ASSOLOMBARDA
Confindustria Milano Monza e Brianza

The performance of European firms: a benchmark analysis

A survey on 650 European companies in the five most dynamic regions of Europe

Executive summary

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ASSOLOMBARDA Confindustria Milano Monza e Brianza
FAR VOLARE MILANO

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Introduction

During 2015 the Research Division of Assolombarda (the largest regional entrepreneurial association in Italy, including the area of Milano, Monza and Brianza and Lodi) has run a benchmark survey of 650 firms in the most dynamics regions of Europe - Lombardy, Baden-Württemberg, Bayern, Rhône-Alpes and Cataluña – in order to assess the challenges and strategies that are characterizing the manufacturing sector in the post-crisis context.

Samples were constructed in order to be representative of the underlying territorial reality, while the methodology of analysis is micro-founded, in that it begins with the observation of individual firms' characteristics, and then aggregated in economic variables at the regional level. This method allows not only to obtain information on the "average" trend of the regions analysed, but also to understand which groups of firms, and which firms' characteristics, are responsible for a given macroeconomic trend, hence providing key novel insights for policy making.

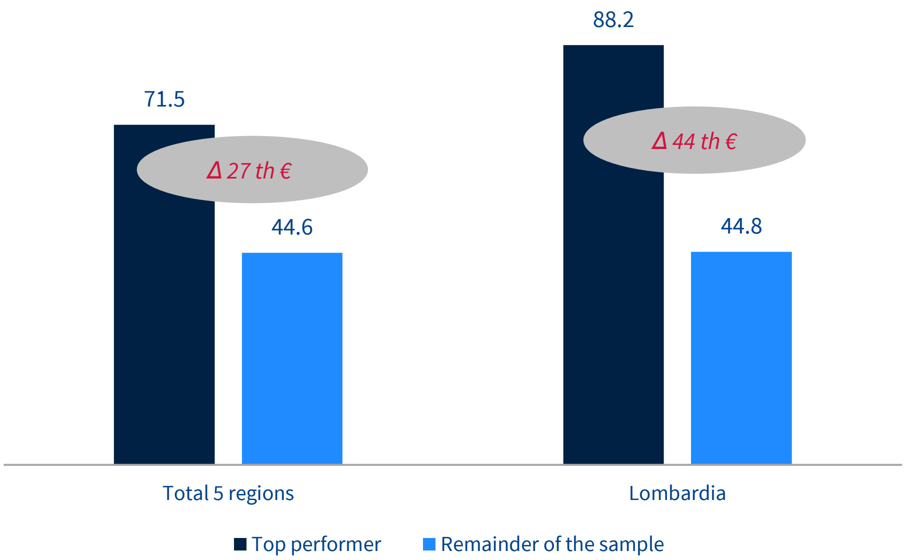
Some of the analyses confirm results widely known in the economic theory, such as the relation between export activity and productivity, or the advantages arising from the quality of human capital. Other results, however, are absolutely innovative, and therefore of particular interest. The most significant findings are presented in the pages that follow.

Managerial organization, innovation, internationalization: the winning combination of a “top performing” firm

There is nowadays widespread consensus around the idea that good management, innovation and internationalization should be relevant characteristics for a firm willing to stand for superior performance, and therefore more likely to weather the crisis.

However, lacking detailed information on firms' characteristics, it is not easy to determine which specific dimensions of management, innovation or internationalization activities are key drivers of performance. The wealth of information included in the benchmark survey allows a more specific answer: a management of human resources that remunerates individual productivity through bonuses, a medium to high level of firm’s digitalization, the protection of intellectual property through patents and a high degree of participation at Global Value Chains (GVCs) are the specific traits associated to 'top performing' firms. The available evidence also allows to accurately measuring the productivity gains associated with these winning characteristics. Those firms that pay productivity-related bonuses, obtain a patent, exploit high levels of digitalization and participate in GVC are able to obtain almost 30,000 euros per employee more than the remainder of the European sample considered (71,000 vs. 44,000 euro per employee).

