

# Behaviour of Belgian firms in the context of globalisation: lessons from the conference on “International Trade: Threats and Opportunities in a Globalised World”

E. Dhyne  
L. Dresse  
C. Fuss  
Ch. Piette

## Introduction

External trade and foreign investment have long been an important field of analysis for economists. Yet, unprecedented growth in international trade and foreign direct investment, and the rising power of a number of emerging economies have attracted considerably more attention to these topics over the last twenty years.

These developments have major consequences for industrialised countries. Their firms can take advantage of new outlets, but they are now also faced with competition from products made in countries where labour costs are much lower. This competition often induces them to adjust the structure of their business activities, by gradually abandoning production of standardised goods, that are labour-intensive, to move towards products incorporating more advanced technologies, which are thus less exposed to competition from low-cost nations. Alternatively, they break up their production processes internationally, so as to reduce costs of intermediate inputs by benefiting from the advantages of the different locations. Such strategies do of course give rise to sizeable shifts in the structure of the labour market, which can prove to be quite damaging, in particular for workers with a low skill level. These deep changes in the world economy, and the need for

the industrialised countries to adapt to them, now call for appropriate reactions, not only from firms, but also from workers and policy-makers.

These issues are becoming increasingly apparent in Belgium's case, owing to the economy's particularly high degree of openness. Its economic development is therefore still closely linked to the competitiveness of firms based on its territory and their capacity to adjust to changes in world demand and competition.

These various aspects are generally analysed in the light of macroeconomic or macro-sectoral data. For example, the competitiveness of the economy is frequently assessed by using performance indicators on export markets or statistical series relating to trends in wage costs and producer prices. As was shown in an article devoted to Belgium's position in world trade which appeared in this Review in June 2010, factors related to production costs, such as relative wage costs, are not the only things explaining changes in market share<sup>(1)</sup>. In other words, there are other elements in competitiveness than prices or costs which also contribute to export performance.

(1) See Baugnet et al. 2010.

Still using an aggregate as opposed to sectoral approach, innovation potential and investment in human capital – two elements that are essential for adapting to changes in comparative advantage – are measured on the basis of expenditure on R&D or by the number of workers in continuing training.

However, an aggregate analysis does not provide a full picture of the factors determining the competitiveness of an economy. Since the structural elements are often entrenched in firms' individual characteristics, the scientific literature in this area over the last few years has endeavoured to understand the differences between them in terms of internationalisation strategies and performance on foreign markets. The theoretical work has pointed up the fact that firms' behaviour as regards the choice of internationalisation is connected, *inter alia*, to their productivity level. The models that have been developed in this context offer, for example, an explanation why some firms within the same branch of activity export while others only sell their goods on the domestic market. In order to assess the validity and predictions of these theoretical models, researchers have started using microeconomic databases gathering detailed firm-level information, as well as the countries with which they trade, and even the products that they are trading on international markets.

In view of the interest generated by a microeconomic approach to gaining a better understanding of the causes and consequences of globalisation, the Bank wanted to promote research in this area by devoting the 2010 edition of its biennial conference to this subject. This conference was held in Brussels on 14 and 15 October 2010 under the banner of "International Trade: Threats and Opportunities in a Globalised World".

This article presents the main empirical findings from this conference. It draws a series of recommendations from it as regards economic policy direction. The following section first of all looks back at the main stylised facts that emerge from empirical research carried out previously.

## 1. Internationalisation of firms: some stylised facts

Over the last fifteen years or so, there have been many studies documenting the behaviour and characteristics of exporting firms (for example, Bernard and Jensen, 1995, 1999, 2004, Aw and Hwang, 1995, Bernard, Eaton, Jensen and Kortum, 2003, Bernard, Jensen and Schott, 2005, for the United States, Eaton, Kortum and Kramarz, 2004, for France, Muûls and Pisu, 2007, for Belgium, and Mayer

and Ottaviano, 2007, at European level). All this research has relied on theoretical models that take account of the heterogeneity of the population of firms and which drop the simplifying assumption of the existence of a standard firm – whose behaviour is supposed to be representative of the whole of a sector or the economy – which generally tends to be used in macroeconomic approaches. A series of stylised facts can be identified from empirical research focusing on the internationalisation of firms. We have singled out three of these, based primarily on figures relating to Belgium. These findings correspond to those obtained for other advanced economies.

First of all, the characteristics of firms differ considerably according to whether they operate exclusively on the domestic market or are active on the international markets. A kind of hierarchy of firms depending on their degree of internationalisation can be discussed from an analysis of microeconomic data for Belgian manufacturing firms that file full-format accounts. In particular, the greater a firm's presence on international markets – either

**TABLE 1** CHARACTERISTICS OF FIRMS ACTIVE AT INTERNATIONAL LEVEL  
(in % of differences compared with firms solely active on the domestic market<sup>(1)</sup>)

Degree of internationalisation	Employment	Value added	Labour productivity <sup>(2)</sup>
Firms solely active in international trade			
Exporting .....	20	32	13
Importing .....	44	57	17
Both exporting and importing .....	96	111	25
Belgian multinationals			
With no international trade business .....	128	149	33
Exporting .....	148	181	46
Importing .....	172	206	50
Both exporting and importing .....	224	260	58
Subsidiaries of foreign multinationals			
With no international trade activities .....	133	172	49
Exporting .....	153	204	62
Importing .....	177	229	66
Both exporting and importing .....	229	283	74

Source: NBB.

(1) Results of regressions over the period 1995-2005.

(2) Taking size differences into account.

by its involvement in trade, or the existence of foreign direct investment –, the bigger and more productive it tends to be. Compared with the average workforce of a firm geared exclusively to the domestic market, that is, 35 people in the sample considered, a company involved in both exporting and importing and a company belonging to a foreign multinational will have respectively 96% and 133% more staff. In cases where a multinational enterprise is also active in both export and import activities, its workforce is, on average, 229% bigger than that of a domestic firm. The differences in terms of labour productivity are respectively 25 and 49%, or 74% in the case of a foreign multinational that exports as well as imports. Firms active in international markets differ from purely domestic firms not only in terms of size and productivity, but also as regards capital intensity, wage levels and research and development efforts.

