140	MR-M	5	5	Traditional Hub
Firenze	998 431	MR-M	4	4	No change

Note: see Box 1.1. and 1.2 for details on the OECD rural and manufacturing typologies.

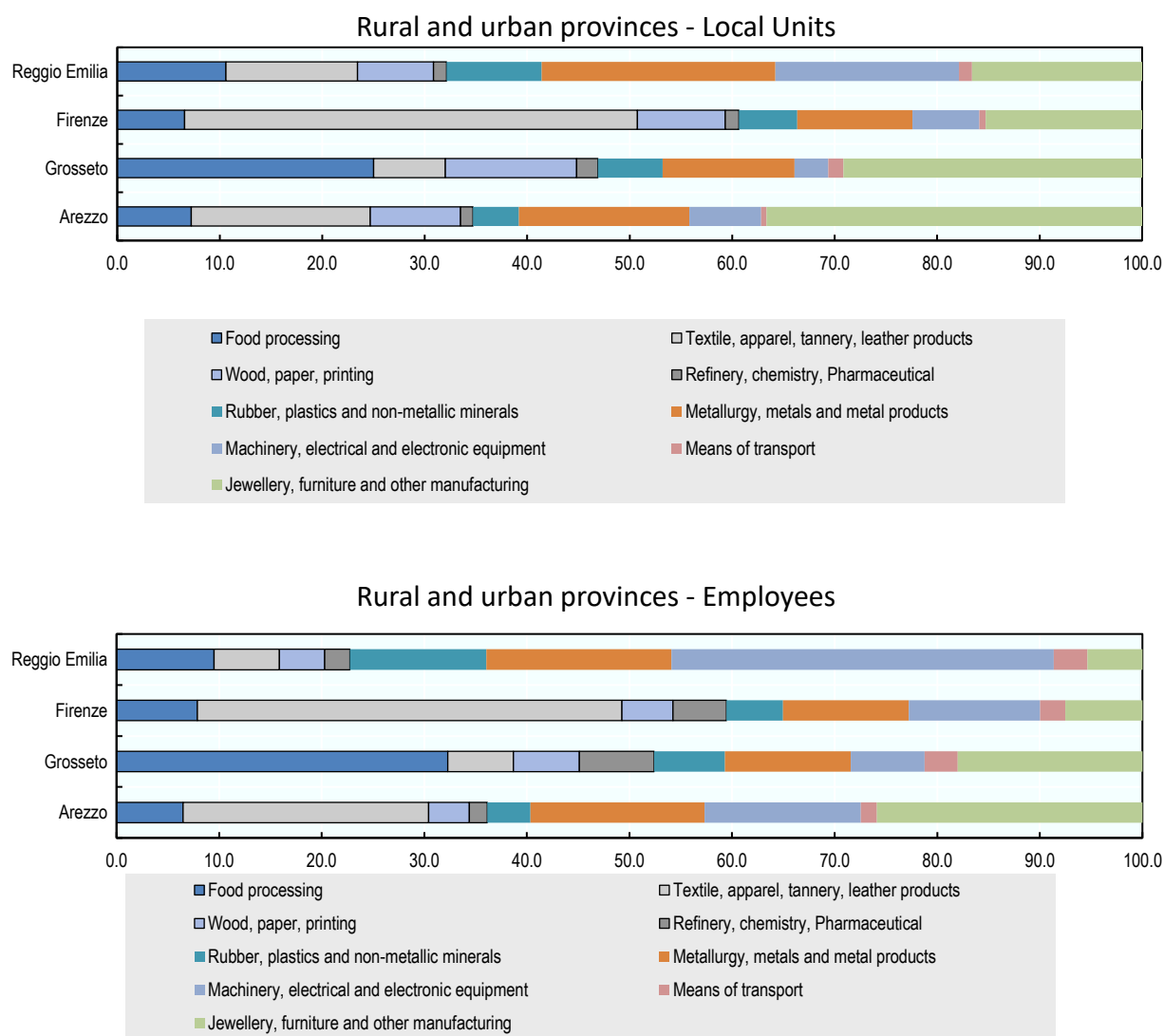
Source: Authors' elaboration on OECD data (2000 – 2019). Population 2021.

The second selected case is Reggio Emilia province, in Emilia Romagna. It is a metropolitan area, but not a regional capital one, which allows for better comparison with Arezzo and Grosseto. Reggio Emilia is a territorial system where urban dynamics are closely intertwined with rural ones, with a variable landscape

where the primary sector and agroindustry still have a prominent role. The region is part of the province that is hilly and mountainous, with manufacturing the main matrix of the local economy.

Figure 1.9. Manufacturing subsectors in selected urban provinces from Italy (Firms and employment)

Productive Local Units and Employees, %, 2019.

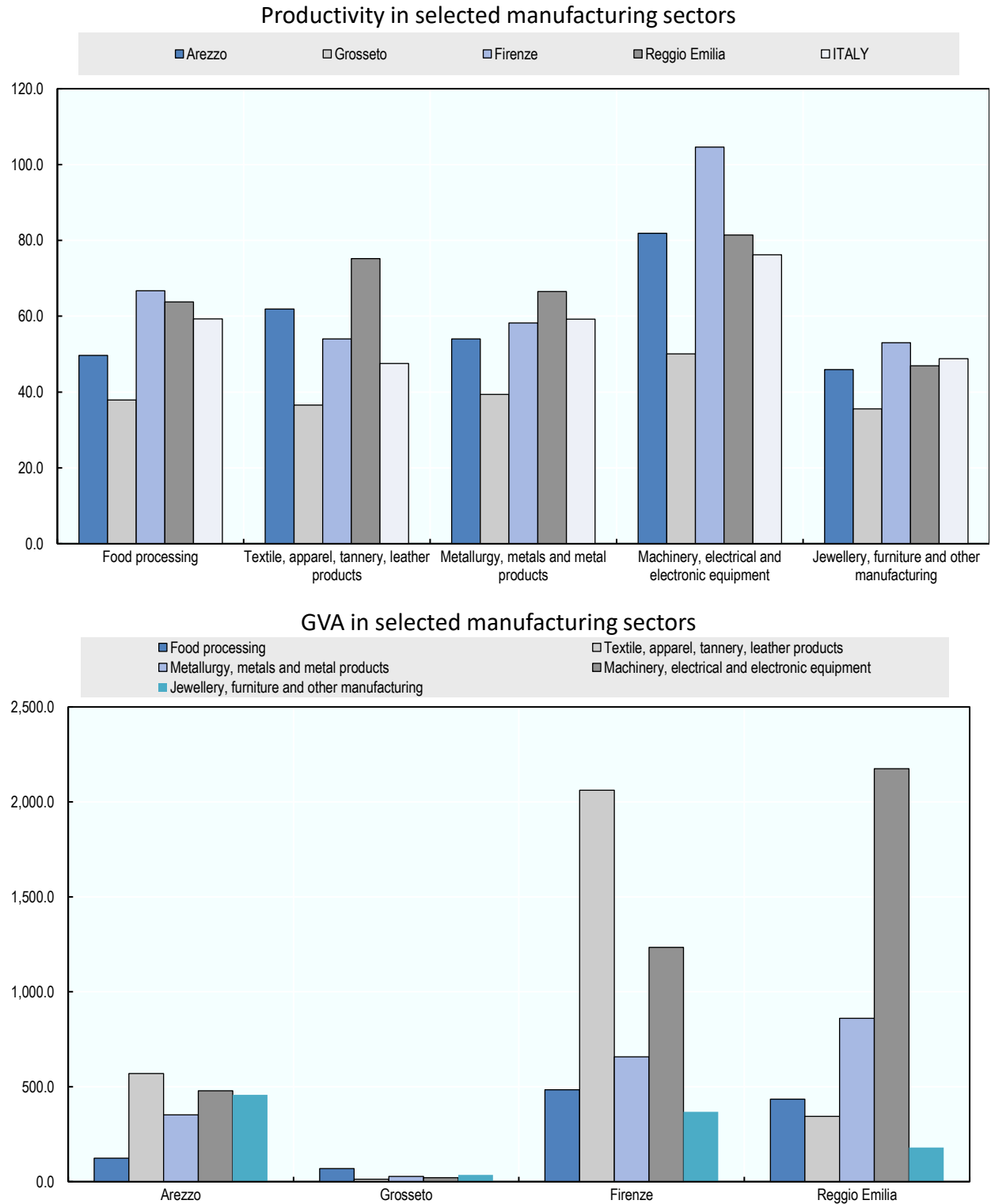


Note: the figures refer to the manufacturing sectors' percentages on total manufacture in the selected provinces
 Source: Authors' elaboration on IRPET data from ISTAT ASIA Dataset. Year 2019.

The structure of manufacturing in the sample areas adequately displays the specialisation of the sectors, both in terms of productive units and employment: Florence leading in fashion related sectors, and Region Emilia in mechanics and machinery.

Figure 1.10. Productivity and GVA in selected urban provinces from Italy

GVA, €millions, 2019. GVA per worker, €000s, 2019.



Source: Authors' elaborations on IRPET data from ISTAT ASIA Dataset. Year 2019.

Predictably, the sectors' specialisation matches with the GVA (Figure 1.10). Conversely, weighting this value with the population, the overall performance of Florence (6 106 EUR thousands GVA per capita) is much closer, even lower, to the one of Arezzo (6 643) than Reggio Emilia (10 160). Productivity of manufacturing in the two urban provinces is almost always higher or at least equal to the one in the target rural areas, as well as higher than the Italian average.

