

EFIGE country report: Hungary

How did exporting firms cope with the crisis?

Gábor Békés, László Halpern, Miklós Koren
and Balázs Muraközy



EFIGE IS A PROJECT DESIGNED TO HELP IDENTIFY THE INTERNAL POLICIES NEEDED TO IMPROVE EUROPE'S EXTERNAL COMPETITIVENESS

Funded under the Socio-economic Sciences and Humanities Programme of the Seventh Framework Programme of the European Union.

LEGAL NOTICE: The research leading to these results has received funding from the European Community's Seventh Framework Programme (FP7/2007-2013) under grant agreement n° 225551. The views expressed in this publication are the sole responsibility of the authors and do not necessarily reflect the views of the European Commission.

The EFIGE project is coordinated by Bruegel and involves the following partner organisations: Universidad Carlos III de Madrid, Centre for Economic Policy Research (CEPR), Institute of Economics Hungarian Academy of Sciences (IEHAS), Institut für Angewandte Wirtschaftsforschung (IAW), Centro Studi Luca D'Agliano (Ld'A), Unitcredit Group, Centre d'Etudes Prospectives et d'Informations Internationales (CEPII).

The EFIGE partners also work together with the following associate partners: Banque de France, Banco de España, Banca d'Italia, Deutsche Bundesbank, National Bank of Belgium, OECD Economics Department.

HUNGARY COUNTRY REPORT

How did exporting firms cope with the crisis?

Gábor Békés (IEHAS), László Halpern (IEHAS, CEPR, CEU), Miklós Koren (CEU, IEHAS) and Balázs Muraközy (IEHAS)¹

Main policy questions and policy implications

This country report documents the internationalisation patterns of Hungarian firms using data on a representative sample of firms. There are two key features of Hungary that we found important to investigate.

First, Hungary is a small, open economy – much more open than any other country in the sample. Its exports are heavily concentrated on few firms – as documented in Mayer and Ottaviano (2007). These firms are mostly subsidiaries of large multinationals serving EU markets. The quality of Hungarian exports is competitive on the European markets, but this quality is mainly supported by the R&D and innovation of the parent firm. The success of this type of economy depends on how widely and deeply the supply chain is based on the domestic economy. In this respect there seems to be a great divide between firms that are able to be part of the suppliers and those which are excluded.

Second, Hungary is known for its political business cycle which has been the strongest of countries that joined the European Union in the 2000s. As a result its macroeconomic policies had to move in an opposite direction when the crisis hit; fiscal and monetary tightening was necessary when most countries could rely on massive temporary relief and easing in order to contain the dire consequences on output and employment. These policies may have affected the performance of companies and represent an interesting angle on the relationship between macro policy and the response of firms.

We can draw four policy conclusions.

First, it should be noted that firms in Hungary do not behave very differently from other EU countries in many respects. While Hungarian firms are smaller and less open to trade with countries outside Europe, export and innovation performance is not very different. Thus, Hungary may well use policy ideas from other economies such as labour market reforms in Germany.

Second, Hungary serves as an export platform for some very large companies, which sell 90-100 percent of their output abroad. Making sure these companies can continue to operate is important for growth.

Third, internationalisation is important for Hungarian firms and hence, policies should aim to increase the number of firms not only in exports, but imports, FDI and outsourcing as well. Hungary is lagging behind in terms of contacts with outside Europe; this should be addressed.

Fourth, as a consequence of poor policy management before the crisis, fiscal policy was retracting just when it should have been there to cushion the fallout from the crisis. This caused domestic sales to fall more than in other countries and more firms suffered from the crisis. This shows that sound fiscal policy has also an option value – the potential for application in a crisis.

¹ Corresponding contact is Gábor Békés (bekes@iehas.hu). István Illyés provided excellent research assistance.

Executive summary

This country report describes the behaviour of Hungarian firms and their performance based on a representative sample featured in the EFIGE research project. Hungary is a small and open economy and hence, the report aims to shed light on the internationalisation patterns of Hungarian firms. Given that the EFIGE project focuses on global competition, special attention is paid to innovation activities. Hungary is particularly interesting as it is the only post-communist country in the sample.

The central issue of this report was to analyse the behaviour of Hungarian firms in comparison with those in Western European countries in terms of composition, internationalisation and innovation. A key task was to show differences in terms of competition at home and abroad. Given the timing of the survey, we were interested in how the 2008-2009 global financial crisis affected Hungary and why some differences prevailed.

Hungarian firms are smaller than in other countries in the survey. Around 42 percent of Hungarian firms from the sample have a total revenue less than €1 million, while the majority of firms in other countries have a turnover of €2-10m. Looking at employment, Hungarian firms are also smaller on average, but at the same time labour productivity is also lower.

Hungary is a small, open economy and the majority of firms are exporters of some sort: only 29 percent of Hungarian firms have never exported. There is a large number of firms – 23 percent of exporters – that export 90-100 percent of their output. In similarly sized Austria, the shares of such firms are 8 percent lower than in Hungary. In larger markets, such firms are rare, ranging from 2 percent to 6 percent. Regarding the relationship between internationalisation and foreign ownership, a higher share of foreign-owned firms export than non-foreign owned (67.0 percent versus 43.7 percent). There is some direct evidence of the large role export platform FDI plays in Hungary.