Labor productivity: top performer vs. remainder of the sample
(thousands of €, 2013)



Top performer: firms characterized by: 1) management remuneration schemes based on performances; 2) at least one patent filed in 2011-2013; 3) medium-high degree of digitalization 4) medium-high degree of participation in GVCs

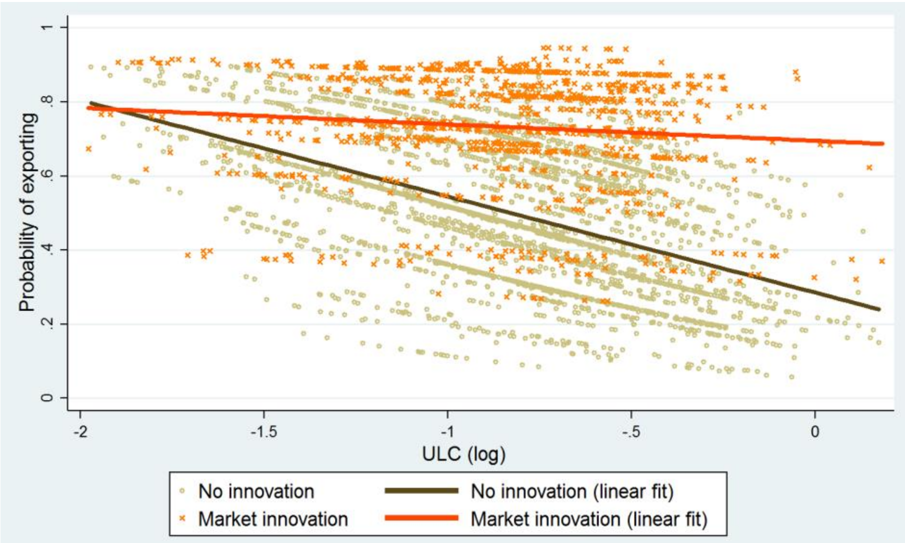
Source: “The performance of European firms; a benchmark analysis”, Assolombarda Confindustria Milano Monza e Brianza
Note: manufacturing firms with more than 10 employees

Innovation matters more than price for competitiveness

Data do not confirm the idea that a low unit labour cost (ULC) is by itself a necessary condition to successfully compete at the international level. Firm-level analysis highlights indeed that the relationship between export capacity (measured on the vertical axis in the graph below) and ULC (measured on the horizontal axis) crucially depends on innovation. Highly innovative firms (the x-shaped points in the upper part of the graph) have a superior performance in international markets even if characterized by ULC higher than the average: for these firms the relationship between probability of exporting and ULC (the straight orange line) is substantially flat, or non-existent. Conversely, for non-innovative firms (the circular points in the lower part of the graph) an increase in ULC causes a decrease of the probability of exporting of approximately 30%. Clearly, on average, there is a (mild) relationship between ULC and export, but this average is the result of firms' strategies, which are profoundly different between innovative and non-innovative firms. This is a result that only the disaggregated analysis is able to identify.

It follows that policies aimed solely at containing costs might be ineffective in stimulating export in sectors where innovation activities are crucial. In other words, in such sectors the quality of innovation, and not the price, will determine the success on international markets. In other sectors, however, the price will continue to play an important role (though not decisive by itself) for export activities.

Relationship between export probability and ULC with respect to fims' quality
(% of firms that introduced new products for the market in 2011-2013 out of the total and % of firms not innovative out of the total, 2013)



Source: "The performance of European firms; a benchmark analysis", Assolombarda Confindustria Milano Monza e Brianza
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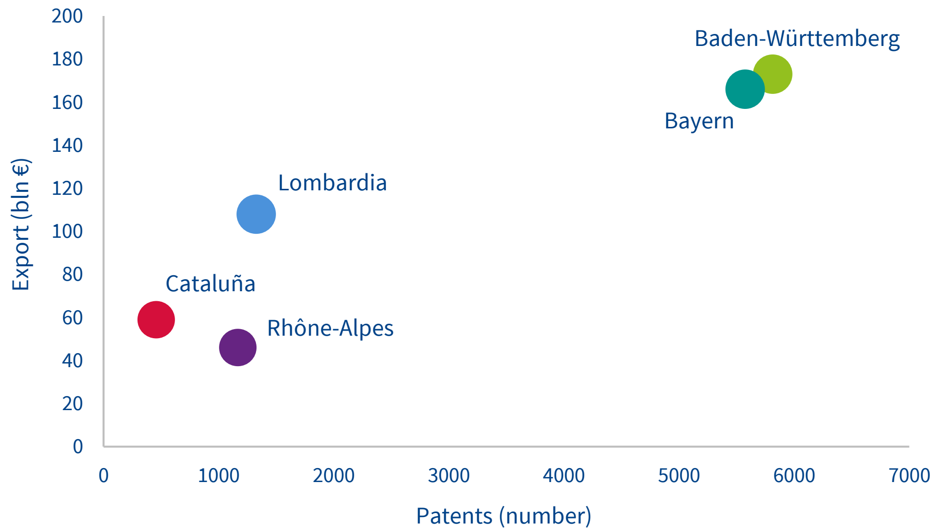
R&D activities are not enough: what really makes the difference is the ability to convert those activities in output with sound market value through patents