Secondly, a small number of exporting firms account for a major share of exports. Those referred to as the “superstars” are very big, highly productive, and export a lot of different products to many destinations. This is just one finding of a study conducted by Bernard, Van Beveren and Vandenbussche (2010). This research project, which relates to the year 2005, covers 25 248 exporting firms out of 710 252 enterprises subject to VAT. Export business is therefore in the hands of just 3.6% of all firms. A closer analysis shows a very strong concentration of

these activities within exporting firms themselves. Indeed, if we differentiate between these firms according to the number of products exported, it can be seen that 1 094 companies exporting more than 50 different products to more than 23 different destinations make up 33.2% of total exports. If we focus on firms exporting more than 20 products, it can be observed that 12.1% of all exporters account for 61% of the exports. On the other hand, firms that only export one product, and to 1.6 destinations on average, contribute no more than 2% of the total exports, even though they make up 34% of the exporting firms in number.

The third stylised fact concerns the sources of export growth. The total volume of exports that can be defined as the value of exports traded by all exporting firms taken together, the growth in this total can be broken down in such a way as to obtain the extensive margin, i.e. the growth in exports attributable to the increase in the number of exporting firms, and the intensive margin, namely the growth in exports due to the increase in the average value of exports per enterprise. The respective roles of the extensive and intensive margins vary according to the time frame. In fact, over the period from 1998 to 2005<sup>(1)</sup>, the main source of annual growth in the total

(1) This period has been chosen because the reporting thresholds for international trade data remained constant then.

**TABLE 2** CONCENTRATION OF THE NUMBER OF EXPORTERS AND THE VALUE OF EXPORTS  
 (data for 2005)

Number of products exported <sup>(1)</sup>	Exporting firms		Value of exports		Average number of destinations
	Number	In % of total exports	Number	In % of total exports	
1 .....	8 596	34.1	4 487	2.08	1.6
2 .....	3 401	13.5	4 157	1.93	3.1
3 .....	2 026	8.0	3 952	1.83	4.4
4 .....	1 392	5.5	4 032	1.87	5.4
5 .....	1 102	4.4	6 764	3.13	6.7
6-10 .....	3 187	12.6	21 947	10.17	9.6
11-20 .....	2 483	9.8	38 655	17.92	12.9
21-30 .....	1 068	4.2	31 483	14.59	15.9
31-50 .....	899	3.6	28 693	13.30	18.7
> 50 .....	1 094	4.3	71 591	33.18	23.6
Total .....	25 248	3.6 <sup>(2)</sup>	215 761	100.0	6.7

Source: Bernard, Van Beveren, Vandenbussche (2010).

(1) Based on the 8-digit Combined Nomenclature. This has around ten thousand positions.

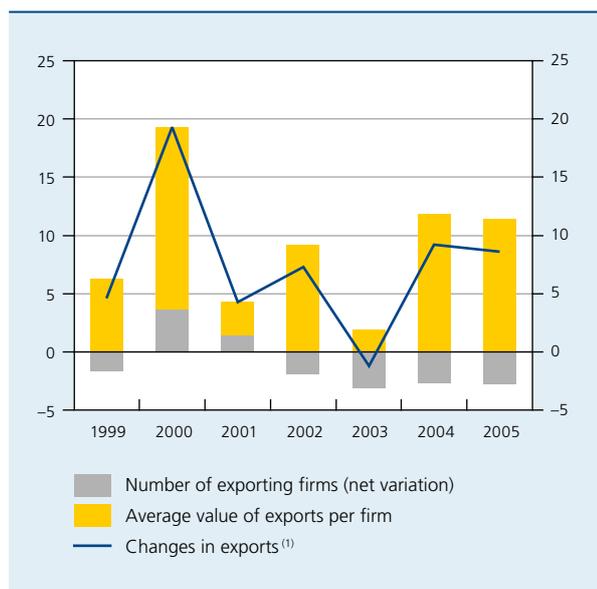
(2) In % of the number of firms that had to pay VAT in 2005.

amount of exports was the increase in the average value of exports by exporting firms. Variations in the number of exporting firms actually have very little impact on annual export growth rates. On the other hand, the extensive margin is a key element in explaining long-term export dynamics, since the population of exporting firms changed significantly between 1998 and 2005. For instance, 55 % of companies that exported back in 1998 no longer did so in 2005 and 51 % of firms exporting in the year 2005 did not in 1998.

The international trade crisis of 2008-2009 is a perfect example of the importance of the intensive margin in explaining short-term changes in exports from Belgium. In parallel with the sudden paralysis of a segment of world trade at the end of 2008 and the beginning of 2009, exports from Belgium in volume terms fell back by 2.1 % in the first half of 2009 compared with the same period of the previous year. In nominal terms, exports declined by around 27 %. On the basis of individual data for Belgium, Behrens, Corcos and Mion (2010) showed that this drop was almost entirely due to the intensive margin. It even appears that the number of exporting firms actually increased slightly between 2008 and 2009, and they continued to supply the same markets and export the same amount of goods as before the crisis. Still having a foothold in these markets, the companies have therefore

**CHART 1** BREAKDOWN OF MOVEMENTS IN BELGIUM'S EXPORTS

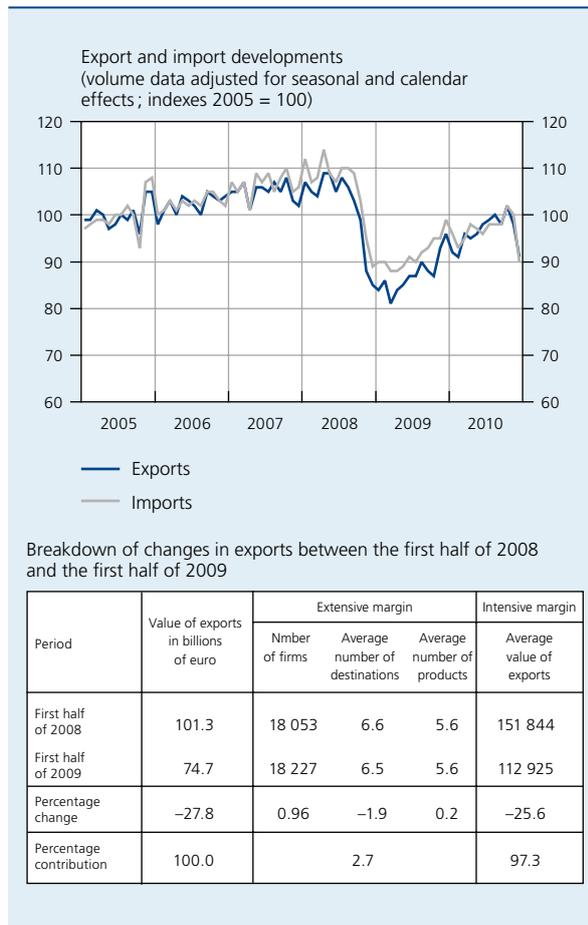
(contribution to changes in exports in value; percentage points, unless otherwise stated)



Sources: NAI, NBB.