Importing often improves the competitiveness of firms. The fact that Hungary is a small and open economy is supported by the observation that in the Hungarian subsample there are fewer firms with no relation to the international markets than in other countries. More than 60 percent of firms import goods and/or services.

Most Hungarian exporting firms exports to EU15 countries. A vast majority of Hungarian respondents have a main competitor within Europe, more than in other countries. This may have two causes: first, Hungary is a small, landlocked country without easy access to overseas markets; and second, Hungarian firms may not yet be up to the challenge of global competition.

Competitiveness is nurtured by the share and activity of innovative firms. The distribution of different types of innovation (process, product, etc) across innovating firms is very similar in all countries and so is the share of innovative firms. Yet there are important differences, for example regarding inputs of innovation activity. In-house innovation is about half of that in other countries. This fact suggests that many innovative Hungarian firms introduce new products and processes without much formal in-house R&D.

The financial crisis led to a trade collapse, but in Hungary domestic supplier firms faced declining sales as well. This suggests that the crisis affected Hungary directly and was not only a secondary effect through trade. Such a situation sharply contrasts that in Austria and Germany, where domestic markets performed fairly well. Yet, the labour market reactions did not match the drop in sales. Evidence on sales and employment decline in 2009 suggests that although non-exporters were hit the hardest among sampled European countries, more exporting firms reduced personnel. Such cuts are likely to stem from the fact that a large share of exporters was foreign multinationals working under more flexible labour conditions and more willing to pay the fixed cost of hiring and firing when needed.

1. What are Hungarian firms like?

In the Hungarian sample of firms there were 488 companies. Firms were chosen to represent the range of industries, sizes and regional composition that exists in the country. This section describes the key features of firms in the sample, including ownership, workforce and financing.

1.1. What is the impact of size, ownership?

Hungarian firms are smaller than in other countries in the survey. 42 percent of Hungarian firms from the sample have total revenue less than €1 million, and only 10 percent has a turnover above €10 million. For the other countries, the majority of the firms have a turnover of €2-10 million.

Table 1: Share of firms by turnover range

Country	less than €1 million	€1-2 million	€2-10 million	€10-15 million	€15-50 million	€50-250 million	more than €250 million
Austria	10.8%	25.8%	37.6%	6.3%	12.0%	6.7%	0.9%
France	11.1%	24.2%	44.9%	5.6%	9.2%	4.1%	1.0%
Germany	11.5%	22.1%	43.7%	7.7%	9.9%	4.4%	0.8%
Hungary	42.5%	23.9%	23.4%	3.1%	5.2%	1.5%	0.3%
Italy	7.3%	20.3%	54.5%	7.1%	7.9%	2.5%	0.5%
Spain	15.6%	28.0%	43.8%	3.9%	5.7%	2.3%	0.6%
UK	27.9%	25.3%	33.0%	4.4%	6.1%	2.4%	0.9%

*This table corresponds to Section A/ Table 1 of EFIGE Survey /Hungary

Hungarian firms are also smaller on average in terms of personnel, but at the same time labour productivity is also lower. For example, in the small firm category with 20-50 employees, 64 percent of Austrian firms have output over €2m, while the corresponding figure is just 22 percent in Hungary.

The highest share (78.9 percent) of firms has individuals as main shareholders. The other main shareholders in decreasing order of shares are industrial firms (11.5 percent), others (7.2 percent), holding firms (1.0 percent), banks and insurance companies (0.86 percent), other financial corporations (0.5 percent) and public entities (0.1 percent). Smaller firms are more likely to be owned by individuals, while larger firms are often owned by other firms. Holdings structure is rare and banks own little in Hungary, which is not the case in many other countries e.g. Austria

Table 2: Main Shareholder

Size class	Individuals	Industrial firms	Holding firms	Bank and insurance company	Other financial corporation	Public entity	Others
10-19	88.96%	4.92%	1.20%	0.86%	0.00%	0.00%	4.06%
20-49	84.93%	10.51%	0.00%	0.00%	0.00%	0.00%	4.55%
50-249	65.17%	17.40%	2.54%	2.13%	2.29%	0.00%	10.47%
>249	23.90%	36.06%	0.99%	2.58%	0.00%	2.59%	33.88%
All Firms	78.93%	11.46%	0.98%	0.86%	0.48%	0.13%	7.16%

*This table corresponds to Section A/ Table 14 of EFIGE Survey /Hungary

1.2 Employment differences, what impact from crisis?

In terms of the employment, about 15 percent of employed personnel are described as executives and another 18 percent of employees are professionals and other white-collar workers. The remaining 67 percent are blue-collar workers, with more than twice as many skilled than non-skilled workers.

The share of executives is broadly in line with other European countries. Interestingly, the share of professionals and other white collar jobs is well below developed countries, such as Austria, Germany and France. At the same time, Spanish firms have even fewer white collar employees.

Data suggest that larger firms employ more unskilled labour (15.6 percent to 35.7 percent) and fewer executives (18.9 percent to 5.7 percent). This is likely to be due to industry differences and a non-linear relationship between managers and firm size.