To conclude we consider the structure of Arezzo and Grosseto industry, according to the OECD typology of manufacturing (Table 1.9). The companies of the district of Arezzo are positioned inside the **differentiated** pattern of development, ranging in between **heritage**, in most of the cases, and **innovative**, in some leading firms (see the cases of the companies specialised in the recovery, refining and production of precious metals and precious metal-based chemicals) though not that high-tech intensive overall. On the other hand, in Grosseto, where not much manufacturing is located and the main sector is agrifood industry, anchored to the tradition of producing quality wine and olive oil. In this case the profile is that of **commoditised** manufacture **anchored by natural resources** serving the vivid local tourism sector.

Table 1.9. OECD typology of manufacturing product types

Arezzo: heritage / innovative, Grosseto: commoditised

Manufacturer Type	Differentiated			Commoditised	
	Artisanal	Heritage	Innovative	Anchored by natural resources	Anchorless
Characterised by	Highly skilled, small-scale production leveraging a historic process with longstanding ties to the region	Products with a longstanding traditional link to a region, but not a particular production process	High-technology products at the cutting edge of both production technology and product features	Products created from locally sourced natural resources	Lacking differentiating features, competing on price
Examples	Cottage industries, handmade, premium bespoke products	Swiss watches, Scottish Whisky, Italian fabrics	ICT, pharmaceuticals and medical devices	Agri-food, forestry and mining processors	Small household appliances
Tradability	High	High	High	Variable	High
Scalability	Low	Medium	High	Low	High

Source: Authors' elaboration.

2 Visions and Strategies

In Italy, the visions and strategies for industrial development are generated, developed and managed in coherence with EU overall development policies, where in recent years the European Green Deal, in response to the global megatrends, and Next Generation EU (the European post-pandemic economic recovery programme for the member states, with the implementation time span from 2021 to 2026) set the framework. As a matter of fact, a great deal of the policies in place in Italy and in its regions correspond to the attentive adaptation of the EU ones to the specific national, regional and local features and challenges.

Generally, in Italy economic policy and supporting manufacturing is a shared responsibility between the national government and the regions (TL2). Considering areas of responsibilities between these levels, the ministries oversee the national sectoral policies. Within this, the main ministries with competence for manufacturing are:

- Presidency of the Council of Ministers, directly in charge of European Affairs, South, Cohesion Policies and NRRP (National Recovery and Resilience Plan)
- Ministry of Enterprise and Made in Italy
- Ministry of University and Research
- Ministry of Environment and Energy Security
- Ministry of Infrastructure and Transport
- Ministry of Labour and Social Policies
- Ministry of Agriculture that manages the *Contratti di Filiera* (Production Chain Contracts), which is a tool for the agrifood sector, financed by national funds and by the Recovery Plan

At the next level of governance, the Tuscany Region, according to the Italian constitutional law and similarly to all the other Italian regions, has shared responsibility on all these policies, regarding law making as well as policy design and implementation at the regional level.

The provinces (TL3) nowadays are secondary in terms of economic development policies, Direct interventions supporting business development and manufacturing play a larger role. Mostly their direct role relates to spatial planning. See the table for some details about the levels of territorial government and their respective roles in Italy.

Table 2.1. Industrial policy. Main levels across the territorial government structure in Italy

Government level	Main functions and responsibilities
National Government	General and sectoral policy design and implementation. Negotiation with EU institutions (e.g. signature of the Partnership agreement). National programmes design, funding and implementation.
Regional Government (TL2)	Industrial policy at regional level. The regions are granted legislative autonomy and primary legislation power. Three levels of competence vis-à-vis the state: i.e. exclusive (the regions are equal to the state in their power to legislate); ii. shared competence (the regions legislate with laws respectful of the

	fundamental principles of the state); iii. implementing state laws.
Province level and metropolitan cities (TL3)	Intermediate level between the regions and the municipalities. Provinces have specific role in spatial planning. A specific case at this level are the metropolitan cities. The 15 metropolitan cities, are at the same level of the provinces, but with much higher delegated powers.
Municipality	In charge of the spatial planning main instrument, the General Regulatory Plan (GRP), that in Italy regulates the whole municipal territory, urbanised and rural. Through the GRP the municipality is in charge of the authorisation to land use and building.

Source: Authors' elaboration.

In such a multilevel and shared policy setting, in Italy some overarching strategies are in place at the national level addressing industrial development. Worth to noting is the National Industry 4.0 Plan, then the Transition 4.0 Plan, or the measures to revitalise industrial complex crisis areas.

Conversely, the scientific and technological research and the support for innovation in the manufacturing sectors are a matter shared between the state and the regions, therefore the absence of a single document is attributable to a choice of multi-level governance. Moreover, within the framework of the European Structural and Investment Funds (ESI) Programming, the Partnership Agreement contains elements that can be traced back to industrial policy guidelines, then enacted by the Regional Programmes.

As a result, in general, in Italy there is no single document that can be identified as a nation-wide **industrial strategy**. Some elements of policy actions for industrial development appear considered into the **National Recovery and Resilience Plan (NRRP)**, funded by the Next Generation EU, often in terms of prioritization of its investments. It is worth noting that industrial development was not the task of the NRRP, which covers all domains of economy and society, and was expected to be quick and operational. The NRRP in fact is conceived, in line with the 6 pillars of European Next Generation EU, as a comprehensive and integrated development plan for supporting Italy to promptly recover from the COVID-19 impacts and to undertake a substantial development pathway towards a greener, more digital and more resilient society and economy. The NRRP is structured around 6 Policy areas (The NRRP missions):

- Digitalisation, innovation, competitiveness, culture and tourism
- Green revolution and ecological transition
- Infrastructure for sustainable mobility
- Education and research
- Inclusion and cohesion
- Health

The strategy consists primarily of actions of horizontal structural nature, structured around 6 overarching missions, complemented by some vertical interventions on sectors and technologies recognised of prime importance for the future sustainable, inclusive and resilient development, consistent with EU lines. The EU budget for the NRRP is EUR 191.5 billion. This funding is complemented by additional €30.6 billion from the national Complementary Fund. The NRRP was devised entirely by central level authorities, without participation of the regions. Correspondingly, this Programme does not have a prominent regional component, though some of its components address regional and local investments (e.g. urban regeneration, services in inner areas).

The provisions of the NRRP are complemented by the **EU Cohesion Policy**. This is the primary **regional and local development** policy whose implementation in Italy is based on the regions (TL2) as the main policy maker and is part of region-based development and competitive policy making. The policy in Italy manifests through a set of national and regional programmes funded primarily by the European Regional Development Fund (ERDF) and the European Social Fund Plus (ESF+) in all regions, currently the

multiannual programmes for 2021-2027 are being implemented. These are two of the European Structural and Investment (ESI) funds, that support the Cohesion Policy, for Italy worth about 75 billion euro, including the national co-funding. Cohesion and NRRP should be coordinated, by the national government and the regional ones, so to ensure a consistent action all together. This is certainly the aim of Italian authorities, albeit the degree of actual synergy or complementarity is not clearly perceivable, at least at the current implementation stage.

According to the policy objectives and the rules of the EU Cohesion, the regional programmes address specifically R&D and innovation for businesses development and industrial transition, with the purpose of seizing the territorial competitiveness challenges, fighting off the disparities and acting on fragile marginal territories, including rural areas and supporting manufacturing development therein. The R&D and innovation measures must be aligned to the **Smart Specialisation Strategy (S3)** designed in each region (NUT2 or TL2 level) to ensure a clear and consistent vision how to tackle the key challenges so to maximise the impact of the interventions, leveraging the local assets. Accordingly, Tuscany Region elaborated and adopted its own S3 for 2021-2027. The main elements of its intervention logic are outlined in the Figure 2.1.

Figure 2.1. The Logical Framework of the Tuscany S3 for 2021-27



Source: Strategia di Specializzazione Intelligente della Toscana, 2021-2027.

Likewise, most often the initiatives, under the cohesion policy, dealing with territorial disparities and fragile areas are designed to be framed by territorial or local development strategies, relevant also for rural manufacturing. In Italy a specific case of this approach is the **Italian National Strategy for Inner Areas (SNAI)**, which is a policy based on multilevel governance (local government such as associations of municipalities, Regional government, National government) for development and territorial cohesion to counteract marginalisation and demographic decline within “Inner Areas” throughout the Country.⁵ The SNAI adopts a multi-scalar approach bringing multiple actors to work together for the **design and management of a local strategy and facilitating capacity building over time**.

The Italian **national rural development strategy** is another action embedded in the EU policy. The strategy is an integral part of the Common Agricultural Policy (CAP) for 2023-27 that regards all rural areas. In this case, the new CAP sets the regulatory framework and at the same time the funding envelope for the CAP Strategic Plan for Italy [EUR 21 billion from European Agricultural Guarantee Fund (EAGF) under Pillar 1 and 16 billion European Agricultural Fund for Rural Development (EAFRD) for Pillar 2, total figures including national financing]. In Italy, at regional level the implementation of the CAP national Strategic Plan is ensured by the Regional Complement for Rural Development. In fact, rural development is the

⁵ See <https://www.agenziacoesione.gov.it/strategia-nazionale-aree-interne/?lang=en>

'second pillar' of the CAP and may include also support to rural manufacturing, as part of the policy measures. The Regional Complement may also support SNAI territorial strategies.

In Italy the interplay between the national and sub-national governments, constitutes the essential common background for all the aforementioned policies. In most cases the first counterpart of the national government is the immediate administrative layer underneath, i.e. the regions (i.e. the TL2), where the national policies and strategies are negotiated, designed and implemented.