(1) Percentage changes.

**CHART 2** BELGIUM'S EXTERNAL GOODS TRADE DURING THE CRISIS



Sources: Behrens, Corcos, Mion (2010), NAI, NBB.

been able to benefit more easily from the pick-up in foreign demand.

The findings of a study by Eaton, Kortum, Neiman and Romalis (2010) covering most industrialised countries confirm those obtained by Belgium. Noting that the international trade crisis was accompanied by a big drop in the international trade/GDP ratio in all the industrialised countries, these authors use a multisectoral general equilibrium model calibrated on data from 22 countries accounting for 75 % of world trade to find out whether this decrease reflects any specific frictions in international trade. They drew the conclusion that the contraction in trade had its origins in a sharp reduction in world demand, which has been particularly strong in the case of manufactured goods, and especially durable consumer goods (such as motor vehicles). However, they did not detect any significant effects related either to the resurgence of protectionist measures, or to the widespread problems of restrictions on export credit.

## 2. Findings of research papers presented at the Bank's 2010 conference

For the 2010 conference devoted to the analysis of the internationalisation behaviour of firms, the Bank permitted the use of firm-level data that it either gathers itself – namely annual accounts, the results of the survey on direct investment and data on foreign trade in goods and services – or that it possesses as part of its task of compiling statistics, such as data held in the Crossroads Bank for Enterprises and the response to the survey on industrial production carried out by FPS Economy. In order to respect the legislation on private data, it is nevertheless necessary to insist on the fact that all these data have been handled at the Bank, by members of its staff, on the basis of instructions and computer programs provided wherever necessary by external researchers.

Six external research projects and two projects from the Bank were selected for presentation to the conference. The Bank also invited four internationally-renowned pioneers in the field of theoretical development and empirical application of microeconomic-dimension models of international economy, namely Andrew Bernard, Jonathan Eaton, Marc Melitz and Gianmarco Ottaviano. Their interventions enabled the findings for Belgium to be put into a wider context. Contributions covered a wide variety of aspects. The following is a summary of the main results obtained. In order to get a better idea of useful lessons to be drawn for the purpose of analysis and economic policy, they have been put into five theme-based categories.

### 2.1 Determinants and strategies for entering international markets

One of the first research topics broached by some of the contributions to the conference was the analysis of the determinants of the decision to go into international markets, either by exporting or through direct investment abroad, as well as the identification of strategies followed by Belgian firms in order to gain a lasting foothold in foreign markets.

In the economic literature, the decision to go into a foreign market is based on a comparison between the firm's anticipated profitability on this market, often measured empirically by the productivity of the company in question, on the one hand, and the cost of going into this market, on the other.

A company will have to face different kinds of entry costs depending on whether it wants to move into a foreign market by exporting or by direct investment. If it opts to export its products, it will have to bear fixed entry costs and variable costs associated with the volume of exports. The fixed costs can include such things as costs associated with finding a local partner, regulations in force on the foreign market and the presence of non-tariff barriers. Classic elements of variable costs are transport-related costs and tariff barriers.

If, on the other hand, the Belgian firm chooses to set up a production unit in the foreign market, it will only have to bear one fixed entry cost, related *inter alia* to the acquisition or construction of an assembly plant. This fixed cost is generally higher than the fixed cost associated with exports.

These various costs divide the population of firms in a country into three groups.

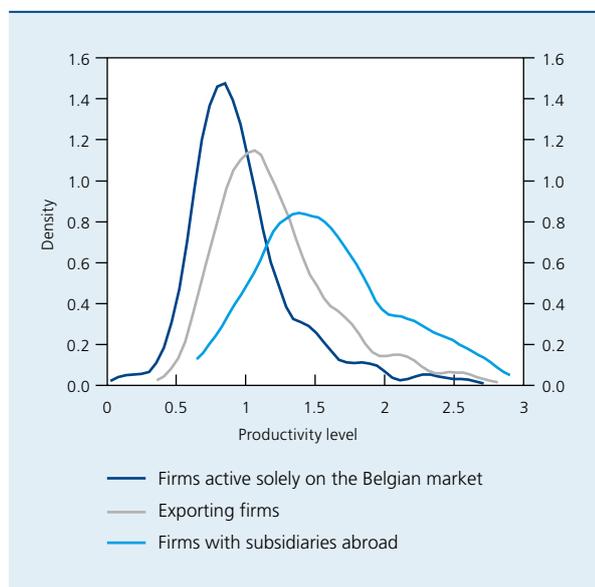
Not being able to meet either the export entry costs or the cost of any direct investment abroad, the least productive firms will remain purely domestic firms, or end up going out of business if their productivity is so low at this stage that they become unviable on the domestic market too. For their part, the most productive firms will be able to bear the cost of direct investment abroad and will become multinational enterprises.

Firms that will be in a position to bear the entry costs of exporting but whose expected profitability (productivity) is not enough to enable it to meet the cost of a direct investment will become exporting firms.

This ranking is visible, *ex post*, in the Belgian firm population, since the distribution of productivity levels of firms that have foreign direct investment relationships overrides that of firms involved in the export business. Likewise, this distribution dominates that of firms geared exclusively to the Belgian market.

While it enables some form of heterogeneity to be given to the behaviour of firms as observed in practice, this modelling of firms' decisions to go international is still a simplification of real life. By supposing advance knowledge of the costs and gains involved in having a presence on foreign markets, either by exports, or by investment, this approach presumes that, because there are fixed costs at stake, involvement on foreign markets will be major and sustainable as soon as it becomes profitable. In fact, a firm that chooses to export to a particular market should not first have to export a small amount there, but must be able to continue to trade there once the fixed entry

**CHART 3** TOTAL FACTOR PRODUCTIVITY ACCORDING TO THE DEGREE OF INVOLVEMENT IN FOREIGN MARKETS  
(data for 2005)



Source: NBB.  
Note: The productivity levels given in this chart have been calculated on the basis of the so-called index method. For more details on the method of calculation, see Dumont et al. (2010).

costs have been borne. Yet the microeconomic data show that some firms start by exporting very small amounts on a given market, before either increasing their sales there or pulling out.

Recent theoretical literature takes such behaviour into account. The dynamics observed may be due to the fact that the company's profitability on the external market is uncertain. Conconi, Sapir and Zanardi (2010) have taken this uncertainty into consideration in a model explaining, in an integrated manner, decisions to export or to go into direct investment. In such context, a company could use exports as a means of assessing its profitability on the international markets. It would therefore test a specific market through exports and would then decide either to pull out of this market, or to expand there via exporting or direct investment.