Table 3: Composition of Workforce (in %)

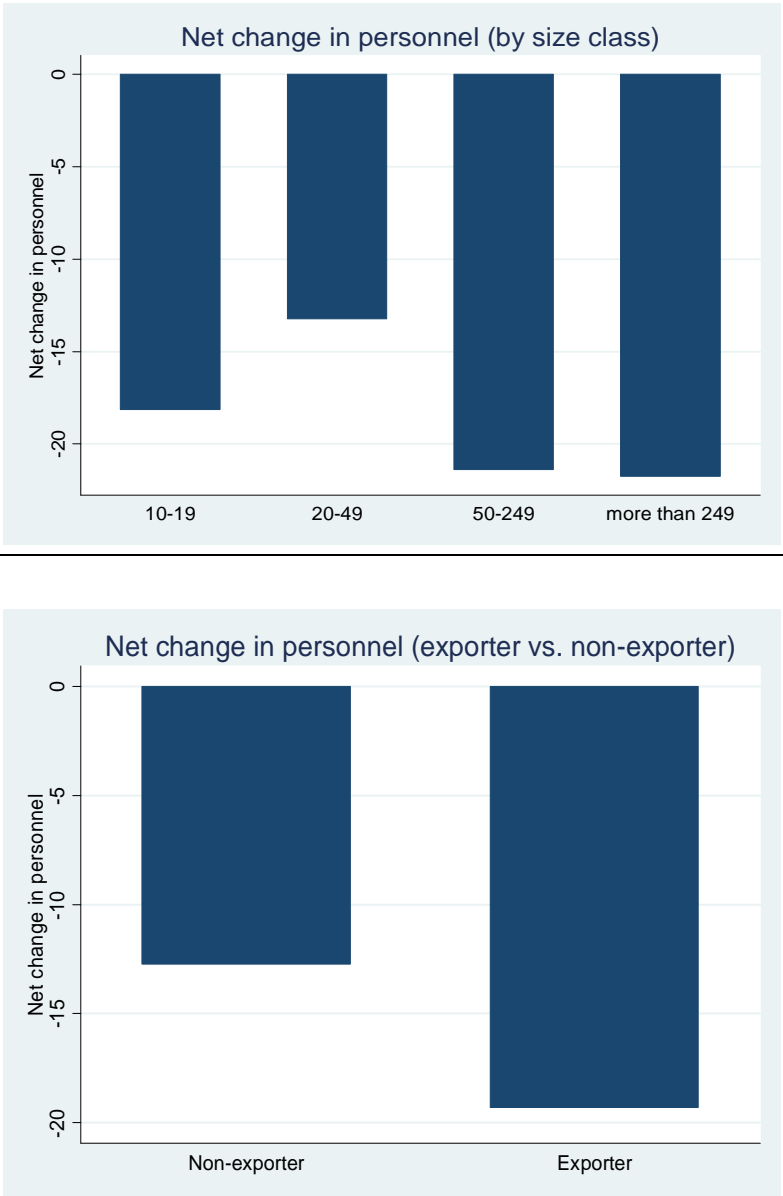
Size class	Entrepreneurs/Executives	White collars	Skilled blue collars	Unskilled
10-19	18.87%	21.12%	44.38%	15.63%
20-49	14.73%	17.09%	48.86%	19.32%
50-249	10.83%	17.10%	45.40%	26.67%
more than 249	5.69%	17.50%	41.13%	35.69%

	Entrepreneurs/Executives	White collars	Skilled blue collars	Unskilled
All firms	14.85%	18.44%	46.28%	20.43%
Exporters	14.35%	17.42%	46.38%	21.85%
Non-exporters	15.87%	20.51%	46.08%	17.54%

*This table corresponds to Section B/ Table 4 of EFIGE Survey /Hungary

The crisis caused several firms to shed jobs. All types of Hungarian firms faced a negative net change in personnel ranging from 14 percent to 23 percent by size categories. The largest hit category was mid-sized firms. The fact that the crisis hit Hungary directly and substantially is highlighted by the employment figures. Out of all the countries surveyed in the EFIGE project, Hungary has the highest negative net change in all size classes. Hungary is followed by Italy (10 percent-14 percent) and Spain (10 percent-16 percent), while core European countries fared better.

Figure 1: Net change in personnel (by size class) and net change in personnel (exporter versus non-exporter)



These graphs corresponds to Section B/ table B21 of EFIGE Survey / Hungary

In terms of export status, both non-exporters and exporters have faced a negative net change in personnel. Yet in terms of job losses, there was a greater change in personnel in exporters: almost twice as many exporting firms cut jobs than non-exporters. The earlier observation regarding the extent of job losses in Hungary is confirmed both among exporters and non-exporters. Hungary has the highest negative net change in personnel among non-exporters (about -12 percent) and the highest negative net change in personnel among exporters of all the countries sampled (about -20 percent).

Evidence on sales and employment decline in 2009 suggests that although non-exporters were hit the hardest among sampled European countries, more exporting firms reduce their employment levels. This is likely to be due to the fact that a large share of exporters are foreign multinationals working under more flexible labour conditions and more willing to pay the fixed cost of hiring and firing when necessary. This is in line with anecdotal evidence on manufacturing services provider such as Flextronics.