Looking at the average performance of firms in terms of innovation activities does not produce significant differences across regions: for example Lombardy is in line with German regions in terms of introduction of product / process innovations (about 38.5% / 31.3% of firms in Lombardy, respectively, against, for example, a 41.2% / 27.4% in Baden-Württemberg), and in terms of R&D (39.9% of firms claim to have been engaged in R&D activities in 2011-2013, around 40% the shares registered in the two German regions). However, innovation or R&D activities by themselves are not enough to win the competitiveness game. What really makes the difference is the capacity of firms to convert innovative inputs arising from research to technological output with sound market value. In this sense, patents and other forms of protection of intellectual property (trademarks, industrial designs and copyright) assume a greater importance in the evaluation of the competitiveness of a region.

In fact, our analysis shows that firms adopting intellectual property protection instruments are 22% more productive and experience an increase in turnover 2% higher, on average, than the non-adopting firms - and this, also taking into account differences in sector, region or size of firms. Moreover, a specific link exists between patent registered and sales abroad, visible also in the graph below. Data in the survey confirm that firms having filed a patent between 2011 and 2013 are characterized by an export revenue share 6.3 percentage points higher, always taking into account differences in sector, region or size of firms.

Relationship between export and patents
(export in billions € and number of patents, 2013)



Source: Assolombarda dashboard, National Statistical Institutes data and CRIOS Bocconi

Given the importance of patents as a fundamental element for both domestic and international competitiveness of a region, what do survey results tell us about their diffusion among firms? In the 2011-2013 period, 18.3% of firms in the sample have used some tool for protection of intellectual property (patents, trademarks, industrial design or copyright); the filing of patents (the form of intellectual property protection more related to scientific-technological innovations) covers 11.2% of the firms. At regional level, however, it stands out the negative performance of Lombardy (7.6% of the total intellectual property protection tools, 5.7% considering only the patents).

Even if part of the innovative capacity of firms in Lombardy might not be caught by the patent statistics, the gap with other European regions is too large to avoid any concern: Lombard firms are not able to convert science into technology, to capitalize on their innovative potential. Moreover, this gap does not depend on different sectorial specialization or the smaller size that could characterize firms in Lombardy. Even taking into account differences in industry composition and firm size, the number of Lombard firms that transform R&D activities into patents is 15% lower than firms in Baden-Württemberg (here considered as a benchmark).

In terms of policy implications, this means that “institution matters” when considering patent activity. Reforms that facilitate technology transfer and the emergence of co-developed projects among universities, research centres and the world of business are key to put into effect firms’ innovation activity.