This sequential plan for entering international markets seems to fit in relatively well with the facts observed. By using data on export and FDI decisions by individual country of destination for Belgian-registered companies over the period 1997-2008, the authors observe that foreign direct investment is almost systematically preceded by a period of export to the country targeted.

This model also enables the impact of any change in costs associated with exports and foreign direct investment to be examined. Conconi, Sapir and Zanardi (2010) note that, in an uncertain environment, breaking down barriers to export markets will not just have a positive impact on the share of exporting firms (companies initially geared towards the domestic market and later becoming exporters), but also on the share of firms that become multinationals, after a trial export period.

Even though a reduction in export costs is mainly obtained through multilateral agreements, it appears that the firms themselves implement their own strategies for cutting the costs of entering international markets. In this respect, two contributions presented during the Bank's conference seem to indicate that firms whose productivity levels are not high enough to export their products directly tend to go into international markets indirectly, and via two channels.

The first consists of using commercial intermediaries (wholesalers, retail traders) who can take advantage of lower entry costs on foreign markets, thanks to their knowledge of these markets or to economies of scale which tend to favour their goods trade. In the United States, commercial intermediaries are responsible for 10 % of exports and 23 % of imports. Similar proportions can also be observed in the case of Italy.

The second channel consists of what Bernard, Van Beveren and Vandebussche (2010) call "carry-along trade". On the basis of export and production data per product from Belgian manufacturing firms in 2005, these authors noted that a large proportion of a company's exports was concentrated on products that it does not produce itself. In 2005, 90 % of exporting firms were exporting at least one product that they did not manufacture themselves and 30 % of the export volume was made up of these products.

So, how can the existence of carry-along trade be explained? Bernard, Van Beveren and Vandebussche (2010) mention, among other things, the fact that a firm could export products made by other firms if these goods are necessary for the consumption or use of its own products (complementary products). Through carry-along trade or the use of intermediaries, a domestic firm's goods can thus gain access to foreign markets without it having to bear the entry costs directly.

As well as characterising the different ways of entering foreign markets, one of the contributions attempted to demonstrate the main strategies for SMEs to move into foreign markets.

**TABLE 3** THE MAIN INTERNATIONALISATION STRATEGIES OF SMES

Number of international markets	Age at which the firm starts its international development	
	5 years or less	More than 5 ayears
At least 5 markets	<i>Born global</i> (21 % of firms)	<i>Born-again global</i> (less than 1 % of firms)
Less than 5 markets	<i>Born international</i> (31 % of firms)	<i>Traditional internationalizers</i> (48 % of firms)

Source: Onkelinx and Sleuwaegen (2010).

Even though export business is concentrated in the hands of a few big firms, an analysis of the microeconomic data shows that, in the long run, the extensive margin (i.e. entry of new exporters) is an important element in Belgium's export growth. Yet, according to Onkelinx and Sleuwaegen (2010), almost 70 % of these new exporters are SMEs. It is therefore important to determine what their entry strategies are for gaining a foothold on international markets.

Onkelinx and Sleuwaegen (2010) identify two main ways of entering international markets: the so-called "water-fall" entry into one market at a time, and a "sprinkler" strategy with entry targeting several markets at once. By combining these two market entry methods and the age of the SMEs in question, the authors single out four types of exporting SMEs:

- Almost half (48 %) of these SMEs are what the authors call *traditional internationalizers*, that is, firms which decide to go into a limited number (less than five) of foreign markets after a period of more than five years of growth based on exclusively domestic-market-oriented business;
- 31 % of exporting SMEs are referred to as *born international*. These are young firms (less than five years old) that are active on a limited number of foreign markets;
- 21 % of exporting SMEs belong to the *born global* group. These are young firms that rapidly expand into many different markets;
- and the last group, which is more marginal because it consists of less than 1 % of exporting SMEs, is the *born-again global group*, firms that have witnessed some internationalisation by exporting to at least five foreign markets, after a long period of domestic growth.

The born globals are particularly important for the development of long-term exports, because they bear all the features of future "superstars", in other words, they

are more productive and they enjoy faster growth than the other SMEs. However, the findings of Onkelinx and Sleuwaegen (2010) suggest that this strategy is riskier than the other two: while it is more profitable, it also comes with a higher risk of failure. Given the importance of these firms for the economic potential, they should therefore request specific back-up from the public authorities.

## 2.2 Trade in services

Services trade is not usually analysed very much in research work concerning globalisation and performance of the external sector. And yet services play a predominant role in advanced economies' activity, with a share of around 70 %. Furthermore, new information technologies make them easier to trade. Besides traditional services like transport or travel, the provision of certain services accross national borders have been greatly facilitated.

**TABLE 4** CHANGES IN THE NUMBER OF FIRMS EXPORTING SERVICES BETWEEN 1995 AND 2005

Number of exporting firms in 1995	5 346
Changes between 1995 and 2005	
New exporting firms	6 360
New exporters among existing firms	4 808
Existing firms ceasing to export	-1 852
Disappearance of exporting firms	-1 633
Number of exporting firms in 2005	13 029

Source: Ariu and Mion (2010).

By combining data for Belgium on trade in services over the period from 1995 to 2005 and German figures on the development of the type of tasks performed during the production of various services, Ariu and Mion (2010) obtained the following results.

First of all, a large number of firms launched into the services export trade between 1995 and 2005. The number of companies providing cross-border services has risen from 5 346 to 13 029, a net increase of more than 140 %. This contribution from the extensive margin (the number of exporters) has contributed hugely to the expansion of revenue gained from exports of services.

Generally speaking, it appears that intensive use of information technologies favours international trade in services. However, this is by no means a uniform finding, as it varies according to the kind of services provided. Detailed figures on the type of tasks carried out in the different branches of activity in fact show that more intensive use of computer technology has resulted in an increase in both analytical and interactive tasks, to the detriment of routine manual or cognitive jobs (e.g. simple administrative tasks).

While analytical jobs can be done from a distance, and therefore make international trade in services possible, interactive tasks more often require the presence of the supplier and beneficiary of the service in the same place. The empirical analysis confirms that the first type of task

has a positive impact on the development of cross-border trade in services, while the second slows it down. These differences make clear that, among Belgium's new services exporters, a large number of firms can be found in the professional services or consultancy sector, as well as firms active in the field of information and communication. On the other hand, the hotels, restaurants and catering sector and health care, for example, are still lagging behind. For this kind of business, internationalisation instead appears to take place through the establishment of subsidiaries abroad, or by the service provider moving, which gives rise to higher transaction costs. These developments are confirmed by the aggregate results for the whole of the economy. Thus, according to balance of payments figures for Belgium, the significance of exports of services rose from 10.4% of GDP in 1995 to 14.9% in 2005. This growth originated not only in travel-related revenue, but also in that related to professional services (advisory services, marketing, research and development) and communication.