1.3 External finance, is it only banks?

In Hungary about half the firms use external finance. Difference between the various types of firms are limited. Interestingly, reliance on external funds is much higher than in Austria (where it is 20-25 percent) but is below 60-70 percent seen for Spanish firms.

Table 4: Firms that used external financing in 2008-2009 (percentages)

Size class	Exporters	Non-exporters
10-19	42%	49%
20-49	48%	46%
50-249	51%	56%
more than 249	46%	0%

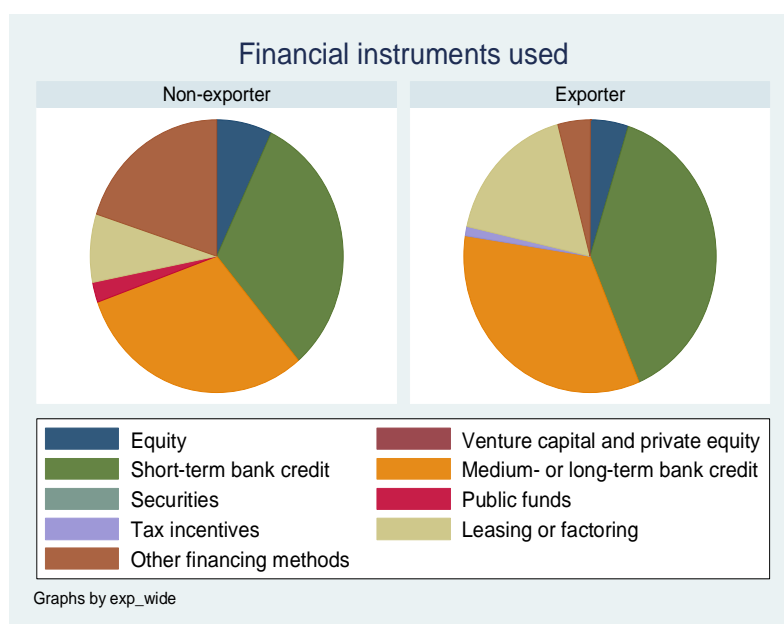
*0% Change at non-exporters with more employees than 249 corresponds to N/A

**This table corresponds to Section F/ Table 0 of EFIGE Survey /Hungary

The dominant financial instrument used by both exporters and non-exporters is bank credit, with medium- or long-term bank credit being somewhat more important than short-term credit. Exporters use more public funds, which may be related to several incentives being linked to exporting as such. Exporters rely more on leasing or factoring and tax incentives and less on other financial methods compared with non-exporters.

Italy and Spain use credits to roughly the same degree as Hungary, while reliance on credit is less – around 50 percent for the other countries. Furthermore, it is evident from cross-section data that Hungarian firms are reluctant to use venture capital and private equity (0 percent); even if reliance on equity is also low compared to other countries (just 9 percent).

Figure 1: Financial instruments used



This graph corresponds to Section F/ table F6 of EFIGE Survey /Hungary

Regarding state involvement, about a quarter of firms have benefitted from direct public sector or tax incentives. The percentage of companies benefitting from financial incentives ranges from 9-26 percent; public sector benefits appear to be more widely utilised than tax benefits. Larger firms are more able to cover the cost of application even if several programmes target small firms, and the share of firms that benefitted from public sector incentives increases slightly with size.

In Hungary the share of firms that benefitted from public sector incentives is the second highest after Austria; while the share of firms that benefitted from tax incentives is among the lowest in Europe (along with Germany). This suggests that Hungary may consider moving from direct to tax-based incentives.

Table 5: Share of firms that benefitted from financial incentives

Size class	Public sector incentives	Tax incentives
10-19	16%	9%
20-49	24%	10%
50-249	26%	16%
more than 249	29%	12%

*This table corresponds to Section F/ Table 23&25 of EFIGE Survey /Hungary

Table 6: Share of firms that benefitted from financial incentives

	Public sector incentives	Tax incentives
Exporters	23%	12%
Non-exporters	20%	9%

*This table corresponds to Section F/ Table 23&25 of EFIGE Survey /Hungary

2. Internationalisation: Is Hungary special?

As Hungary is a small, open economy the key questions in this country report are how internationalised firms differ from firms which only supply domestic markets, how integrated these firms are and how they fared during the crisis.

This section first presents evidence on firm heterogeneity in terms of exporting. Then we look at a broader picture of internationalisation including other modes such as innovation, outsourcing and FDI. Finally, we underline some key consequences of the 2008-2009 crisis for trade.

2.1. A closer look at exporters, what difference within?

Hungary is a small, open economy and the majority of firms are exporters of some sort. Firms either export directly or indirectly (i.e. via a third party or sell from an affiliate abroad) or have been exporting of late. Only 29 percent of Hungarian firms in the sample have never exported. This section looks at differences within exporters.

Export share

In terms of the ratio of export sales to total sales, there is a great variety in terms of export intensity. As the [Table 7](#) suggests export shares between 10 percent and 90 percent are fairly balanced. At the same time, there is a large number of firms – 23 percent of exporters – that export 90-100 percent of their output. In similarly sized Austria, the share of such firms is 8 percent lower than in Hungary. In larger markets, such firms are rather rare, ranging from 2-6 percent. This is direct evidence of the large role export platform FDI plays in Hungary.