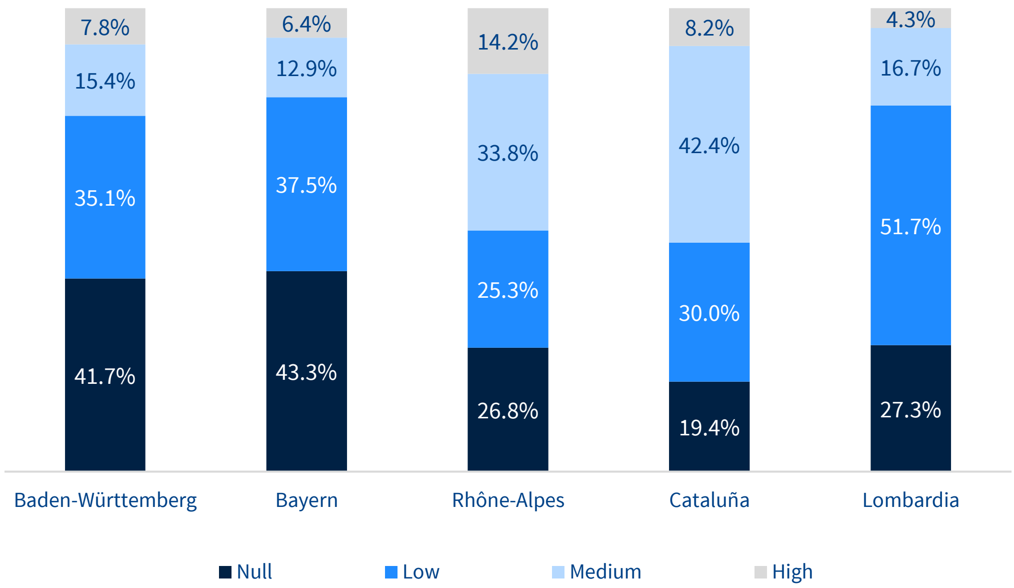
A second keyword for the post-crisis recovery is “qualified internationalization”: not only exports, but also significant participation in the global value chains

After the crisis, selling abroad an increasing share of production once targeted for the domestic market has become a compulsory strategy for firms in order to maintain turnover volumes. This occurred especially in Italy, where the domestic market significantly contracted, prompting more firms to attempt the internationalization challenge. From this point of view, the regional comparison highlights the good international projection of Lombardy (more than 60% of exporting firms), also with respect to non-EU markets, more difficult to penetrate but certainly more profitable today (46.8% of Lombard firms export in non-EU markets, 44% is the share registered on average in the five regions examined). The share of exported turnover is also significant, with a value of nearly 40%, which remains above the sample average.

However, the average export turnover show substantial variability across firms: while a number of these firms is able to sell abroad a significant share of their production, for many of them export is only a marginal activity.

Indeed, if we consider the degree of participation in global value chains (GVCs), as measured by the combination of international activities conducted by a firm, we find that about 20% of Lombard firms presents a medium to high involvement into GVCs - a result analogous to the German ones. In contrast, about 52% of Lombard firms is characterized by a low degree of participation at GVCs, meaning that the sole international activities performed are import or export alone, without other forms of international production.

Participation at GVCs
(% of firms out of the total, 2013)



Participation calculated depending on the typology of international activity performed, with Null = no international activity at all; Low = either import or export activity only; Medium = both import and export activity; High= international production activity

Source: “The performance of European firms; a benchmark analysis”, Assolombarda Confindustria Milano Monza e Brianza
Note: manufacturing firms with more than 10 employees

Another important issue refers to the specific way a firms is involved in global value chains. In fact, beyond participation, what it is essential to consider is the actual positioning within the value chain (whether in segment of high or low value added). In general, from this point of view, Lombard firms have a rather low market power, because they produce more than others through sub-contracting (22% of companies, compared with 8.3% in Bayern and 5.4% in Baden-Württemberg), and if they do, they achieve through sub-contracting nearly 80% of their turnover.

So, even if the share of firms involved in the internationalization process in Lombardy are in line with those of other European regions, an issue related to the modalities of access to the internationalization activities emerges, as Lombard firms are currently characterized by a positioning in segment of a relatively low value added. This positioning depends also on firms' financial structure (in particular, the degree of capitalization) and internal organization (separation between management and control), which must obviously be reconsidered, as data below clearly show.

What are the factors that restrict the Lombard firms in their internal and international growth path vs. firms in other European regions?

1. Low capitalization and excessive short term debt are Achilles' heels for competitiveness

In conducting their business, Lombard firms do not seem particularly prone to self-financing: equity represents slightly more than 25% of assets, compared with values higher than 50% in German regions. The importance of a strong capital structure emerges clearly looking at firms that have carried out R&D activities or those that have managed to increase the value of extra-EU exports compared to pre-crisis levels. In all the regions considered, firms having succeeded in such activities are characterized by an equity over total assets ratio higher than average (in the case of Lombard firms, those that undertake innovation activities or are able to export outside the EU show an "equity gain" of around 5-7 percentage points).

Also the degree of coverage of non-financial assets highlights the lower financial soundness of Lombard firms (index equal to 2 in 2013, vs. values generally higher than 3 and even peaks of 4.7 in Baden-Württemberg).

