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Agglomeration of exporters encourages exports

The French public administration has adopted numerous provisions intended to promote collective export campaigns and the exchange of experience between businesses in close geographical proximity. This extends from exporters' clubs to the policies of competitiveness clusters, and the underlying idea is that strength in numbers helps to overcome the costs and difficulties involved in exporting. In two studies recently carried out on data from French businesses, we measured the impact of the geographical agglomeration of exporting firms on the efforts of firms in the vicinity to launch an export activity. This impact is heightened where the businesses in question export the same product to the same country and where the market to be won is difficult to access. These effects, which pertain to firms' environments, are however of secondary importance compared with the characteristics of the firms themselves.

Agglomeration and export performance

The idea that geographical agglomeration improves the performance of businesses is a relatively old one. At the end of the 19th Century, Alfred Marshall explained in his Principles of Economics (1890) that businesses in the same sector could, when they were in close geographical proximity to each other, share production costs, take advantage of a specialised labour pool for the industry in question, or even exchange ideas, whether on 'external aspects' or on 'savings' from agglomeration that have the potential to improve productivity.

This type of external aspect can exist for exports as well. Exporting represents a cost for businesses: seeking out distribution networks in the destination markets, adapting the products to suit the tastes of foreign consumers and processing orders and payments are costly, high-risk activities that certain businesses would rather avoid. Nevertheless, these costs can be reduced if businesses seeking to establish an international presence join forces. They can thus share certain expenses, such as advertising costs or the participation fees for major international trade fairs. This example is the benefit offered by the Cosmetic Valley organisation, which brings together professionals from the perfume and cosmetics industries in the Centre and Upper Normandy regions. The presence of several exporters at a local level can also permit information to be exchanged and experience to be shared. The managing director of Papeterie du Poitou stated on the website of the Vienne exporters' club FuturExport1 that "making overtures to potential clients spread throughout the world can pose serious problems, whether cultural, technical or legal." He goes on to say that "the experts approached as part of FuturExport[1] meetings provide support for SMEs as they endeavour to cross borders and make their export business a success."

1. http://www.futurexport.com/

The potential impact of the local environment on businesses' export performance is becoming of greater and greater interest to the public administration. Whereas the key macroeconomic factors behind exports (exchange rates, cost of energy, *etc.*) proved insufficient in themselves to explain the poor performances of French businesses in foreign markets since the beginning of the 2000s, the key microeconomic factors have been the focus of renewed interest. Information sharing and joint export campaigns are thus strongly encouraged by the public administration, not only at a national level (Ubifrance, Secretariat of State for External Trade) but also at a regional level, including within competitiveness clusters.

Effects heightened by greater proximity

In a recent study, we focused on the nature and scope of the effects resulting from the agglomeration of exporters[2]. To do this, we used data from the French Customs authority for the 1998-2003 period. This data shows all the movements of goods exported by French businesses broken down by product (at the SH8 level under international nomenclature) and by country of destination.

We were thus able to study the impact of the geographical proximity of other exporters on the probability that a firm will begin to export a given product to a given country (extensive trade margin), on the other hand, and on their export volumes (intensive trade margin) on the other hand. Recent empirical literature has explored the key factors in trade movements using gravitational equations: the existence and size of trade movements are supposed to depend (positively) on potential supply from the exporter and potential demand from the importer and (negatively) on the transaction costs between the two partners. We define potential supply as the size and productivity of the exporting business and potential demand as the total imports of the product in question into the country of destination; transaction costs are calculated approximately using the distance between France and the importer.

We understand the potential positive externalities from which a business can benefit during export for a given year as the number of exporters localised within that business' operating zone[3] for the previous year. Our results show that, *ceteris paribus*, the probability that a business will begin to export a given product to a given country (extensive margin) increases in proportion the number of exporters in its operating zone.

These externalities are very specific, however. We will illustrate this by distinguishing four scenarios, based on whether the externalities come from: (1) all exporting firms, regardless of the product and the market; (2) firms exporting to the same country (regardless of the product exported); (3) firms exporting the same product (regardless of the country); and (4) firms exporting the same product to the same country.