Table 7: Export intensity: share of firms by export to sales ratio

Intensity brackets	Share of firms in sample		
	HUN	AUS	EU
0-10%	20%	23%	26%
50%-60%	5%	4.5%	6%
90%-100%	23%	15.5%	5.5%

* This table corresponds to Section D/ Table 2 (histograms) of EFIGE Survey /Hungary, Austria, Cross-section

Direct and indirect trade

As we saw earlier, exporters are different from non-exporters. Before looking at details, let us confirm here that firm size and export status are correlated. As suggested by the table below, the larger the size class, the greater likelihood that firms carry out exports. This has already been known established. What is really new and interesting is that as firm size increases, the proportion of direct exporters rises compared with the proportion of indirect exporters. The finding is in line with Békés and Muraközy (2009) who argue that more productive (larger) firms are more likely to trade permanently, while smaller ones trade more in a temporary fashion. Indirect trade seems to be a vehicle for these firms, too. Importantly, this is not a specific feature of Hungary.

Table 8: Exporter status by size

Export Status*	Employees			
	10-19	20-49	50-249	250 and more
Total number of firms	147	173	118	45
Exporter	58.0%	64.6%	79.3%	97.4%
Non Exporter	41.1%	33.8%	20.7%	2.6%
Export fashion (for exporters in 2009)	10-19	20-49	50-249	250 and more
Direct Exporter Only	37.1%	46.2%	61.1%	82.7%
Indirect Exporter	6.8%	8.9%	10.2%	9.6%
Both Direct and Indirect Exporter	1.6%	0.4%	0.5%	0.0%
Exporter in 2009	45.5%	55.5%	71.8%	92.3%

*Broad definition, all exporting activity

**All hungarian firms are accounted for (488)

***This table corresponds to Section D/ Table 1 of EFIGE Survey /Hungary

In Hungary about a third of firms are partially or fully owned by foreign entities. As foreign firms often use Hungary as a manufacturing base for European markets, there is a positive relationship between internationalisation and foreign ownership. A higher share of foreign owned firms exports than is done by domestically owned firms (67.0 percent vs. 43.7 percent). The least difference is found among large firms: as expected most large firms export regardless of ownership. (The same pattern is true for the few FDI makers if we compare them across foreign ownership types.) This pattern is not unique to Hungary -- foreign-owned firms exporting and doing more FDI in a similar fashion are found elsewhere.

Table 9: Share of Internationalised firms and innovators by foreign ownership and size class

Foreign capital	Size class	Exporters (%)	FDI makers (%)	Innovators (%)
YES	10-19	50.36%	10.50%	36.69%
	20-49	65.26%	3.46%	41.56%
	50-249	70.27%	0.00%	61.60%
	>249	83.48%	9.49%	72.07%
	All Firms	67.03%	4.47%	52.56%
NO	10-19	36.58%	1.48%	50.05%
	20-49	41.53%	0.75%	54.97%
	50-249	59.02%	2.79%	57.61%
	>249	80.54%	3.34%	81.98%
	All Firms	43.72%	1.44%	54.32%

*This table corresponds to Section A/ Table 7 of EFIGE Survey /Hungary

One difference from other European countries is that in Hungary indirect exporters are second to firms who conduct direct export and firms which conduct both direct and indirect export are only third in terms of sample frequency. In more developed countries, firms which conduct both direct and indirect export have the second largest proportion and indirect exporters have the least. Of course, one reason for this is that the relative high number of firms in the largest size class is much higher in Hungary than the average found in the cross-section database.

Financing of exports

Financial assistance, especially to non-multinational affiliate SMEs, is crucial for exporters. This may be in the form of private bank credit or state-supported trade credit.

There are very few Hungarian firms which get financial or other assistance in exporting. Only about 2 percent of firms below 250 employees qualify for export credit and 1 percent for some sort of tax allowance. This is quite low by European standards – 8-10 percent in export credit and 5-6 percent in tax allowance – across all SME sizes (micro-, small- and medium-sized firms).

The comparison with Spain, a country with many multinational suppliers as well as traditional exporters, is particularly interesting. Almost one-fifth of medium-sized Spanish firms get export credit and more than one-fifth qualify for tax allowance – many times more than in Hungary.

For larger firms, the outlook is better, almost 10 percent can get export credit, and tax allowance reaches 3.5 percent of firms – this is more in line with European norms. In general, larger firms are more likely to receive assistance from national and foreign institutions.

Table 10: Financial or other assistance in exporting

	Employees			
	10-19	20-49	50-249	250 and more
Export insurance	5.5%	8.8%	9.5%	35.4%
Export credit	2.7%	2.6%	2.2%	9.3%
Tax allowances	1.3%	2.1%	0.7%	3.5%
Sum	9.5%	13.5%	12.4%	48.2%
Received assistance from national institutions	1.0%	1.1%	0.0%	0.0%
Received assistance from foreign institutions	0.0%	0.0%	1.7%	0.0%

*This table corresponds to Section D/ Table 12 of EFIGE Survey /Hungary

Multiproduct firms

Multi-product firms are key players in trade. In Hungary, looking at detailed customs data for Békés et al (2011) find that firms on average export 6.5 product lines (HS4 level) and 9 products (HS6). The share of multiproduct exporters has been above 70 percent since 1995 and the share of multi-product importers has been close to 80 percent.