### 2.3 Strategies in response to growing competition from emerging economies

When they decide to launch into internationalised activities – whether through goods trade or FDI –, firms have to take account of the importance of foreign competition. This competition, which comes into play on both the domestic and external markets, obviously influences their profitability. One finding that the microeconomic analysis has been able to highlight is that exposure to external competition affects the average productivity of an economic sector through various channels.

Firstly, it exerts a crowding-out effect on the least productive firms. The most productive companies expand their market share, on the domestic market and on external markets, while the least productive ones close down. Either way, this boosts the average productivity of the sector.

Secondly, external competition tends to stimulate productivity among firms that remain in business. In order to face up to new competitors, they can develop strategies designed to improve the quality of their products or concentrate on niche markets for products in which they are more competitive.

This is highlighted in several research papers. An analysis carried out by Pavcnik (2002) on trade liberalisation in Chile, for instance, suggests that around one-third of the increase in productivity in the manufacturing sector can be attributed to an improvement in the productivity

**TABLE 5** DEVELOPMENT OF SERVICES EXPORTS, BY BRANCH OF ACTIVITY

(changes in the number of exporting firms between 1995 and 2005)

Sector	Changes in the number of firms
Professional, technical and scientific activities . . .	3 539
Information, art and communication . . . . .	766
Construction . . . . .	660
Transport services . . . . .	639
Wholesale and retail trade . . . . .	620
Other services . . . . .	572
Hotels and restaurants . . . . .	257
Insurance, reinsurance and pension funds . . . . .	158
Health . . . . .	144

Source: Ariu and Mion (2010).  
Note: A firm can be active in several sectors.

of the firms remaining in business, and that the other two-thirds come from the weakest-performing firms ceasing their activity and from the growth of the most productive firms' market share. In the case of the United States, Bernard, Jensen and Schott (2006) find that the exit probability of companies in the manufacturing sector increases after a cut in customs tariffs, but to a lesser extent for those firms whose productivity is relatively high compared with the average for the sector. The results obtained for a panel of firms from twelve European countries by Blomm, Draca and Van Reenen (2011) indicate that stronger competition from goods coming from China has gone hand in hand with firms going out of business, especially in the case of relatively low-technology companies, while productivity and innovation among firms remaining in business have risen.

The study by Mayer, Melitz and Ottaviano (2010) that was presented to the conference highlights the fact that firms adjust their core product range and quality to the specific conditions of each market<sup>(1)</sup>. In particular, they tend to concentrate on their core products, when it comes to exports to distant markets and those where competition is fiercer. Their findings show that more intense competition tends to increase the productivity of firms because they focus on the products for which they are more productive and export in larger volumes.

As regards Belgium, the results obtained by Abraham and Van Hove (2010) for manufactured goods indicate that competition from Asian countries is being felt on Belgian firms' main export markets. Generally speaking, exports of these products are concentrated on the biggest and closest countries, and in neighbouring countries. Furthermore, Belgian firms export a wider range of products to nearby nations such as the neighbouring countries and members of the European Union, and also rich nations with a high GDP per capita. There is nevertheless some evidence of differentiation between the Asian countries according to the destination market. As in the case of Chinese goods, competition from South Korea is strong on the European and Asian markets; Singapore competes with Belgian exports in Europe and in North America, while competition from Taiwan is only significant on some specific markets.

(1) When they export to more distant or more competitive markets (typically towards larger countries that are more open to international trade), there is a tendency among firms to refocus on their core products, those in which they are in principle more productive. These findings have been confirmed for the French manufacturing sector. Exports of a firm's main product compared to exports of its second product tend to be all the more higher when the country of destination is bigger and enjoys a higher degree of trade liberalisation.

The increasing competition from the emerging economies, and the Asian nations in particular, which initially concerned products which are very low-skilled-labour-intensive, now extends to a wider range of products and sectors, including those with high value added. Certain sectors, like chemical plastics, the leather industry and the food sector nevertheless seem to have resisted competition from the Asian countries rather well overall.

This strong presence is not without impact on Belgian firms' performance and, consequently, on their strategies. The scale of competition from the Asian nations, measured in terms of destination market share, is weighing on the value of Belgian firms' exports and product range. This is particularly true with competition from China, alternatively via Hong Kong, and Taiwan. Moreover, Belgian firms tend to scale back their product range in areas where competition from China and South Korea is the greatest. A one percentage point increase in Hong Kong's market share in a given country reduces the value of Belgian exports to this country by 1% and the number of products exported to this market by 0.34%.

In addition, strategies aiming to step up the quality and/or the variety of products exported have made it possible to offset losses, at least in part, in terms of exports as a result of competition from the Asian nations. By only taking firms that have improved their product quality into consideration, it can be noted that the growth in exports between 1998-2001 and 2002-2006 was all the greater because companies had made major strides in developing the quality and/or the variety of products exported.

**TABLE 6** IMPACT OF THE PRESENCE OF ASIAN COUNTRIES ON BELGIUM'S EXPORT MARKETS

(influence of a 1 percentage point growth in market share of the Asian countries by product and by destination market)

	Annual value of exports per Belgian exporter, by product and by country of destination	Number of products exported annually per Belgian exporter by country of destination
China .....	-0.69 (***)	-0.20 (***)
Korea .....	0.52	-0.42
Taiwan .....	-1.07 (***)	0.29 (***)
Singapore .....	0.32	0.15
Hong Kong .....	-1.00 (***)	-0.34 (***)

Source: Abraham and Van Hove (2010).

The results take account of the features of the country of destination (GDP, GDP per capita, distance, existence of a common border, membership of the EU-15 and EU), of firms' individual characteristics (number of employees, average wages, value added per person, stock of capital per person, intangible fixed assets per person). Products are defined on the basis of the 8-digit Combined Nomenclature. (\*\*\*) : refers to a 1% significance threshold.

## 2.4 The impact of internationalisation on domestic firms

So far, this article has dealt with questions mainly concerning firms involved in international activities. However, the consequences of opening up to external markets go beyond internationally-active companies, and can have positive effects on the rest of the economy.

One of them lies in the spillover effects that firms already present on the export markets have on the productivity and development of other firms' activities. In their contribution, Dumont, Merlevede, Piette and Rayp (2010) sought to establish whether such effects are apparent among Belgian firms, first by examining whether geographical or economic proximity – through supplier-client relations or via competition effects – influences other firms' productivity. Looking beyond the impact on productivity, they then analysed the potential impact on the perception of entry costs for going into foreign markets.