The results, summed up in Table 1, show that the impact of the geographical proximity of exporting firms is more pronounced in the context of specific products or markets. The existence of an additional exporter in a given operating zone has, on average, no significant effect on the probability that a business from that region will begin exporting. However, an additional exporter *towards a given country* will increase by 0.17 percentage points the probability that a business will export to that country; and the presence of an additional exporter *of a given product* will increase by 0.25 percentage points the probability that a business will become an exporter of that same product. Finally, the probability that that firm will export to that country increases by 1.07 percentage points if an additional business exported *the same product to the same country* the previous year. The agglomeration of exporters thus has a heightened effect with regard to the export of a given product to a given market.

Table 1 – Impact of the proximity of exporting firms
on the launch of an export activity
by type of exports
marginal impact on the probability of exporting in % points

Type of exports	Marginal impact
All products-All countries	Not significant
All products-Same country	0.17[a]
Same product-All countries	0.25[b]
Same product-Same country	1.07[a]

[a] and [b] show a significance at 1% and 5% respectively.
Source: P. Koenig, F. Mayneris and S. Poncet (2009a).

The externalities for groupings are furthermore very localised. Exporting firms have a greater impact on neighbouring firms when they are in close geographical proximity to them. Table 2 shows the marginal impact of an additional exporting business on the probability that its neighbour business will begin exporting, depending on whether the former business

2. P. Koenig, F. Mayneris & S. Poncet (2009a), "Local Export Spillovers in France", *CEPII Working Document*, no. 2009-18.
3. Operating zones are based on the pendular migrations of workers. There are 348 such zones in France, of an average radius of 23 kilometres (authors' calculation)

Table 2 – Impact of the proximity of exporting firms
on the launch of an export activity
by degree of proximity between firms
marginal impact on the probability of exporting in % points

Degree of proximity between firms	Same product All countries	Same product Same country
Same operating zone (carried forward from Table 1)	0.25[b]	1.07[a]
Rest of region	0.06[a]	0.29[a]
Rest of France	0.01[a]	0.17[a]

[a] and [b] show a significance at 1% and 5% respectively.
Source: P. Koenig, F. Mayneris and S. Poncet (2009a).

is located in the same operating zone, outside the operating zone but within the same region, or outside the region. Whether the externalities are defined at the product level or at the product/country of destination level, their impact clearly declines as geographical distance increases.

On the other hand, our results show that the number of exporters in the surrounding area has no significant effect on the volume exported by a business, regardless of the degree of specificity used to determine the agglomeration variable. The fact that factors external to exportation influence the extensive margin rather than the intensive margin indicates that savings from agglomeration result from a reduction in the fixed cost of exporting (finding distributor networks, advertising the products, adapting production to meet the tastes of foreign consumers, *etc.*) rather than from a reduction in the variable cost (pooling of transport costs).

..and by the difficulty of the markets

We then turned to the heterogeneity of externalities of agglomeration in export based on the characteristics of the business involved on the one hand and of the target markets on the other hand[4].

From the perspective adopted by Melitz (2004)[5], exporting is expensive and only the most productive firms can afford the fixed cost involved in exporting. Externalities originating from the proximity of exporting firms may nonetheless reduce the production handicap weighing on certain businesses. Under these conditions, one might expect that their impact would be more pronounced on firms that are less productive initially. However, our results do not show any difference in impact depending on the initial performances of the businesses in question: the effects measured were the same regardless of whether the businesses were more or less productive than average or whether they were larger or smaller than average.

With regard to the destination markets, we can assume that for every firm localised in France and for a given product, the fixed cost of entering a foreign market will be higher for a more remote market with a different language and a different administrative culture. In this situation, we expect that the effects of an agglomeration of exporters will be heightened as the difficulty of accessing the destination country increases. To verify this, we will use two means of measuring the accessibility of markets, assuming that the difficulty of exporting to a country is proportional to the risk in that country and to the costs in terms of the administrative formalities required to sell goods there. The risk/country indicator is provided by the economic risk and overall risk indices of the International Country Risk Guide (ICRG), compiled by an independent American institute[6], whereas export costs (in terms of documents and time) are measured using the "Doing Business" standards of the World Bank. Our results, presented in Table 3, show that an increase in the number of neighbouring firms exporting a product to a given country has a greater impact on the probability that a firm will begin to export the same product to the same country where the country in question is risky and has numerous costly import procedures.