The Efige dataset² points to a lower figure of multi-product firms – 55 percent said they sold more than one 'main product line to foreign market'. This deviation may be a consequence of distinction between discussing any product and focusing on the main product line.

Interesting evidence comes from the relationship between exported product lines and participation at domestic market. While 70 percent of firms exporting only one product said that the product is their main product in the domestic market, for firms that sell more than 10 products this ratio is just 51 percent. Furthermore, 29.5 percent of these firms do not sell their main product lines in the domestic market. Often these firms (26 percent of the sample) are foreign-owned multinational affiliates.

² Note that half of firms did not reply to this question, all figures are calculated on those answering it.

Table 11: Exports of multiproduct firms

Main product line to foreign market	Number of product lines exported			
	1	2 - 5	6 - 10	More than 10
Also main in domestic market	70.2%	71.8%	60.4%	51.2%
Sold but not main in domestic market	12.1%	17.2%	15.5%	19.3%
Not sold in domestic market	17.7%	11.0%	24.2%	29.5%

* All Hungarian firms are accounted for (488)

**This table corresponds to Section D/ Table 3 of EFIGE Survey /Hungary

In comparison with other countries, in the Hungarian subsample the relative frequencies of exporters with more than six export products are much below the averages of the cross-section sample. This suggests the relative infrequency of mid-sized firms.

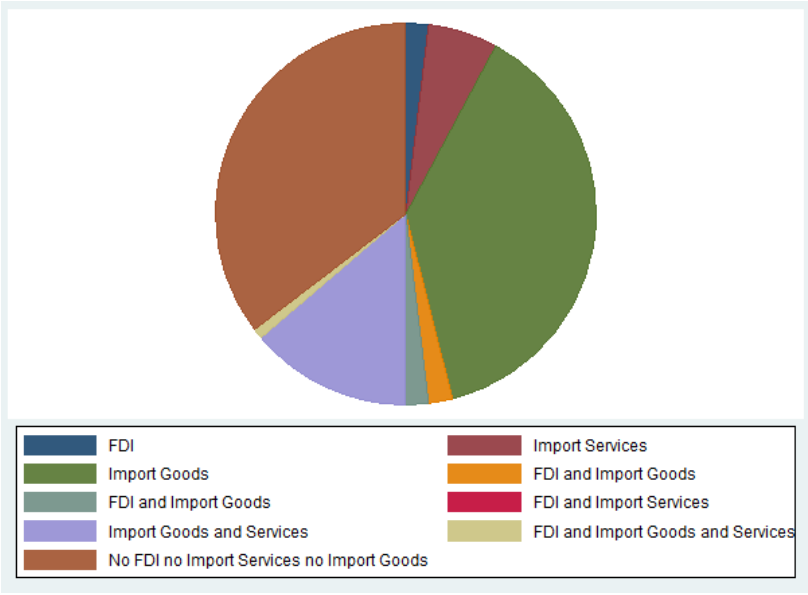
2.2. Which mode of internationalisation?

Export is the most frequent and most widely analysed mode of internationalisation. However, FDI for larger firms is a key method of reaching foreign customers. In small and open economies, import plays an equally important role to exports in determining firm productivity, which has been found to be the case in Hungary.³

Exporters have more relations with the international markets than non-exporters – only 35.9 percent does not import, outsource or active in FDI. The most common form of relations with international markets other than export is the import of goods.

³ See Csillag-Koren (2010), Halpern-Koren-Szeidl (2009), Altomonte-Békés (2010)

Figure 3: Other internationalisation activity of exporters



This graph corresponds to Section D/ Other internationalisation activity of exporters of EFIGE Survey /Hungary

Firms, which conduct both direct and indirect export, are likely to have more relations with international markets than firms with only direct or indirect export.

Overall, not many Hungarian firms have done FDI: we found only 2.5 percent in the sample. Basically, all of these firms are exporters as well, so 4.7 percent of exporters have done FDI. But the majority of these firms are deeply integrated and import to some extent.

The fact that Hungary is a small and open economy is supported by the observation that in the Hungarian subsample there are relatively fewer firms with no relation to the international markets than in other countries. More than 60 percent of firms import goods and/or services.

A similar pattern emerges from exports in terms of internationalisation; the larger the firm, the more likely to have relations with international markets. While 58.2 percent of small firms do not import or invest abroad, only a small fraction (6.4 percent) of large firms can operate without imports and/or FDI.