The lower level, either the provinces (TL3) or the municipalities, are also engaged in the policy making or called to act in the management of programmes. In principle, this multi-scalar approach is crucial to respond to the high variety of local contexts where the policy action deploys. Therefore, the overall regulatory principles are formulated by the European institutions, and the national government correspondingly negotiates, outlays, and steers the general national strategies.

Hence, the operative execution of the industrial, regional and rural policies is taken by the subnational level who also engage the relevant stakeholders (business community as well as civil society representatives) at all stages in the design crafted respecting the specific challenges, needs and priorities of each territory. Tuscany Region offers a good example of this stakeholder engagement. Since the year 1999, a concertation standing table has been the main site for the permanent dialogue between the Region, the local authorities and the economic and social partners. The table enables the stakeholders' participation in the definition of the most important economic and social policy choices and the implementation of regional intervention policies, with broad involvement between the various social and territorial actors.

This is particularly so in the case of rural development and manufacturing. A good example is given by the LEADER public-private partnership approach for local development in the rural areas of Arezzo and Grosseto, since they are being active since the '90s and passing through all five multiannual programming periods (see Box 3.3 for the implementation of LEADER in Arezzo and Grosseto). More in general facilities and tools are made available in most of the programmes in order to facilitate the stakeholder engagement and implementing a place-based approach with a substantial bottom-up push. Examples of these are the Integrated Territorial Investments, the already recalled LEADER approach under EAFRD and the Community-Led Local Development (CLLD) under ERDF and ESF+; all these facilities are normed in the EU regulations. An additional case is also the mentioned National Strategy of Inner Areas, conceived at the national level in Italy and incorporated into the cohesion policy framework (see Box 3.2).

As a result of the combination of the policies and strategies outlined in this section, a variety of instruments are made available for the businesses at local level, including the two provinces of Arezzo and Grosseto, for financing their investments and development. Most of these facilities are accessible for all businesses and regions. They are complemented by initiatives that are developed targeting specific areas with specific challenges and needs making a conscious effort to differentiate between different types of rural areas (e.g. support for digital innovation in mountain, island and inner areas).

Eventually, this inclusive policy scheme requires, as mandatory enabling condition to strive, a proper capability and institutional thickness at all levels, and this not necessarily is met in every context. The multilevel governance, which is the supporting principle for handling these place-based strategies, must be supported by a proper capacity. This should result from a sound play of human capital, as well as organisational, technical and financial resources that are coordinated from the local small municipality across all higher public administration's layers, up to the national level. Tuscany is usually known for being well performing as shown by their structure for regional concerted programming.. The main policy maker is the Region and its role and reputation is recognised by the lower levels of government (i.e. provinces and municipalities); the multi-level governance is maintained and coordinated across these levels through well-gearred concerted mechanisms (see next section 3 for more details on the governance).

3 Enablers and bottlenecks

Skills

The **human capital and the local labour market** are a prime determinant for the prospects of the manufacturing in the two provinces. In the Arezzo province the long-standing tradition and leadership in manufacturing and related sectors are based on a solid know-how and high level of specialisation in the local labour market.

However, the human capital available locally is being put into the test. The ageing population, the need to foster R&D and incorporate more knowledge and innovation into the production, the transition to a more circular pattern in the economy, and the search for new skills suited for the local emerging sectors, such as ICT are driving this challenge. In the case of Grosseto, investing in the human capital is crucial to support the region's transition from traditional local rural prevailing activities, mainly related to agriculture and tourism. A skilled labour market can strengthen and diversify the region, opening it up to new niches and sectors with potential. In such a context, the resulting **need of qualified skilled workers and fighting against its shortage demand-offer mismatch** is a main issue signalled in *both* provinces, despite being particularly vocalised in Arezzo.

In sectors of more recent development, such as the growing ICT and new techs niche in Arezzo, some of the deciding factors for settling the businesses in the rural environment are connected to the higher capacity for the companies to retain the qualified workers, compared to bigger centres where the companies are struggling and competing for keeping them in. The local quality of life is an additional asset making the local labour market potentially attractive, raising the interest of an increasing number of people to move to small villages and rural areas (The case of Santa Fiora "Smart Village" in Grosseto province may be a good example of this potential, see Box 3.1 below).

Box 3.1. Santa Fiora – Smart Working Village

The idea

To revert the rural area depopulation trend, by attracting “smart workers” and, in a longer perspective, generating “smart businesses”.

Santa Fiora is a small village in the rural part of Grosseto province, less than 2 500 inhabitants, a historical well preserved small urban centre benefitting of a bucolic environment, excellent quality of life, 100% renewable certification thanks to geothermal energy and – last but not least – the arrival of ultra-wideband brought by fibre optics, the local municipality decided to develop its own concept of “smart village”.

The idea was conceived in 2019, when the local administration was thinking about a future based on displaceable work and services to be offered to people, but also to interested companies and start-ups. The pandemic breakthrough and the measures taken for easing and encouraging remote working have prompted the municipal administration to speed up and launch the smart working village.

The action

In 2020, the municipal launched a call offering a subsidy for housing addressing people who were interested to rent a house in the municipality for at least two months. In fact, the incentive was covering up to 50% of the rental monthly fee not exceeding 200 euro and lasting up to six months, extendable. The call was open to public and private employees and freelancers. The idea supporting the initiative was to encourage newcomers, in the hope is that after a trial period, for some people, Santa Fiora would become a permanent choice.

Additional attractions included services for families, at very competitive costs: from nursery school to kindergarten, from school camps to summer centres, up to the youth centre for older children, in Santa Fiora there are facilities for children from morning to late afternoon all year round.

The result were thousands of applications of people, also from abroad, interested in moving to Santa Fiora for smart working. This result largely exceeded expectations and raised the attention also from the international press.

Scaling up the concept

“A glimpse has been opened into the reality of inner areas like Santa Fiora that have kept their values and community spirit intact. This has enabled an economic and social redemption of small towns thanks to digital infrastructures that allow people to work and connect with ultra broadband and to live with a better quality of life than in large cities that have living times incompatible with this quality and people’s needs” Mr Federico Balocchi, the mayor of Santa Fiora, claimed.

Thanks to the very positive results of the first call and the acquired visibility, in 2021 the municipality and the Region of Tuscany signed a memorandum of understanding to build a site, refurbishing an existing premise, to host start-ups and innovative enterprises, as well as coworking and smart working spaces. Moreover, in 2022 the Municipality applied to a call issued by the Italian Ministry of Culture and the project *Santa Fiora Smart Village* was selected and funded with EUR 1.6 million. The latter project’s interventions include the completion of the above structures and actions to attract technology companies in Santa Fiora.

Further development prospects are offered over the coming years including Santa Fiora municipality in the inner area “Amiata Valdorcia – Amiata Grossetana -Colline del Fiora” and by their eligibility for

having their development strategy supported by the European Regional Development Fund's Regional Programme (ERDF RP).

Moreover, the regional rural development for 2023-27 (see the Rural Development Complement for the Region of Tuscany 2023-2027⁶) has made provisions for the development of smart villages, disclosing further opportunities for consolidating the experience of Santa Fiora.

Sources: <https://www.vivinpaese.it/>

<https://www.intoscana.it/it/articolo/santa-fiora-smart-working/>

<https://greenreport.it/news/economia-ecologica/dal-ministero-della-cultura-in-arrivo-piu-di-16-mln-di-euro-per-santa-fiora-smart-village/>

<https://edition.cnn.com/travel/article/italy-towns-pay-remote-working-cmd/index.html>.

According to the local actors of both provinces, the response to the needs of the local labour market including skills attraction, development, and qualification lays in the **capacity to improve the interconnectivity between the educational institutions and the businesses**, since it enables making the new generated workforce better suited to the actual **and future** needs of local companies.

The local institutions, in quest of meeting the local needs and expectation of local businesses, have been active in a number of measures, often resulting from synergies and partnerships at multiple levels. A recent case of coordinated action is the regional "**New Jobs Pact**" that Tuscany launched in 2022. A package of 53.8 million Euro has 9 active labour market policy measures aimed at helping people enter or re-enter the labour market, as well as meeting new employment requirements. The regional Jobs Pact is enacted at a territorial level through Local Pacts for Skill Development and Enhancement, signed between the Region and the Provinces. The local pacts define the allocation of funds for each of the Tuscany ten provinces, according to criteria related to employment, workplaces lost, and businesses at risk of bankruptcy; on the basis of this, Arezzo and Grosseto are equally granted 8% of the Pact's total regional budget. The regional Pact integrates with actions and fundings included in the National Plan for Recovery and Resilience as well as in the "Young Women and Work" National Programme and the ESF+ Regional Programme of Tuscany 2021/2027.⁷ The latter is the reference programme for employment, capacity building and social inclusion regional actions. Jointly funded by the EU, the State and the Region, with a total allocation of 1.08 billion Euro for 2021-2027 multiannual budget, the Programme is organised in 4 priorities: employment, youth employment, education and training, inclusion.

In both the provinces **vocation training and life-long training is complemented by the higher education institutes**, both at university level and higher technical institutes. This is organised around the Arezzo University Hub and Grosseto University Hub, institutions with a wide local public and private constituency, with the role of funnelling and tailoring the academic and high technical education offer so to match the specific needs of the local reality and businesses, including manufacturing.⁸ The two hubs are not autonomous universities, but the academic offer is based on collaborations formalised with other Italian universities, in both cases primarily the University of Siena, that in Arezzo established also a campus. Some examples of these courses based in the Arezzo hub are a degree course in Computer Engineering with the "Politecnico" from Milan, specifically requested by the companies of sector in Arezzo, or the Executive Master in Development and Internationalisation of Small and Medium-sized Enterprises with the Siena University; in Grosseto the hub is operating as secondary site for various courses of Siena university.