The econometric analysis carried out in this research paper pointed up the fact that there are indeed such spillover effects among Belgian firms at various levels. As far as productivity is concerned, the authors made the following observations:

- the fact that intermediary inputs are supplied to multinational enterprises exerts positive spillover effects on productivity. For instance, it could simply be the know-how acquired by an entrepreneur by adapting his production processes, since multinationals tend to require a higher quality from their suppliers;
- geographical proximity with firms operating at international level can have a favourable impact on productivity. The analysis actually reveals that, in a given district, the number of exporters helps to improve the productivity of domestic firms. This can notably result in positive fallout related to worker mobility, in other words, companies can benefit from the know-how that some employees have acquired from their previous employers. To some extent, this geographical dimension can also reflect relations between customers and suppliers, if they are located close to each other;
- on the other hand, some of the findings suggest that the multinational enterprises operating in the same branch of activity exert strong competitive pressure on non-exporting firms. Instead of triggering a spillover effect, this pressure has a negative influence on the latter's productivity levels. One of the factors that this can be attributed to is that international firms tend to monopolise the best production inputs, to the detriment of their rivals.

Looking beyond the direct impact on the productivity of firms geared towards the domestic market, the proximity of firms operating at international level also has derived effects on their opening up to foreign markets. First and foremost, when this works in favour of the productivity levels of local firms, it raises the possibility for the latter to bear the fixed costs associated with going into export markets and to do so profitably. Furthermore, proximity to exporting firms also leads to a direct reduction in these costs. For example, a firm that gets its supplies from an exporting firm can obtain useful information about markets served by this same company. Likewise, information concerning external markets exchanged among entrepreneurs active in the same region, for example through a federation of enterprises, can bring down the costs associated with moving into these same markets.

## 2.5 Impact of globalisation on the labour market

By prompting companies to adapt their strategy for boosting productivity, globalisation also has important consequences for employment in the advanced economies. This section looks at the impact of competition from low-wage countries and of offshoring on demand for skilled and unskilled labour, as well as the role of multinational enterprises in adjustment of employment in Belgium.

Many macroeconomic studies point up a negative relationship between competition from low-wage countries and demand for low-skilled labour in industrialised countries, with varied effects depending on the technological level of the different branches. A complementary micro-economic analysis makes it possible to check whether these shifts in labour towards skilled employment can also be observed within the firms themselves.

In Belgium's case, a study (Mion and Zhu, 2011) has already taken an in-depth look into the impact of imports from low-income countries on demand for labour and on the composition of the workforce. The findings of this research show that China plays a very specific role here. The growth of imports from this country does actually strongly affect both employment growth in Belgian firms and the composition of their workforce, while growth in imports from other low-cost countries does not seem to have much impact on these two variables. Most notably, in response to the increase in imports from China, Belgian firms have tended to reduce their demand for labour and this trend has been particularly unfavourable for low-skilled workers. According to their estimates, the changes induced by Chinese imports accounted for a major proportion of the observed change in the share

of skilled manpower in total employment between 1998 and 2007.

Instead of taking the direct impact of new competitors in emerging countries as a starting point in their research work for the conference, Cuyvers, Dhyne and Soeng (2011) endeavoured to analyse the consequences of Belgian firms' internationalisation strategies on demand for labour, by distinguishing between their three main channels: importing intermediary inputs, exporting production or establishing FDI relationships.

It emerges from this analysis that imports of inputs from low-income and low-production-cost countries, as well as exports to these nations, tend to benefit skilled employment in Belgium rather than unskilled jobs, something which confirms the aforementioned findings.

On the other hand, growth in exports to high-income countries seems to have a positive effect on demand for low-skilled employment, while an increase in imports of intermediary inputs from high-income countries only appears to have the effect of substituting domestic inputs by foreign inputs, without affecting the importing firm's demand for labour. However, this substitution of domestic inputs by foreign inputs is not employment-neutral in Belgium since it entails a reduction in demand for labour by the firms that produce these domestic inputs.

As regards establishing new FDI relationships abroad via a subsidiary or other types of stakeholdings, the expansion of such investment in a low-cost country should not have any significant impact on firms' demand for labour, according to the findings of the study. However, new investment in high-income countries seems to boost demand for skilled employment, no doubt because of the

increase in supervision and coordination functions, to the detriment of low-skilled labour.

As the two above-mentioned studies seem to suggest, the import of intermediary products from low-wage countries, or offshoring, has a direct negative effect on employment. This means that offshoring is a substitute for intermediary inputs produced locally by a supplier, or that it involves part of the production that had originally been carried out within the company concerned. However, this direct negative effect may be offset by cutting production costs, thus generating gains in terms of market share, and, consequently, an increase in production and employment.

A paper by Ottaviano, Peri and Wright (2010) on the manufacturing sector in the United States actually reveals a positive impact from offshoring on the employment of low-skilled and highly-qualified workers, but job losses for highly unskilled labour. The authors come to the conclusion that, between the more manual and routine-intensive tasks that are usually passed on to highly unskilled workers and the more cognitive and non-routine jobs generally done by skilled workers, it is average-complexity work that is most frequently subject to offshoring. Their findings show that offshoring does not replace employment of skilled workers. On the other hand, wider use of offshoring tends to push low-skilled workers towards more manual and routine-intensive jobs, from which they force highly unskilled workers out. Conversely, the transition towards more complex tasks is limited. All in all, the rise in offshore production is therefore proving to be to the detriment of highly unskilled labour.

By its very nature, offshoring, linked to the relocation of part of the production base, is the result of the multinationals. Their impact on employment is nevertheless wider.

**TABLE 7** IMPACT OF FIRMS' INTERNATIONALISATION STRATEGIES ON THEIR STAFF

(results by type of counterparty country, manufacturing industry only<sup>(1)</sup>)

	Increase in the share of imported inputs		Increase in the share of exports in turnover		Increase in the number of FDI relationships	
	Skilled employment	Low-skilled employment	Skilled employment	Low-skilled employment	Skilled employment	Low-skilled employment
High-income countries	0.048	-0.032	-0.168 (**)	0.114 (**)	0.021 (**)	-0.014 (**)
Low-income countries	0.546 (**)	-0.374 (**)	0.663 (**)	-0.448 (**)	-0.018	0.012

Source: Cuyvers, Dhyne and Soeng (2011).