These results thus suggest that the joint actions and exchange of experience promoted by the public administration over the past few years are especially important where businesses wish to conquer difficult markets.

Table 3 – Impact of the proximity between exporting firms
on the launch of an export business,
by difficulty of accessing the market
for the "same product-same country"/same operating zone scenario
marginal impact on the probability of exporting in % points

Difficulty of accessing the market	<Average	>Average
Economic risk	0.8[a]	2.6[a]
Composite risk	0.72[a]	2.9[a]
Cost in terms of time	0.72[a]	2.61[a]
Cost in termes of documents	0.79[a]	2.68[a]

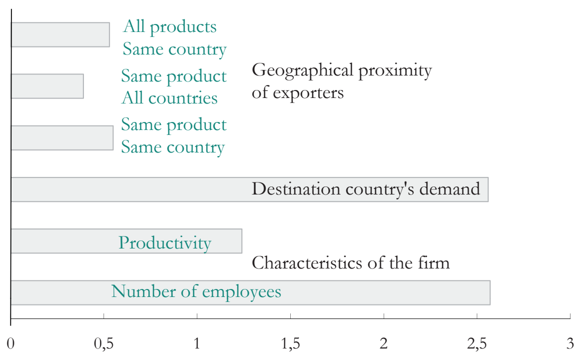
[a] indicates a significance at 1%.
Source: P. Koenig, F. Mayneris and S. Poncet (2009b).

4. P. Koenig, F. Mayneris & S. Poncet (2009b), "Économies d'agglomération à l'export et difficulté d'accès aux marchés", CEPII *Working Document*, no 2009-19.
5. M. Melitz (2003), "The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity", *Econometrica*, Vol. 71, November, pp. 1695-1725.
6. http://www.prsgroup.com/ICRG.aspx

Secondary determining factors

The geographical proximity of exporting businesses remains however a secondary determining factor in the export behaviour of those businesses. This behaviour can be explained considerably less by this proximity than it can by than the demand in the country of destination or the geographical distance. Its influence on the probability that a business will begin to export a product to a given country is between two and five times less than the influence exerted by the characteristics of the firm in question, such as its size or its productivity (Figure 1).

Graph 1 – Comparison between different determining factors for export business
impact of a variation in the typical standard deviation on the probability of exporting, in % points

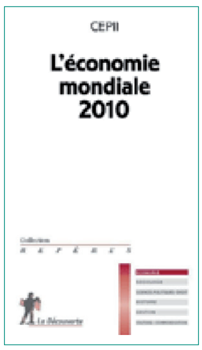


Source: P. Koenig, F. Mayneris and S. Poncet (2009a).

In addition, a firm's export behaviour depends more on "economies of scale" that exist within the firm itself than it does on externalities in firms in close proximity to each other. This means, for example, that one firm will export a certain quantity of two types of goods more efficiently than two firms, each exporting the same quantity of only one of the two types of goods. Thus, the probability that a business will begin to export a given product to a given country increases by 2.37 percentage points for each other product that the firm exports to the country in question. Above and beyond these externalities between products, we can also observe economies of scale regarding the markets: the probability that a business will begin to export a given product to a given country increases by 2.16 percentage points for each other country to which the firm exports that product.

The geographical proximity of exporting businesses is one of the 'environmental' determining factors in the export movements of a given firm. In this regard, it remains of secondary importance compared with the determining factors internal to each firm such as size, productivity or experience acquired on international markets. However, the analyses we carried out on the French data show that this proximity has a not inconsiderable impact. The results of these analyses provide an empirical basis for the public policies intended to promote joint export campaigns between businesses in close geographical proximity to each other, especially where the markets targeted are difficult to access.

Pamina Koening, Florian Mayneris* & Sandra Poncet*
sandra.poncet@cepii.fr



*Pamina Koenig is a lecturer at the University of Paris Ouest Nanterre, and Florian Mayneris is a PhD student at the École d'économie in Paris.

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EDITORIAL OFFICES
Centre d'études prospectives et d'informations internationales
9, rue Georges-Pitard
75015 Paris
Tél. : 33 (0)1 53 68 55 14
Fax : 33 (0)1 53 68 55 03

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La Documentation française
124, rue Henri Barbusse
93308 Aubervilliers Cedex
Tél. : 01 40 15 70 00

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