⁶ [Rural Development Complement for the Region of Tuscany 2023-2027](#).

⁷ Source: <https://www.toscana-notizie.it/-/la-toscana-vara-il-nuovo-patto-per-il-lavoro-da-53-8-milioni-di-euro>

⁸ See: <https://www.polouniversitarioaretino.it/> and <https://www.polouniversitariogrosseto.it/>

Resources

The region of Tuscany is part of the Italian energy network and depends substantially on non-renewable imported energy sources, both for electricity and other uses with only partial on development and use of renewable ones. The Arezzo and Grosseto provinces are part of this system. However, both provinces are formulating actions **supporting the transition to a sustainable energy supply and use, based on renewable sources**. During the meetings, both in Arezzo and Grosseto, the representatives of the local manufacturers and institutions expressed their strategic interest and commitment to actively contribute to this green transition.

As part of sustainable energy production in these areas, an outstanding specific example is the use of the **available renewable geothermic resources**, for which Tuscany has been a unique case in Italy for many years. One of the areas of such production is Amiata in Grosseto province (first activities dating back to the late '50s of XX century), the outstanding challenge for further harnessing the potential of this resource being the adoption of new green sustainable technologies.⁹ A second case and an example of good practice, is the **Hydrogen Industrial District** located in the San Zeno industrial area near Arezzo, where one of Europe's first hydrogen-based communities for self-sufficient energy has been established. The district has ensured the supply of hydrogen to the local jewellery sector since 2008 via a pipeline serving the companies in the area and aims to expand further.

Tuscany is well-known in Italy and abroad for its **quality of agrifood products**, with 31 origin products, typical foods with denomination of origin (16 Protected Designation of Origin -PDO- and 15 Protected Geographical Indications-PGI), and wines (counting about 58 designation of origin). In such a regional context the two provinces contribute with their own quite important agriculture and food sectors (in both provinces the agricultural share of regional GVA is higher than the regional and national average, in Grosseto being the highest with 7.1%¹⁰), based on well-established local resources and traditional products, olive oil and wine at first. Among them to mention 5 wines in Arezzo and 9 in Grosseto with designation of origin.¹¹ As well as a source of product, **these resources are part of its cultural heritage, and jointly with its natural environment and suggestive landscapes to be preserved**, are the main assets for the tourism development, sector that makes about 10-12% of the regional GDP (Conti, 2022). Often in public debates is the risk that manufacturing may jeopardise this heritage, hence affecting the tourism attractiveness. Therefore, attention is to be given to this sensitive issue in the regional policies supporting manufacturing development.

A factor closely connected to preserving such heritage is the pattern of **spatial development**, as it has been evolving over time. In the province of Arezz and particularly the parts inside its territory that are more densely urbanised, the widespread urbanisation pattern developed over time resulted in a “sprawled anthropisation”, where the rural landscape is characterised by a mixture of small villages with sparse households intertwined with production plants and diffused manufacturers. This poses a challenge on how to address the issue for a future sustainable spatial development. Elsewhere in the province, outside the industrial districts and in more marginal areas, remote rurality is instead still prevailing often facing issues such as connectivity, depopulation and marginal economy.

Conversely, in Grosseto, a dynamic like the one observed in Arezzo is limited to the coastal area and Grosseto city surroundings. The rest of the provincial territory is prominently rural, with a good environmental quality and small rural settlements, often well-preserved historical rural villages. As consequence the province of Grosseto is affected by infrastructural bottlenecks and weaknesses, affecting

⁹ See <https://www.regione.toscana.it/-/geotermia>

¹⁰ See the summary table in the first section of the document.

¹¹ Source: <https://www.qualivita.it/osservatorio/rapporto-ismea-qualivita/?rapporto=388923> and 2018 Le Produzioni agricole nelle Province di Grosseto e Livorno <https://t.ly/g0qg>

the accessibility and the connection of the urban centres to the main regional and national communication infrastructure directrices.

The businesses in the two provinces have **access to a wide range of instruments for financing their investments and development**. A comprehensive set of provisions are available, funnelling resources from European, national, regional and local funding sources, and widely used for a number of purposes: creating innovative start-ups; young people and women new entrepreneurs; credit guarantee schemes; rehabilitation of industrial areas and support to the industrial transition; digitalisation; business investments in capital assets; tax credits and contribution to lower the interest rate on bank credits for R&D and innovative investments; social investments; employment incentives and workers' up-skilling and re-skilling, incentives and subsidies for digital and green sustainable transition, renewable energy, etc. Worth to say that most of these facilities are accessible for all businesses across the region, not targeting rural ones. The Tuscany region is permanently updating a comprehensive and detailed guide to the incentives available for companies¹².

Business environment and relevant policies in place

The **companies of the fashion districts of Arezzo are part of the global value chains**. They are an integral functional part of these in terms both of inputs and outputs, particularly when considering their specialisation in intermediate goods. Relevant also to observe, when considering their participation in value chains, are the intraregional interlinkages between Tuscany with the districts of the regional fashion system located in other provinces, particularly Florence (IRPET, 2020₁). Precious metals and final goods are more than 60% of total export of the Province¹³.

Representatives of local businesses claimed that because of the recent shocks caused by the pandemic, the interlinkages were and still are, subject to a shortening of value chains, relying more on local intermediate goods suppliers. Such a tendency could increase the resilience of the local production against possible future similar shocks, though this is not yet supported by substantial evidence.

Grosseto has a limited and scattered presence of manufacturing across the province with a partial exception of a cluster of firms in the eastern area of the province, which operates functionally as part of the manufacturing district in the neighbouring area of Siena. Interestingly of these cross-provincial linkages is the innovation experience of the CERTEMA research and innovation centre, just located in Cinigiano, a small municipality in eastern Grosseto province bordering with Siena, which is on the way between the two cities of Grosseto and Siena. CERTEMA is an open-access Multidisciplinary Technological Laboratory, a private initiative's consortium of six local companies, providing a technological service system benefitting of the support by Tuscany region and the Province of Grosseto.¹⁴

The western area of Grosseto province displays more manufacturing and industrial services in the central area surrounding Grosseto centre, and some multinational chemical companies in the North on the coast with one that exporting intermediate chemicals for industrial use and **making about 40% of the total export of the province**. Other firms in the region are less export orientated and instead supply more locally. Lastly, the coastal area is primarily well developed in tourism and related services. A further specialisation in this latter area, indirectly linked to tourism, is the service sector specialised in building,

¹² See "Guida di orientamento agli incentivi per le imprese". Last update 13 December 2022. <https://www.regione.toscana.it/documents/10180/23828473/Guida+incentivi+Dicembre+2022.pdf/2e57e374-592f-b3a9-6555-9e44d28713f3?t=1671205891630>

¹³ Source https://www.confindustria.toscana.it/wp-content/uploads/2018/11/EXPORT-TOSCANA-E-PROVINCE_SITO.pdf

¹⁴ Source <https://www.certema.it/EN/index.html>

maintaining and refitting of boating, part of the nautical and yachting district of Tuscany. That district, which is mostly spread over Livorno, Lucca, Massa Carrara, Pisa, and Grosseto provinces, is internationally well-known as leading manufacturing of luxury yachts, estimating that 30% of mega yachts (from 24 meters' length or more) worldwide are produced in the district¹⁵.

A tool made available by the national governments is the “**supply chain and district contracts**”. They are among the main support instruments for agribusiness in Italy. Stipulated between the actors of the agri-food chain and the Ministry of Agriculture to boost investments in the agri-food sector in order to implement integrated investment programmes. The supply chain contracts, starting from agricultural production, are developed in the different segments of the agri-food chain, across production, processing, marketing and distribution phases of agricultural and agri-food products.

The local business ecosystems of Arezzo and Grosseto count on **well-developed, consolidated and functioning networks of actors and agents supporting the businesses** and exercising stewardships and lobbying services for the associated: local entrepreneurial associations, chambers of commerce, trade unions, foundations and other private and public partnerships. The number of these actors, though in recent years subject to some merges and rationalisation yet raises the issue of effective coordination thus preventing overlapping and disruptive competition.

A further feature is that local **leader companies still maintain important business interactions within the local system**. The local micro or small firms specialise in offering specific goods and services to the local ecosystem. Likewise, they embed and preserve the know-how and traditional craftsmanship culture inherited at the local level. The luxury products, which are goods often ordered by international fashion brands from the same region, require a premium quality in their manufacturing that is ensured by such local traditional knowledge. In other words, there is a strong local business network that is well utilised and preserved to aid weathering the forthcoming storms in the industry.