(1) In % of increase in skilled or unskilled jobs following a 1 percentage point change in the share of imported inputs or in the share of exports in turnover or after a one-unit increase in the number of foreign direct investment relationships. These elasticities are adjusted for influence of changes in wages per type of job, capital stock, value added. (\*\*): 5% significance threshold, (\*\*\*): 1% significance threshold. The authors have separated jobs between skilled and low-skilled on the basis of segmentation between clerical employees and manual workers.

The analysis by Dhyne, Fuss and Mathieu (2011) shows that foreign multinationals played a significant role in job creation in Belgium over the period from 1998 to 2005. In the sample under consideration, it is true that the purely domestic firms have generated the most jobs in net terms, i.e. some 57 600, but this result reflects the high proportion of these firms in the sample. Companies with no FDI ties created 0.74 jobs on average.

Far from having had a dampening effect on employment, the foreign multinationals' subsidiaries – that is, firms at least 50 % owned by a foreign investor – were actually responsible for creating roughly 5 900 jobs over the same period. However, the Belgian multinationals (at least 50 % owned by a foreign investor but with stakeholdings abroad) cut employment by about 16 500 units in the same time span.

If these changes in employment are broken down between the effect of companies going out of business as a result of closures or corporate takeovers on the one hand, and the effect of shifts in staff within the firms in place on the other hand, this second channel is generally shown to be predominant in the case of the multinationals, whether they are Belgian or foreign. There have been only two incidents leading to a marked loss of employment because

of the disappearance of firms: in 2003, several foreign multinationals ceased their activity, but some were taken over by other non-Belgian multinationals, which explains why the impact on employment was limited; and in the year 2000, the bankruptcy of a large company contributed to the loss of about 9 800 jobs recorded for Belgian multinationals.

Besides these closures or corporate takeovers, Dhyne, Fuss and Mathieu (2011) show that the multinationals currently trading have a more flexible management of manpower than purely domestic companies. Estimates of adjustment costs established on the basis of net employment flows observed at firm level reveal a particularly wide gap between multinational enterprises and purely domestic firms in the case of clerical workers. The cost of adjusting blue-collar employment in the case of multinational enterprises is about 30 % lower than for domestic companies. In the case of white-collar workers, multinational enterprises' adjustment costs come to less than 45 % of those borne by domestic firms.

In order to explain these gaps, additional econometric analyses have been carried out. These show that the Belgian multinationals are not significantly different from the foreign multinationals in terms of adjustment costs.

**TABLE 8** COMPARISON OF EMPLOYMENT TRENDS IN BELGIUM ACCORDING TO FIRMS' FDI STATUS  
(sample of firms that have filed full-format annual accounts)

	1998	1999	2000	2001	2002	2003	2004	2005	Total	Average
<b>Non-multinational Belgian firms</b>										
Total net creation (thousands) . . . . .	16.7	15.4	19.7	3.1	0.4	-1.0	6.1	-2.8	<b>57.6</b>	
Established firms . . . . .	20.0	22.3	25.0	8.5	4.2	5.6	8.6	5.5	<b>99.7</b>	
Exiting firms . . . . .	-6.8	-10.2	-8.5	-8.6	-8.0	-7.3	-4.0	-8.6	<b>-62.0</b>	
Average net creation (units) . . . . .	1.7	1.6	2.0	0.3	0.0	-0.1	0.7	-0.3		0.74
<b>Belgian multinationals</b>										
Total net creation (thousands) . . . . .	0.3	-2.3	-7.6	-2.9	-4.1	3.7	-2.4	-1.2	<b>-16.5</b>	
Established firms . . . . .	0.6	-2.1	2.2	-1.3	-4.0	3.7	-1.7	-0.7	<b>-3.3</b>	
Exiting firms . . . . .	-0.3	-0.2	<b>-9.8</b>	-1.6	-0.1	0.0	-0.7	-0.5	<b>-13.2</b>	
Average net creation (units) . . . . .	0.9	-6.6	-22.3	-6.7	-9.5	8.9	-5.9	-3.5		-5.59
<b>Subsidiaries of foreign multinationals</b>										
Total net creation (thousands) . . . . .	6.1	0.7	9.3	0.7	-9.9	-3.8	4.0	-1.2	<b>5.9</b>	
Established firms . . . . .	7.1	1.6	10.0	1.8	-9.4	-0.2	5.5	0.7	<b>17.1</b>	
Exiting firms . . . . .	-1.1	-0.9	-0.7	-1.1	-0.5	<b>-4.0</b>	-1.5	-2.1	<b>-11.9</b>	
Average net creation (units) . . . . .	6.2	0.8	8.8	0.5	-7.1	-2.6	2.9	-0.9		1.08

Source: Dhyne, Fuss and Mathieu (2011).

Then again, using temporary employment contracts and early retirement schemes enable adjustment costs to be reduced for non-clerical employment, and go a long way towards explaining the differences in adjustment costs between multinationals and domestic firms as far as manual workers are concerned. Indeed, if one considers firms with an identical temporary job turnover rate equal to the average, the difference between multinationals and domestic firms in terms of adjustment costs is no more than 3% for production employment. However, the difference as concerns salaried staff is still of the same order of magnitude as when no use is made of such types of contract. A similar conclusion can be drawn by comparing firms that made use of early retirement schemes during the period analysed.

Differences in scale of production could offer an explanation for part of the variations in adjustment costs observed for white-collar workers between multinational enterprises and purely domestic firms. However, if companies with 200 workers are considered, the adjustment costs for clerical workers of multinational enterprises only account for 55% of those of domestic firms.

## Conclusion

An economy's capacity to integrate positively into the trend towards globalisation and the emergence of new growth poles and competitors depends both on macroeconomic conditions and microeconomic characteristics of firms. From a macroeconomic viewpoint, changes in production costs – notably those concerning labour or energy – and exchange rate movements influence prices. From a microeconomic point of view, the general efficiency of firms and the type of product that they have to offer determine their chances of success and their performance on foreign markets. The two types of analysis are thus largely complementary, and need to be taken together in order to understand all the various facets of the economy's competitiveness.

The main contribution that the microeconomic approach has to make lies in the fact that individual firm-level data enable phenomena that do not appear in aggregate figures to be flagged up. Taking account of the heterogeneity of firms really does bring added value to the understanding of foreign trade dynamics and, more widely, to understanding how the economy works.

One of the most graphic examples is that, in each branch of activity, firms of different sizes and performance levels exist alongside each other. The analysis of characteristics specific to each firm makes it possible to isolate the factors

that determine why some are more able than others to get into foreign markets. Likewise, useful conclusions can be drawn on strategies likely to guarantee success on these same markets by examining those followed by firms that have managed to gain a lasting foothold there, and by matching them against those followed by exporters who have given up trying to do so.