Table 12: Internationalisation by size

Internationalisation status	Employees			
	10-19	20-49	50-249	250 and more
FDI	3.3%	1.2%	0.5%	0.0%
Import services	4.7%	3.4%	9.9%	4.7%
Import goods	29.6%	31.5%	42.8%	32.0%
FDI and import goods	0.7%	1.4%	1.9%	4.0%
FDI and import services	0.0%	0.0%	0.0%	3.5%
Import goods and services	2.8%	8.7%	15.1%	42.7%
FDI and import goods and services	0.7%	0.7%	0.7%	6.6%
No FDI no import services no import goods	58.2%	53.1%	29.1%	6.4%
Total per export status	100.0%	100.0%	100.0%	99.9%

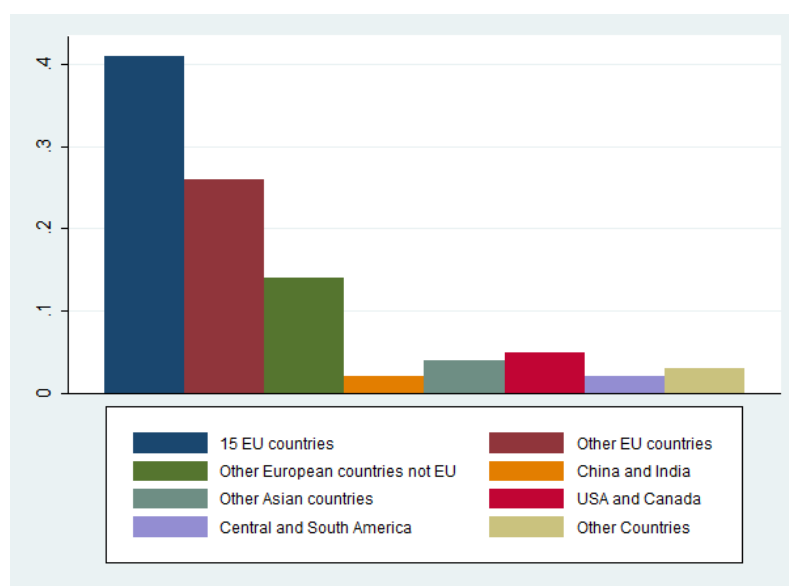
* All hungarian firms are accounted for (488)

**This table corresponds to Section D/ Table 6 of EFIGE Survey /Hungary

While most firms import goods, importing services is less frequent. About 5 percent of firms import services only, and a lot more import services along with another activity. 52.7 percent of large firms purchase services from abroad and buys goods or invest abroad as well. This figure is just 3.5 percent of small firms and is around 10-15 percent for mid-sized firms.

Most Hungarian firms, which export, will export to EU15 countries. This is followed by other EU countries and other European countries. Indeed, outside the EU, Hungary trades a lot with those non-EU member countries in Europe that it is close to (eg Russia, Switzerland and the Ukraine), these countries, too. Other export areas are very small. This may be a consequence of most Hungarian firms supplying European centres of multinationals who then may resell the final good abroad.

Figure 4: Proportion of exporters which export to a given market



This graph corresponds to Section D/ Proportion of exporters: who export to given market of EFIGE Survey /Hungary

This is true for a broader set of relationships. In terms of regional aspects of internationalisation, Hungarian firms, as expected, have relationships mostly with EU15 countries. In regards to the nature of trade, export and import are equally important for the EU, and the EU15 is the key source of import of services. As for CEE countries, export seems to matter more, while the opposite is true for China and India. In regards to production activities through contacts, Hungary deals with EU countries only – underlying the importance of a common legal system, rules and regulations that aid contracting out work.

Table 13: Internationalisation by region: Regional composition

Export destination (region)	Import services	Import goods	FDI	Production activity through contracts	Export activity
EU15 countries	53	164	3	6	211
Other EU countries	23	59	5	5	130
Other European countries not EU	13	30	5	0	75
China and India	8	20	1	0	14
Other Asian countries	3	11	1	0	22
USA and Canada	8	9	1	0	29
Central and South America	1	2	1	0	11
Other Countries	3	20	1	1	21

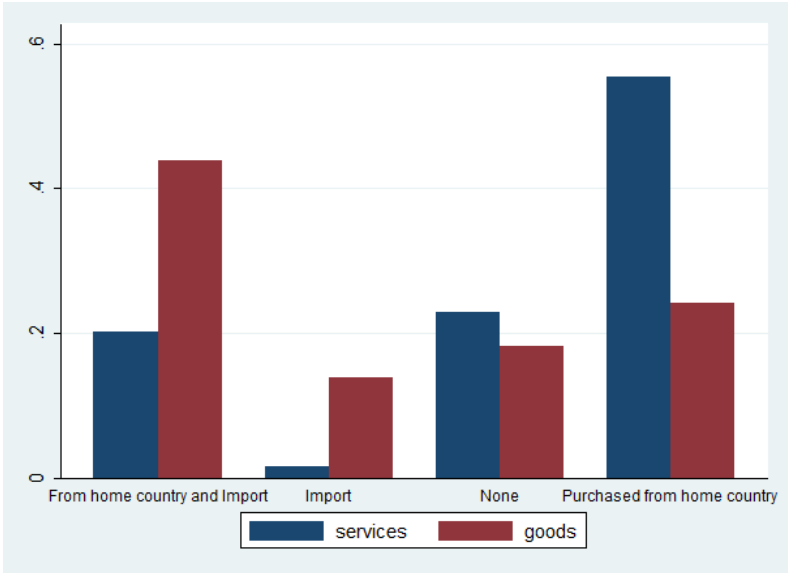
*Frequencies do not add up to the number of exporters as firms may export to many destinations

**This table corresponds to Section D/ Table 7 of EFIGE Survey /Hungary

Hungarian firms import goods from the EU15 country area at the same relative level as the average of the cross-section sample, but import relatively fewer goods from outside the EU compared to the average. In the case of the import of services from EU, Hungarian firms are above the average of the cross-section sample and rely less on Asia and America.