This network however may also be a source of limited innovation in some parts of the sector. For example, **R&D and innovation** has been signalled as being a relatively low by the local actors in terms of both awareness and investments. The well consolidated manufacturers in Arezzo often result in a prevailing path dependency and reluctance to change. As a result, the high level of creativity in designing and developing new fashionable goods that is embedded locally doesn't always include a corresponding openness to substantial innovation in manufacturing processes. An indicator of this is the prevailing of low to low-medium technology in the businesses. In general, we refer here to the fashion sector in a 'broader' sense (jewellery, textiles, etc.) in particular as a traditional, low-technology-intensive sector. The picture does not cover other manufacturing of the Arezzo economy, such as galvanic industry, precision mechanics, electronics and ICT, which instead combine greater diversification of investment in both product and process innovation.¹⁶

Rare, if not absent entirely during the field work, was any reference to the **Smart Specialisation Strategy** (S3) at the provincial level, which is designed to improve the business environment widely. This was somehow surprising, since all the R&D projects financed by European Regional Development Fund (ERDF) resources in 2014-2020 were all necessarily consistent with the S3¹⁷. This Strategy was updated for 2021-27 has been endorsed by the Tuscany region, after a comprehensive concertation process of the interested stakeholders, part of the elaboration of the new European Regional Development Fund (ERDF) Regional Programme. On the next S3, the orientation Tuscany administration expressed is that S3 should be considered and structured as a transversal strategy addressing the funds and regional programming

¹⁵ Sources : Regione Toscana <https://t.ly/rBdF> and <https://www.navigotoscana.it/il-distretto/>

¹⁶ See Table 1.5

¹⁷ In 2014-2020 the S3 identified as technology priorities: 1) ICT and photonics, 2) chemistry and nanotechnology and 3) smart factory applied to all production sectors.

instruments supporting the competitiveness of the regional system. The Tuscany S3 is built around three strategic challenges: digital, ecological, generational transition. (Regione Toscana, 2022₁)

The new regional **S3**, reinforces a range of policies initiated in the previous programme. This was also pursued by the participation of Tuscany to the European S3 platform on agritech and the development of new profession related to precision agriculture., In The case of Grosseto offers a challenging framework for taking the agrifood sector to the next level approaching it from a more integrated value chain angle. In 2018 agriculture and the food and beverage industry in Tuscany generated an added value of almost EUR 4 billion, about 3.7 per cent of the total. More than half of regional agricultural workers (55%) are employed in the provinces of Grosseto (20%), Siena (20%) and Arezzo (15%), the three southern provinces where most agricultural activities in Tuscany are concentrated, including agritourism. The weight of agriculture in relation to the total employment is also very high in this area, e.g. 10% of the total employment in Grosseto (Regione Toscana, 2022₃ pp. 119–121). In this context one of the **S3 Technology priorities** is addressing the **Smart Agrifood**, recognising the role of the sector and the need to push it to a next level through higher R&D and innovation. That is highly relevant in both the cases of Arezzo and Grosseto. The emphasis on agriculture, in the regional economy landscape, is also testified by the Tuscany region leading the European S3 Agri-food partnership dealing with the high-tech farming.¹⁸

A case worth to note of R&D and innovation initiatives linked to the primary sector is the establishment of the regional pole for agri-food industry and processing in Grosseto province, in particular dealing with the challenges of innovation in the sector. A memorandum of understanding has been signed between the Province and the Region in 2018 for that purpose giving *Ente Terre Regionali Toscane* (the region Toscana board for agricultural and forestry production) the coordination of the Pole.¹⁹

Consistently, the Tuscany regional policy maker is devoting specific attention to **the innovation-competitiveness nexus**. An example of such is just the ERDF RP 21-27 where, out of the total budget of about 1.2 billion euro, 48% (589 million) of it is for research, innovation, digitisation and competitiveness and 30% (368 million) for green transition and resilience. The Tables 3.1 and 3.2 offer an insight about the overall budget of the ERDF RP and the typologies of implementing mechanisms supporting research, innovation and SMEs competitiveness, which include subsidies as well as loans, equity/quasi-equity and guarantee schemes. The ERDF Programme's execution started in early 2023 and first actions are being implemented. (Regione Toscana, 2022₂).

Table 3.1. European Regional Development Fund Regional Programme (2021-2027). Resource allocation

Total public funds 2021-2027, €millions, 2022.

Regional Programme Priority	Resources	Percentage
Research, innovation, digitisation and competitiveness	589.00	47.9
Ecological transition, resilience and biodiversity	367.86	29.9
Sustainable urban mobility	127.50	10.3
Territorial Cohesion and Integrated Local Development	101.47	8.2
Technical Assistance	43.00	3,7
TOTAL	1 228.83	100.0

Note: The resources include total public funds: EU, Italy, Tuscany.
Source: ERDF Regional Programme of Tuscany, 2022.

¹⁸ See : <https://s3platform.jrc.ec.europa.eu/high-tech-farming>

¹⁹ Sources: <http://terreregionali.toscana.it/> and http://terreregionali.toscana.it/documents/356943/663666/DD+62_2018+Allegato+A_signed.pdf/2f89eafd-a051-4569-bf62-7284aee736f7

Table 3.2. European Regional Development Fund Regional Programme (2021-2027). Actions for innovation and business competitiveness

Specific objective	Typology of action	Implementation instruments
Developing and strengthening research and innovation capacities and the introduction of advanced technologies	Open laboratories of higher technical education	Grant
	Research, development and innovation for investment attraction	Grant
	Services for innovation	Grant
	Research and development for enterprises also in clustering with research organisations	Loans Grant
	Innovative start-ups	Equity or quasi-equity
	Reorganisation and structuring of the regional technology transfer system technology. System actions	Grant
Strengthening the sustainable growth and competitiveness of SMEs and job creation jobs in SMEs, including through productive investment	Support for SMEs - export	Grant
	Support for SMEs - productive investments	Loans Guarantee Grant
	Investment attraction services	Grant
	Tourism promotion	Grant
	Support for cultural enterprises	Grant
	Energy efficiency of enterprises	Grant
Promoting energy efficiency and reduce greenhouse gas emissions	Energy efficiency of enterprises	Grant
Promoting renewable energy	Energy production from renewable sources renewables for enterprises	Grant

Source: Authors' elaborations on data from the Regional Implementation Document of the ERDF Regional Programme of Tuscany 2022-2027, 2023.

The provisions of the ERDF PR for R&D, innovation and competitiveness in Tuscany are complemented by a range of other funding sources, from a national and regional budget, and corresponding mechanisms. Some examples of these are: the national start-up facility “Smart & Start”, that offers subsidised interest-free financing for start-up of innovative business for entrepreneurs less than 35-years old; the regional facility fostering digital innovation for micro and SMEs, individual or associated, from inner, mountain and island areas with a non-repayable grant equal to 60% of the project total budget; the National plan Industry 4.0, tax credit for investments in capital goods up to 40% of the investments functional to the technological and digital transformation of production processes.²⁰

Further examples of policies supporting innovation are the “**Innovation Agreements**”²¹, a national government initiative promoted by the Italian Ministry of Enterprises and Made in Italy (MIMIT), part of the national business incentives package endowed with a 1 billion Euro funding for 2022-23²², which finances projects of industrial research, experimentation and testing aimed at developing new - or substantially improving existing - products, processes or services through the development of key enabling technologies (KETs).

²⁰ See “Guida di orientamento agli incentivi per le imprese”. Last update 13 December 2022. <https://www.regione.toscana.it/documents/10180/23828473/Guida+incentivi+Dicembre+2022.pdf/2e57e374-592f-b3a9-6555-9e44d28713f3?t=1671205891630>

²¹ See the MIMIT official site <https://www.mise.gov.it/it/incentivi/accordi-per-linnovazione-secondo-sportello>

²² See the site for the full set of actions at <https://www.mise.gov.it/index.php/it/incentivi>

In terms of policies that are relevant for the local economy and manufacturing industry particularly considering the most rural areas is the **Inner Areas National Strategy**. This is a national strategy and in Tuscany has been adopted for 2021-27 period and includes 3 new areas in addition to the 3 pilots already selected in 2014-20. Among the old areas, one covered part of the Arezzo province, the Apennines Mountain area therein. Among the new areas, two out of three are covering part of the Grosseto territory.

The Inner Areas National Strategy is a territorial policy aimed at improving the quality of services to citizens and economic opportunities in inner territories at risk of marginalisation, weaker territories affected by depopulation, low economic vitality and distance from the main centres where basic services such as education, health, mobility and digital services are made accessible to the citizens.

An interesting case, of a project part of a local inner area strategy aimed at supporting micro and small businesses is the “Renewing business” project from Valdarno – Valdisieve – Mugello – Val di Bisenzio (inner area in the northeast of Tuscany). The project supported the generational transition of enterprises and the creation of new entrepreneurship through a micro-credit scheme for the creation of new young people's and women's enterprises in the manufacturing, trade, tourism and tertiary sectors.

On the Inner Areas, see the Box 3.2 for details about the general concept, methodology and implementation of the Strategy, which is part of the EU cohesion policy as adopted in Italy.

Box 3.2. The National Strategy for Inner Areas, a bottom-up approach harnessing the development and endogenous potential of marginal areas in Italy

The rationale

“The long-term demographic loss is concentrated in areas that are more peripheral to urban centres. These areas are crucial to the overall resilience of the national territory in terms of hydrogeology, landscape and cultural identity. As such these regions have long been seeking a shared strategy to counter the systemic effects related to the loss of the human and community presence that are the natural guardians of these territories and determine their prospects”.²³

The Inner Areas National Strategy is a territorial policy aimed at improving the quality of services to citizens and economic opportunities in inner territories that are at risk of marginalisation, are weaker territories affected by depopulation, low economic vitality and distance from the main centres where basic services such as education, health, mobility and digital services are made accessible to citizens.

An innovative approach to rural development

The Strategy is a national policy based on multilevel governance (local government represented by associations of municipalities, Regional government, and National government). The SNAI approach is place based but not place bound and adopts a multi-scalar perspective in order to bring multiple actors to work together for the **design and management of a local strategy** and to facilitate **capacity building**.