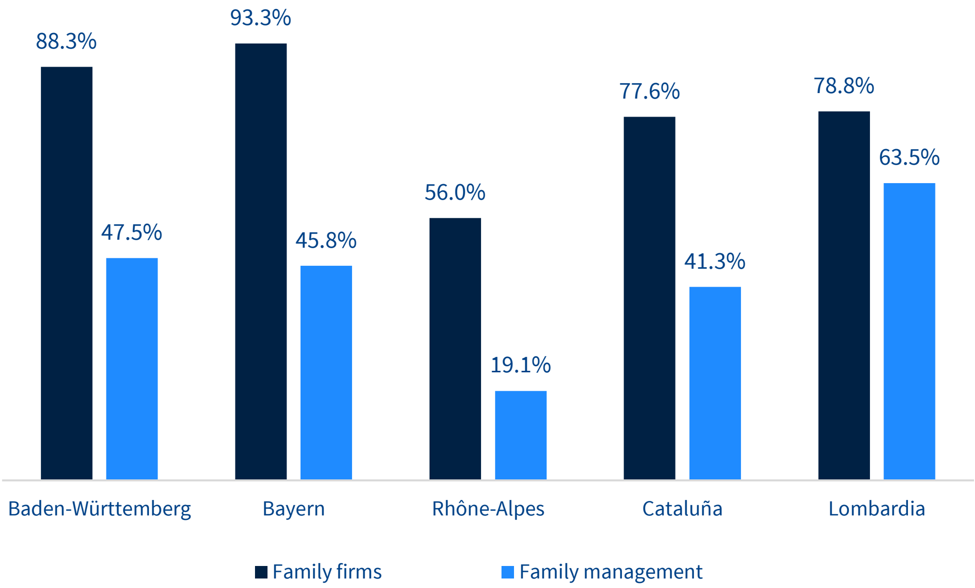
While on capitalization there are clear differences between the regions considered, the liability structure appear to be more homogeneous: all the regions have in common a preponderant role played by banks, a characteristic typical of the European financial market as compared to the Anglo-Saxon one. Bank loans make up about 50% of the financial debts of enterprises in all regions. However, within bank loans, short-term liabilities prevail in Lombardy, less suited to support long-term investment projects and high fixed costs, such as innovation and internationalization.

2. The relevance of family ownership vs. family management

The prevailing model of governance in all the analyzed regions entails an ownership structure based on individual entrepreneurs or families, another common feature of all continental European firms compared to the Anglo-Saxon ones. What differentiates corporate structures across regions, however, is not so much the source of ownership, but rather the source of management: in Lombardy, firms that have among their managers only members of the owner family are about two-thirds of all the family businesses, compared with an average in other European regions slightly below 50%.

The figure that follow is particularly alarming, as a management that is 100% linked to the owning or controlling family might ultimately hinder growth. In our data, always taking into account differences in sector, region or size firms that are fully family-managed are 21.5% less productive than the average.

Family firms and 100% family management
(% of firms out of the total and % of family businesses with exclusively management connected to the owner family out of the total of family businesses, 2013)



Source: “The performance of European firms; a benchmark analysis”, Assolombarda Confindustria Milano Monza e Brianza
Note: manufacturing firms with more than 10 employees

Appendix: survey design

The analysis of Assolombarda Confindustria Milano Monza and Brianza “The performance of European firms: a benchmark analysis” focuses on five key regions of European industry, with similar characteristics from a structural point of view: Lombardia (Italy), Baden-Württemberg and Bayern (Germany), Cataluña (Spain) and Rhône-Alpes (France). The sample consists of about 650 firms, designed to be statistically representative of the underlying regional productive structure, as regards manufacturing firms with more than 10 employees.

The analysis is organized by areas of interests and collects for each of the 650 firms about 120 variables typically unobservable from financial statements data, with respect to ownership structure, management, workforce, innovation, internationalization, finance and relations with the public administration. The interviews were conducted in March-April 2015 by GFK-Eurisko, a specialized survey company operating at European level. The data refer to 2013 (with some specific questions allowing a comparison with the pre-crisis period) and later integrated with information from the financial statements sourced by Amadeus database (data from 2005 to 2013).