Another lesson that can only be drawn from an analysis of companies is that, in a given region or sector, internationalisation of just some of the firms can have repercussions on the others. Local suppliers have to raise their productivity when their customers step up their requirements in response to competition on international markets. The (technological or geographical) proximity of the firms can also serve to encourage the exchange of technological know-how and information on foreign markets.

Furthermore, the microeconomic analysis points up the sheer size of production factor reallocation by the less successful firms in favour of those whose business is growing more rapidly. Among other things, this helps to get a better grasp of the consequences of globalisation on the labour market.

While these remarks may sometimes seem to go without saying, the research work carried out for the Bank's conference has enabled significant effects for Belgian firms to be pinpointed. A quantified assessment on the basis of statistical methods makes it possible to be more objective about the often contradictory impressions that emerge from one or another case study, and to emphasise the most important elements that make up the non-cost structural competitiveness of the economy.

By understanding and quantifying the determinants of and the fallout from internationalisation, it is possible to single out a series of economic policy recommendations and, against a backdrop of limited public funds, set priorities.

Action can be taken at several levels. First of all, aid for overseas market research has been identified as one of the elements favouring the internationalisation of firms. It could prove to be particularly useful for smaller-sized enterprises that are venturing out on their international business. Indeed, the existence of "superstars" must not conceal the importance of SMEs in the globalisation process and in terms of job creation. While the intensive margin dominates short-term fluctuations in international trade, the extensive margin is the determining factor in the longer term. The analyses mentioned above also show that targeted policies are needed. Strategies must be adapted to both the sector and the market.

Productivity is a determining factor when it comes to access to international markets. Measures that can boost it are thus essential; for example, policies that promote the development of products that are adapted to each type of market and of a sufficiently high quality to face up to growing competition from emerging nations. Furthermore, with competition from low-wage countries affecting low-skilled jobs in particular, it is of primordial importance for preserving jobs to ensure the development of skills by setting up manpower training policies.

The public authorities also have a role to play in making Belgium more attractive for foreign investors. Indeed, the findings set out above suggest that while the multinationals can adjust their employment levels more easily than domestic firms, the foreign multinationals have made a substantial contribution to net job creation in Belgium.

## References

### Research papers presented at the Bank's Conference on "International Trade: Threats and Opportunities in a Globalised World"

Abraham F. and J. Van Hove (2010), *Can Belgian firms cope with the Chinese dragon and the Asian tigers? The export performance of multi-product firms on foreign markets*, NBB, Working Paper 204.

Ariu A. and G. Mion (2010), *Trade in services: IT and task content*, NBB, Working Paper 200.

Bernard A., M. Grazzi and C. Tomasi (2010), *Intermediaries in international trade: Direct versus indirect modes of export*, NBB, Working Paper 199.

Bernard A., I. Van Beveren and H. Vandenbussche (2010), *Multi-product exporters, carry-along trade and the margins of trade*, NBB, Working Paper 203.

Conconi P., A. Sapir and M. Zanardi (2010), *The internationalization process of firms: From exports to FDI?*, NBB, Working Paper 198.

Cuyvers L., E. Dhyne and R. Soeng (2011), *The effects of internationalization on domestic labour demand by skills: Firm-level evidence for Belgium*, Mimeo.

Dhyne E., C. Fuss and C. Mathieu (2011), *Labour demand adjustment: Does foreign ownership matter?*, Micro-Dyn 40/10.

Dumont M., B. Merlevede, C. Piette and G. Rayp (2010), *The productivity and export spillovers of the internationalization behaviour of Belgian firms*, NBB, Working Paper 201.

Eaton J., S. Kortum, B. Neiman and J. Romalis (2010), *Trade and the global recession*, NBB, Working Paper 196.

Mayer T., M. Melitz and G. Ottaviano (2010), *Market size, competition and the product mix of exporters*, NBB, Working Paper 202.

Onkelinx J. and L. Sleuwaegen (2010), *Internationalization strategy and performance of small and medium sized enterprises*, NBB, Working Paper 197.

Ottaviano G., G. Peri and C. Wright (2010), *Immigration, offshoring and American jobs*, NBB, Working Paper 205.

### Other papers compiled at the Bank

Baugnet V., K. Burggraeve, L. Dresse, C. Piette and B. Vuidar (2010), "Belgium's position in world trade", NBB, *Economic Review*, June, 29–56.

Behrens K., G. Corcos and G. Mion (2010), *Trade crisis? What trade crisis?*, NBB, Working Paper 195.

Mion G. and L. Zhu (2011), *Import competition from and outsourcing to China: A curse or blessing for firms?*, CEPR, Discussion Paper 8188.

Muûls M. and M. Pisu (2007), *Imports and exports at the level of the firm: Evidence from Belgium*, NBB, Working Paper 114.

## Other references

Aw B. and A. R. Hwang (1995), "Productivity and the export market: A firm-level analysis", *Journal of Development Economics*, 47(2), 313–332.

Bernard A., J. Eaton, J. B. Jensen and S. Kortum (2003), "Plants and productivity in international trade", *American Economic Review*, 93(4), 1268–1290.

Bernard A. and J. B. Jensen (1995), "Exporters, jobs and wages in U.S. manufacturing: 1976–1987", *Brookings Papers on Economic Activity*, 67–112.

Bernard A. and J. B. Jensen (1999), "Exceptional export performance: Cause, effect or both?", *Journal of International Economics*, 47(1), 1–25.

Bernard A. and J. B. Jensen (2004), "Exporting and productivity in the USA", *Oxford Review of Economic Policy*, 20(3), 343–357.

Bernard A., J. B. Jensen and P. Schott (2005), *Importers, exporters and multinationals: A portrait of firms in the U.S. that trade goods*, NBER, Working Paper 11404.

Bernard A., J. B. Jensen and P. Schott (2006), "Trade costs, firms and productivity", *Journal of Monetary Economics*, 53, 917–937.

Bloom N., M. Draca, and J. Van Reenen (2011), *Trade induced technical change? The impact of Chinese imports on innovation, IT and productivity*, NBER, Working Paper 16717.

Eaton J., S. Kortum and F. Kramarz (2004), "Dissecting trade: Firms, industries, and export destinations", *American Economic Review*, 94(2), 150–154.

Mayer T. and G. Ottaviano (2007), *The happy few: New facts about the internationalization of European firms*, Bruegel/CEPR EFIM2007 Report, Bruegel Blueprint Series.

Pavcnik N. (2002), "Trade liberalisation, exit and productivity improvements: Evidence from Chilean plants", *Review of Economic Studies*, 69, 246–276.