The Inner Areas Strategy considers six main innovations:

- It has a national dimension based on strong partnership, horizontal across various ministries as well as vertical between different levels of government.
- It operates through two interrelated classes of actions. The first is focused on improving the quality of life in the selected area through enhanced access to services and supply improvement. The second deals with local development promotion through sustainable and inclusive economic development projects support.
- It is a step-by-step process. Among the project areas investigated in 2014-2020 (the first phase of design and implementation of the strategy), one area per region was firstly selected (called “prototype”) to evaluate the strategy’s potential success and trigger a positive learning mechanism. All the selected areas come to be part of a network, named “project federation”, to encourage networking, exchange, and mutual learning.
- Project areas were selected through a public and transparent process. Dataset, meetings results, synthesis reports were published online as open sources, thus enabling stakeholders to be aware of the process and ensure a transparent selection mechanism.
- The sustainability of strategy actions is ensured by a bottom-up approach in which municipalities and regions are directly responsible for strategy implementation. Indeed, the strategy is based upon a vertical participatory approach in which local municipal associations are the functional spot enabling territories and institutional bodies to work together. The partnership between municipalities is pursued to enhance essential services supply by sharing the related management costs.
- Attention to outcome indicators and monitored results. Project areas’ development strategies must focus on expected results and achievable outcomes clearly formulated. Each project area had to identify indicators to monitor and evaluate the results achieved in implementing their own strategy.

One of the principles of the strategy is to foster the coordination between national and local interventions, actions and investments under the unifying concept of the local development plans and the corresponding financial agreement.

The procedure leading to the funding of individual projects in the area consists of three main phases:

1. *Selection of the areas*, through a public procedure, jointly carried out by all the national ministries and agencies that are members of the national Technical Committee for Inner Areas and by the Region concerned;
2. *Approval of the Area Strategy* by the Department for Cohesion Policies;
3. *Signature of the Framework Programme Agreement*, through which the national Government, the Regions and the territories commit for the implementation of the action.

The results and prospects

The mapped areas across Italy that meet the inner areas' eligibility criteria under 2014-20 programming, cover 60% of the entire national territory, 52% of the municipalities and 22% of the population.

In total, in the 2014-2020 period, **72** were the areas across the country selected as beneficiary of the action. They involve 1 077 municipalities with approximately 2,072,718 inhabitants. The total budget committed for these areas, through the Framework Programme Agreements, is EUR 1 127 million.

The Italian institutions undertook an analysis on the typology of the projects funded by the SNAI in 2014-2020, covering 54 out of the total 72 areas. The results highlight how inner areas strategies can impact on competitiveness: about 29% of the total number of interventions are addressed to the competitiveness of businesses absorbing 39% of the resources. In addition, approximately one third of the interventions are directed at context determinants that positively impact on the competitiveness of enterprises; 34% of the total resources are devoted to these interventions.

For the 2021-27, **56** new areas have been identified as beneficiaries of the SNAI. 2 per region and the national budget equals 310 million allocated to the strengthening and expansion of the National Strategy for Inner Areas, working on old and new ones. Out of that, a share of 172 million was earmarked to finance these 56 new areas.

As a result, the Inner Areas strategy of the 2021-2027 programming cycle include:

- **56** new 2021-2027 areas, which in total involve 764 municipalities (as of 2020), with a population of 2 056 139 residents.
- **37** areas identified in 2014-2020 and confirmed without changes: 549 municipalities with a population of 977 279 inhabitants.
- **30** areas from 2014-2020 programming encompassing a new perimeter resulting of the annexing and/or exclusion of some municipalities: these are 556 municipalities, 1 324 220 inhabitants.
- the new '**Minor Islands special project**' regarding 35 municipalities from these islands, 213 093 inhabitants.

²³ Quoted from "Criteri per la Selezione delle Aree Interne da sostenere nel ciclo 2021 – 2027", Department for Cohesion Policies. Evaluation and Analysis Unit for Programming. 2022 p. 1. <https://politichecoesione.governo.it/media/2810/snai-criteri-per-la-selezione-delle-aree-da-sostenere-nel-ciclo-21-27.pdf>. English Authors' translation.

As a result, a total of 124 Project Areas are part of the Strategy for 2021-2027, for a total of 1 904 municipalities and a population of 4 570 731 inhabitants.

The Regional Complement for Rural Development, implementing in Italy the CAP national Strategic Plan, includes also a support to SNAI territorial strategies.

Sources: [Agency for Territorial Cohesion](#). [Department for Cohesion Policies](#). [Presidency of the Council of Ministers](#)

The rural development in Arezzo and Grosseto benefitted from the LEADER approach, which is the most consolidated bottom-up approach regarding the development of rural areas with direct implications also for rural manufacturing. The Rural Development Programme, i.e. the rural development component of the EU Common Agricultural Policy (CAP) is funded by the EAFRD, the European Agricultural Fund for Rural Development. In fact, since 2014 this fund is integral part of the CAP, where previously it was integrated into the EU Regional Policy. The LEADER, being part of the rural development, was substantially devolved by the regions to the local actors and implemented for almost three decades both in Arezzo and Grosseto provinces. See Box 3.3 for further details.

In addition to the EU based policies and programmes, other facilities are in place to support overcoming structural weaknesses and to reach higher levels of performance through enhanced collaboration and strategic alliances among businesses. Worth mentioning is the “**rural district**” (the Southern Tuscany Rural District), established with the aim of coordinating territories and involving businesses by activating investments capable of stimulating the growth of the entire supply chain, improving the system in terms of innovation and infrastructural equipment for agro-industrial processing. This is particularly helpful for the agriculture and the agrifood manufacturing sector where the small size of the firms results in its fragmentation, both in Arezzo and Grosseto, and affects the overall capacity to innovate, adopt technological upgrading processes, and increase productivity and competitiveness.

Box 3.3. Rural development in Arezzo and Grosseto through the LEADER approach

The concept

The LEADER approach is substantially based on the design and implementation of actions for the development of each specific rural area, corresponding to an integrated local development strategy, through a participatory bottom-up approach engaging all the relevant local stakeholders. Accordingly, its governance, the Local Action Group, relies on a private-public partnership.

LEADER is one of the more durable initiatives in Europe, since its first adoption back in 1991. A long record of local rural development measures and actions, over more than 30 years. This makes it the “first experience of unitary planning of mountain territories across Europe to foster the overall development of the area by enhancing all productive, environmental, cultural and professional resources, promoting economic diversification, preserving and safeguarding the environment, in short, improving the quality of life”.²⁴

The implementation of LEADER in the area of rural development has funded four rounds of initiatives since it started as a small-scale Community Initiative with 217 partnerships. Since then, the number of partnerships has multiplied by more than ten to 2 321 in the 2007-2013 period, with a total EU budget of EUR 5 500 million or 6% of the EAFRD. These funds have mobilised a further EUR 3 072 million in national public funding, giving each partnership an average public budget of around EUR 3.8 million for the whole period.²⁵

Building on the successful experience of LEADER in rural local development, the European Commission widened the scope of its action, from the specific rural areas to other contexts where an integrated territorial development shall be pursued at local level (rural areas, fisheries and coastal areas, cities and urban areas, tackling unemployment and promoting social cohesion). In that sense the LEADER approach has been reformulated into “Community-Led Local Development”²⁶, and regulated as part of the rural development and cohesion policy EU framework for 2014-2020 and reaffirmed so in 2021-27.

The method

There are three common and interlinked elements thought fundamental to LEADER/CLLD approach: the area or territory; the partnership; and the integrated Local Development Strategy.

Consistently, the local development strategy must be:

- focused on **specific sub-regional areas**,
- led by **local action groups** composed of representatives of public and private local socio-economic interests, in which, at the decision making level neither public authorities, as defined in accordance with national rules, nor any single interest group represents more than 49% of the voting rights,
- carried out through integrated and multi-sectoral area-based **local development strategies**,
- **designed taking into consideration local needs and potential**, and shall include innovative features in the local context, networking and, where appropriate, cooperation.

The experience in Arezzo and Grosseto

Nowadays, looking at the most recent experience in 2014-2022, the interventions foreseen in the local strategies, aim not only to support agriculture, but above all to contribute to the economic and social development of rural territories, with a special focus on mountain territories. [See <https://www.regione.toscana.it/psr-2014-2020/leader>].

Rural and mountain territories from both Arezzo and Grosseto provinces have been eligible for LEADER over these three decades and benefitted from the corresponding programme financing.

In the 2014-2022 programming period, measures for “supporting the economic development of enterprises in rural areas” were included in both Integrated Local Development Strategies.

In Arezzo the thematic areas identified by the Local Action Groups (LAG) for its territory for 2014-2022, were:

- Support services for the population and the use of cultural and environmental resources in rural areas (an example of this is the support for public interest investments in recreational infrastructure, tourist information and small-scale tourism infrastructure),
- Support for the economic development of enterprises in rural areas (e.g. stimulating investments of micro-enterprises in the craft sector for growth, employment and sustainable development).

The total available budget for the action in 2014-2022 period was of about EUR 19 million.

As for Grosseto, the general objective of the local strategy was the "growth of the economic, social and cultural system of rural areas" and is pursued through the following thematic areas:

- Support for sustainable and responsible tourism (sample: construction and modernisation of tourist information points, visitor and guide centres, tourist/agritourism information and reception offices and recreational facilities),
- Improvement of the quality of life in rural areas (e.g. enlargement and modernisation of infrastructures for the provision of essential services to the rural population),
- Support for diversification of the rural economic environment (e.g. pilot projects for businesses promoting the experimentation of technologies, techniques and practices to verify and test innovations of process, product and organisational innovations).

The total available budget for Grosseto LAG for 2014-2022 period was of about EUR 14.6 million.

The next rural development programme for Tuscany 2023-2027²⁷, included the LEADER/CLLD (Community-Led Local Development) and the eligible areas of the previous programming period for further support. The LAGs will have to submit the new Local Development Strategy for approval and funding as soon as the call will be opened, to get access to the new resources for the years to come.

Sources: EC (2006), The Leader approach — A basic guide, Luxembourg: Office for Official Publications of the European Communities, https://enrd.ec.europa.eu/publications/leader-approach-basic-guide_en

ENRD (2016), LEADER Local Development Strategies (LDS) Guidance on design and implementation, https://enrd.ec.europa.eu/sites/default/files/enrd-guidance_lds.pdf

European Commission (2018), [Guidance for Local Actors on Community-Led Local Development](#)

Gruppo di Azione Locale (GAL) Consorzio Appennino Aretino (2021), [Strategia Integrata di Sviluppo Locale](#)

Gruppo di Azione Locale (GAL) F.A.R. Maremma (2021), [Strategia Integrata di Sviluppo Locale](#)

²⁴ Quoted from the LAG Consorzio Appennino Aretino web site <http://www.galaretino.it/attivita%3A0/leader-2>

²⁵ See European Commission (2018), [Guidance for Local Actors on Community-Led Local Development](#), p. 10

²⁶ See REGULATION (EU) No 1303/2013 of the European Parliament and of the Council of 17 December 2013, Art. 32. [<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02013R1303-20201229>]

²⁷ See [Rural Development Complement for the Region of Tuscany 2023-2027](#)

Governance of regions

According to the **national reform of local authorities** of year 2014 (Law 56), the organisation of the powers delegated at the different territorial levels in Italy, the constitutional law recognises four levels – the state, the regions, the provinces and the municipalities – whose governmental bodies were all traditionally subject to direct election by the citizens, was changed. More specifically, the reform impacted the organisation of the provinces (TL3), modifying the provinces statute and establishing 10 metropolitan cities. In particular, the provinces were defined (as well as the metropolitan cities) as **wide-area authorities** and their steering bodies - the president of the province and the provincial council - became bodies not directly elected by the citizens. The new system impacted the functions of the provinces, since various responsibilities were either devolved to the municipalities or centralised to the regions. (Camera dei Deputati, 2022)

The reform is relevant for the OECD research, since the focus of our study are the two provinces of Arezzo and Grosseto, part of the Tuscany region. On industrial policy as well as spatial planning most of the competences oversee the region, with wide delegated powers from the state. Also, other relevant bodies, traditionally organised aligned to the province territorial setting, changed their coverage. A notable case of this is the Chambers of Commerce that underwent a merging process, now covering wider interprovincial territories. These recent reforms also introduced changes that had an impact on the governance of various policies, in particular the ones that are centred on the role of the region. In Tuscany there is an interplay with the provinces, on the development and competitiveness policy making and programming, in order to adapt the policy to the specific needs of the local contexts.

In general, Tuscany has a **strong reputation for strategic programming and policy making** amongst Italian regions. The Region counts on qualified, motivated and experienced staff - although slowly shrinking over the years due to turnover constraints, limiting the ability to replace the senior staff when retiring. Additionally, the region has set up and governs several highly qualified bodies and in-house agencies, that support the policy making and implementation. Two examples of these bodies are: IRPET²⁸, the Regional Institute for Economic Planning of Tuscany and Toscana Sviluppo S.p.A.²⁹, the regional development agency supporting the Region in economic development programmes and projects, including the management, monitoring and payment of ERDF RP.

The regional policy making and programming relies on a well-functioning regional statistical service integrated with the national statistical service (SISTAN) for **monitoring and evaluating** the results and impacts of the policies. Overall, the statistical data availability and the continuous analysis and studies, carried out in Tuscany and its provinces, is a valuable asset in policy making; in a national context where policy and programme evaluation is not always a well-settled service supporting evidence-based action, equally available in all regions and governmental offices. (See Box 3.4 for further information)

The financing envelope supporting the programmes for the local development and industrial policy implemented at regional level and in its territories is based on three main sources:

- Regional budget
- National budget
- EU funding of programmes, in particular ESI Funds

²⁸ For more information see <http://www.irpet.it/presentation?lang=en>

²⁹ For more information see <https://www.sviluppo.toscana.it/>

Box 3.4. Main features of the official statistic system in Tuscany and Italy relevant for rural manufacturing

At **regional level**, for supporting its economic policy making and ensuring wider awareness and knowledge dissemination of its benefits, Tuscany counts on a open fully-fledged statistical system, which is part of the national statistics one, the SISTAN. The Regional Statistics Office, in charge of the system, is constituent part of the government of the Region.

The Regional Statistics Office

- Promotes and implements activities for the collection, processing, analysis and dissemination of statistical data,
- Contributes to the promotion and digitalisation for statistical purposes of the regional archives, supporting including the design of sector information systems with the use of statistical methodologies,
- Promotes the production and dissemination of statistical information to ease citizens' access to information on the Tuscan society in its demographic, social and economic articulations,
- Provides technical-methodological advice to ensure the quality of statistical data,
- Promotes the dissemination of statistical culture.

Statistical data is made accessible, on most local civil society features and domains, adopting open data standards as well as georeferenced data outputs.

IRPET – the Regional Institute for Economic Planning of Tuscany provides a substantial support to the regional administration for the analyses and evaluations of the regional and local economic development policies, of the regional manufacturing as well as of territorial and local policies.

Sources and further information

- Tuscany Regional Statistics <https://www.regione.toscana.it/statistiche/cos-e>
- OpenToscana <https://dati.toscana.it/dataset?groups=statistica&organization=regione-toscana>
- GeoScopio <https://www.regione.toscana.it/-/geoscopio>
- IRPET <http://www.irpet.it/?lang=en>

At **national level** ISTAT, the National Statistics Institute, is the body in charge of the official statistics and data. Part of the data are openly accessible to the researchers and the wider public, whereas statistical microdata, of businesses and other topics, are filtered and, for privacy and data source protection, the access is open only for accredited professional users, or to the SISTAN members.

This information is complemented by other national statistical data centres, for the manufacture and local economic development, a sample to the most qualified ones are:

The data collected, elaborated and managed by the network of the Italian Chambers of Commerce, in particular the business dynamics and the territorial GVA (see InfoCamere and Centro Studi delle Camere di Commercio Guglielmo Tagliacarne);

OpenCoesione, that is the open government initiative on cohesion policy in Italy. The portal provides access to searchable data on funds allocated and disbursed, locations, thematic areas, programming and implementing authorities, the timing required to complete operations and disbursements for each operation. By means of the OpenCoesione portal the interested researchers, citizens and stakeholders have access to updated information about the funds' utilisation across all Italian territories (regions, provinces, municipalities). Through OpenCoesione the users have access to data of about 220 billion

Euro public investments and 1.9 million projects monitored throughout Italy.

Sources and further information

ISTAT <https://www.istat.it/en/>

OpenCoesione <https://opencoessione.gov.it/en/>

A number of policies and strategies, mentioned in the previous sections of this document, consider the **public-private partnership and the co-programming**, as a normal and regular approach to engaging businesses and civil society in the projects and in the policies. Tuscany has a matured and consolidated effort in fostering **active inclusive participation and engagement of regional partnership in the development programming** at regional and local levels. This most often is facilitated since it corresponds to the proactive and interested in the common good attitude of its citizens. The partnership approach adopted in the elaboration of the European structural and investment funds' (ESI funds) regional programmes, according to a structured and regulated process of engagement of the economic, social and institutional partnership, in all the stages of the programming, from the design to the implementation and evaluation, is a case of this.

Despite a strong participatory tradition business representatives, despite the various opportunities and provisions that are made available for business development in the two provinces, during the interviews held by the OECD often argued that the heavy bureaucracy and the cumbersome and long procedures discourage their actual access. Still, Tuscany shows good performances in absorbing the European funds to support business development.

At the local level, in Arezzo province, the **engagement of local stakeholders representing the local business community and the civil society** was a substantial part of the two-stage process of scouting and co-design of the local inner area strategy for the Inner Area of Casentino - Valtiberina, starting from 2015.³⁰ Likewise, the consolidated experience of co-programming the local action plan under the Leader programme, with Local Action Groups established in both in Arezzo and Grosseto, is another interesting case of such an open participatory attitude. In this later case, in Arezzo the LAG governing body has been established since 1997 as public-private consortium, today counting 19 members in total, 10 public and 9 private, representing both local authorities and professional organisations from the Leader area.³¹ In Grosseto, *Fabbrica Ambiente Rurale*, the local development agency set up for managing the Leader local strategy, dates back to 2002. Today there is a consortium gathering 40 members from the private sector and 26 public representatives.³²

³⁰ See the Local Area Strategy of Casentino – Valtiberina.

https://politichecoesione.governo.it/media/2740/strategia_casentino_valtiberina.pdf accessed 30.01.2023

³¹ See <http://www.galaretino.it/la-societa>

³² See <https://www.farmaremma.it/chi-siamo/>

4 General Recommendations

General

The two case studies undertaken have identified a number of valuable lessons that are summarised below:

Pursuing a higher degree of integration between rural development and industrial policy can lead to more effective actions for rural manufacturing at all levels. According to the two cases of Arezzo and Grosseto and the Italian experience in general, rural manufacturing is not a policy domain per-se. Still, a number of policies and programmes offer a wealth of opportunities for rural manufacturing for both existing and new businesses. Rural manufacturing is on the crossroads between industrial, cohesion and rural development policies. Whilst often a possible mismatch between sectoral vs. territorial policies is detected, Tuscany is a positive case of consistent action demonstrated in the present case study. Indeed, one of the challenges is that every “rural” area is different and specific adaptation capacity to the place is needed for effective action. The answer to that, according to the Italian experience, is quite often to undertake a bottom-up approach, activating the local capacity and designing ad-hoc integrated local policies (see Inner Areas innovative multi-level governance approach as well as the traditional CLLD bottom-up approach). This is a conducive and consistent approach, but still there is room to make more of it in the sectoral policies for business development that often appear not being as sensitive and differentiated to the spaces as needed. This is particularly the case for some of the rural areas.

A higher and stronger integration between sectoral and territorial policies is yet to be seized. The regional scale can support more impactful and effective action, reinforced by an effective dialogue between the larger regions, such as Tuscany, and the smaller ones in Italy, the provinces.

Fighting off skills and human resources shortage in rural areas. The lack of available qualified workers is a major issue in rural areas according to both case studies. That is due to a combination of ageing, brain drain, lack or weak proximity to services, perceived marginality of remote rural areas, etc. At the same time, a well-structured education and training system is in place at larger regional scale, but also often with a quite capillary presence at local level. Tackling this paradox requires parallel action in two factors:

- to make the matchmaking between offered and demanded skills perform better as a system, with training institutions and businesses finding new and more effective communication and collaboration channels,
- to enhance the appreciation of the local quality of life in rural environment and in the smaller centres as a source of attraction, which is already a trend triggered by COVID-19.

Arezzo and Grosseto already show a few positive examples of this approach. In Arezzo a leading ICT and robotics company with two plants (one near Milano and one in Arezzo province) is investing in the growth of the Arezzo plant, where the employees are staying longer and are more loyal to the company. The Santa Fiora “smart village” in Grosseto, is an attractive small centre for new residents given it is good that the small centre is served relatively well. However, there is a need to be more systematic in the approach.

Filling the accessibility gap. The two Tuscany provinces are very good examples of how variable and multifaceted accessibility is in each specific rural context. Accessibility challenges include physical

transport infrastructures deficiencies, digital connectivity bottlenecks and limited access to primary services. Small businesses are particularly sensitive to these framework enabling conditions. Targeted policy responses are needed that can allocate public resources complemented through public-private common initiatives and investments.

Fostering innovation in manufacturing and services, fitted to the rural reality. The rural businesses, often specialise in some niches linked to traditional know-how and local consolidated cultural heritage and show a smaller tendency and lower openness to innovation. In such contexts path dependency is a common risk affecting the local industrial systems that must be turned over. The Covid crisis has led to the acceleration of certain processes that require the production system to make a qualitative leap. In addition, the European resources available for post-pandemic reconstruction clearly direct certain priority axes of intervention such as digitalisation and the green transition towards a climate-neutral economy. In that perspective, more innovation shall be incorporated into the local systems. A more targeted approach is thus required, sensitive to the rural specific local needs, funnelling the existing opportunities (see the new regional S3) and focusing on niches that show a possible development path consistent with the global mega-trends (CDP, 2020).

For the regions

The case studies also identified a number of region-specific opportunities and challenges along with policy-recommendations.

Arezzo Province

Improve the local strategic capacity building offer. The human resources are signalled by the local entrepreneurs and their representatives as well as by the public sector representatives as the most critical issue in the Arezzo province. Lack of qualified workers for the more specialised sectors, demand-offer mismatch, and ageing experienced workers not easily replaceable are common challenges. In addition, the province is quite well endowed with international universities school in Cortona, the Arezzo University Hub (Polo Universitario Aretino), the campus of the University of Siena, and is part of a vibrant training and education regional network, with a backbone of 7 academic institutions and a polycentric system of education at all levels. The challenge is to improve the coordination among these stakeholders and institutions and the local and regional level, possibly leveraging and strengthening the experience of the Arezzo Hub as a strategic catalyser for the matching between the demand and offer. This can lead to strengthening and diversifying the linkages at regional level.

Putting the circular economy objective higher up the priority list. The local manufacturing in Arezzo rural area is facing multiple challenges, due to the high concentration of small businesses in two main districts (jewellery and textile apparel) that make use of vast amounts of energy. These are embedded in a valuable natural environment: the central valleys of the Apennines with historical centres very attractive for tourism, and high-quality food products based on local agriculture. Local stakeholders identified the need to keep the right balance towards future sustainable development paths. This must deal with the sustainable use of resources, mitigating the co-presence of manufacturing and households in the rural areas next to the small urban centres where manufacturing is located. In such a context, formulating a circular economy local strategy of the industrial districts based on industrial symbiosis is recommended, as a shared approach for an enduring sustainable future. The local lead companies should impulse such a process already taken up by some, along with leveraging on valuable local experiences, such as the local Hydrogen Industrial District. (Taddeo et al., 2017, Bressanelli et al., 2022)

Opening up the dynamic local entrepreneurial box to new sectors. The consolidated clusters, part of the competitive regional fashion sectors (particularly jewellery), are the backbone of the vibrant local

manufacturing and an asset of Arezzo local industry. Yet, there are companies of other sectors such as ICT firms, agrifood, the recovery of waste materials, which are currently singular cases but have the potential to widen. This would allow for diversification of the local industrial texture, creating a more resilient structure. Finding new trajectories, removes the risk of path dependency through seizing the opportunities identified by the new regional Smart Specialisation strategy of Tuscany.

Grosseto Province

Shifting to a more sustainable and resilient development pattern. The local province rural landscape contains two distinct areas that include the primary sector in eastern inland and tourism along the western coast. The province can benefit from opportunities of both areas as most of the territory is eligible for the national inner area strategy for the first time which can catapult this action. Secondly, it will have access to the next LEADER programme as well (see the Complement for Rural Development for Tuscany region 2023-2027 – Boxes 3.2 & 3.3). All together, most of these eligible areas are partially overlapping. Thus, devising a further potential for development at local level since the two approaches are complementary in competition. In addition, the new S3 provides a conducive prior condition for innovating in food industry since it considers the smart agrifood as one of its “application areas” fostering the adoption of innovation in agriculture and in the related manufacturing, hence disclosing other opportunities under ESI funds’ Regional Programmes. In this rural sensible area, climate change poses a further overwhelming challenge since it may have a disruptive impact on local flag high quality agriproducts (wine and olives at first) if no preventive action is considered. The recommendation is for the local actors to act promptly in defining a unique consistent framework for pursuing a stronger and more effective coordination among the different policies down to the ground. This will help seize the incoming opportunities that include pursuing higher added value in the products (e.g. precision agriculture), qualifying the rural manufacturing, and building a future-proofed resilient and sustainable development pattern overall.

Harnessing the strategic synergies and closer cooperation across territories. In the inland province the existing manufacturing is connected to and serving the leather district in the province of Siena. The agriculture is a common strategic sector across the three southern provinces of the Tuscany region (Grosseto, Siena and Arezzo). The two inner areas extend beyond the province territory to the north (Pisa) and to the east (Siena). All the above calls for a capacity to build substantial synergies with the other territories, largely exceeding the provinces’ own inward comfort zone. For the local institutions and decision makers the challenge is to overcome possible “campanileisms”, finding the most suitable arrangements for enduring successful cooperation on the next rural manufacturing and businesses and leveraging complementarities and building synergies.

Embracing new ways of living rural. The Santa Fiora smart village was pioneering at the local level, a small experiment towards possible new opportunities to revert a structural trend to ageing and depopulation in the rural Grosseto province. Remote working, facilitated by good connectivity and cheap costs of living has shown that there are ways to repopulate and revitalise the inner areas. The process, triggered by the pandemic, is still at an embryonic stage but first results are promising. The recommendation is to work further on it, as an open living lab, harnessing the potential offered by the new technologies and digitalisation, particularly for business development. This is easier in the service sector and will prove more challenging in manufacturing linked to local assets. The businesses, also in manufacturing traditional local sectors, evolve under the push of globalisation and megatrends (e.g. grasping the opportunities of digitalisation and automation) seeking higher added value through a more effective balance between research and development, hard manufacturing and post-production services, moving along the “smile curve”. A visionary policy should enable and support this change.

Tackling the challenge of FDI for Grosseto. In the Italian landscape, Tuscany is generally effective in pursuing a sound strategy to attract foreign investors. The region is ranking high in Italy in terms of added value produced by multinationals, thanks to the network *Invest in Tuscany*, fourth after Lombardy, Liguria

and Lazio regions³³. The following factors contribute to making Tuscany attractive; being located at the hearth of Italy with its outstanding cultural, historical and natural heritage which provides a logistical advantage, having a functioning public administration, and manufacturing sectors with high levels of specialisation and competitiveness. The regional specific objectives set by the regional ERDF PR 2021-2027 has aimed to encourage “the establishment of new economic activities and to root existing enterprises in the region by supporting processes of expansion, modernisation or co-location of new economic activities”. Few, though not absent, are the spills over of these FDI benefits into the Grosseto province. Some specialised companies located in Grosseto province in chemical sector mostly, are either local multinationals or subsidiaries of international companies. An action, complementing the previously recommended ones addressing the endogenous rural manufacturing of Grosseto, should be fostered for foreign qualified businesses to locate here.

³³ Source: <https://www.intoscana.it/it/articolo/investimenti-esteri-toscana/>

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