Outsourcing and offshoring – ie buying goods and services from other firms in the home country or abroad – are critical forms of making more competitive products and establishing presence at export markets. As the chart shows, goods are more likely to be both imported and bought at home, while services are most often bought domestically. This is in line with the higher cost of importing a service than a good.

Figure 5: Purchasing goods and services: Exporters



This graph corresponds to Section D/ Purchasing goods and services: Exporters of EFIGE Survey /Hungary

The comparison of non-exporters with exports shows that the key difference is found among those firms that both import and purchase locally – these complex organisations are likely to be exporters. On the other extreme, non-exporters are more likely to do no outsourcing at all.

2.3 How do Hungarian firms compete in global markets?

One way to summarise how firms fare in terms of global competitiveness is to ask them where they position themselves in world markets. Where are the firm’s main competitors located? What limits further growth of the firm? How much market power does the firm have in its markets? What are the pricing practices of the firm?

Table 14: Where are the firms' main competitors located?

Country	Home country	Other EU country	European non EU	China India	Other Asia	USA Canada	Central South America	Other areas	No competitors	No answer
Austria	39.9%	29.1%	8.5%	8.1%	4.6%	5.6%	1.7%	1.5%	1.0%	0.0%
France	31.2%	22.4%	10.3%	12.7%	7.0%	7.8%	3.8%	4.6%	0.2%	0.0%
Germany	48.1%	18.6%	8.3%	9.3%	4.9%	5.9%	1.8%	1.6%	1.5%	0.0%
Hungary	46.4%	27.9%	7.5%	8.4%	2.8%	2.5%	1.4%	1.4%	1.7%	0.0%
Italy	50.6%	19.4%	5.5%	12.8%	3.8%	4.2%	1.9%	1.2%	0.6%	0.0%
Spain	53.8%	21.0%	3.8%	12.5%	2.3%	3.0%	2.0%	1.3%	0.4%	0.0%
United Kingdom	36.8%	19.0%	7.9%	10.6%	7.0%	10.7%	3.6%	4.0%	0.5%	0.0%

*This table corresponds to Section E/ Table 3B of EFIGE Survey /Cross-section

Table 14 shows the geographical region of the respondents' main competitors. 83 percent of Hungarian respondents have a main competitor within Europe (including Hungary), and only 17 percent of firms report competing with farther regions. The geographical scope of competition is narrower than for other countries in the sample. This may have two proximate causes: first, Hungary is a small, landlocked country without easy access to farther markets; second, Hungarian firms may not yet be up to the challenge of global competition.

To test the second hypothesis, we ask the same question controlling for firm size (employment bins). The results are reported in Table 15. Firms employing more than 250 workers are somewhat more likely to compete outside Europe (22 percent), but this level is still below what other countries report for similar sized firms.

Table 15: Where are the firms' main competitors located by size

Hungary Main competitor	10 - 19	20 - 49	50 - 249	>250	All
Home country	57.8%	47.6%	43.0%	21.4%	46.4%
Other EU country	21.6%	25.3%	32.4%	42.9%	27.9%
Non EU European country	5.4%	7.4%	7.3%	13.1%	7.5%
China and India	5.9%	10.1%	7.3%	10.7%	8.4%
Other Asian country	2.5%	2.7%	3.4%	2.4%	2.8%
USA and Canada	2.9%	2.4%	1.7%	3.6%	2.5%
Central and South America	1.0%	1.4%	1.1%	3.6%	1.4%
Other Areas	2.0%	1.7%	0.6%	1.2%	1.4%
No competitors	1.0%	1.4%	3.4%	1.2%	1.7%
No answer	0.0%	0.0%	0.0%	0.0%	0.0%

*This table corresponds to Section E/ Table 3C of EFIGE Survey /Hungary

This finding is all the more puzzling as 22 percent of firms report lack of demand as the main constraint for growth. Accessing more remote markets would lead to higher demand.

At the same time, Hungarian firms, especially exporters, do not lack confidence in their product. The average firm rates the quality of its product at 91 on a scale of 0 to 100. (See Table 16.) This is on a par with the self-evaluation of Austrian, British and German producers and is higher than French, Italian and Spanish quality rankings. The quality evaluation is even higher for exporters. This may come as no surprise knowing that a

large share of Hungarian exporters are subsidiaries of well-established multinational companies while many others are suppliers to multinationals (Békés et al, 2011).

Table 16: How do firms rate the quality of their own product?

Country	Mean rank exporters	Mean rank non-exporters	Mean rank overall
Austria	92.4	91.4	92.0
France	84.3	82.6	83.5
Germany	93.7	92.7	93.2
Hungary	92.0	89.6	91.1
Italy	80.0	80.1	80.0
Spain	89.6	89.0	89.3
United Kingdom	92.2	89.7	91.3

*This table corresponds to Section E/ Table B/b of EFIGE Survey /Cross-section

What environment do Hungarian firms compete in? How much market power do they have? Table 17 shows the price-setting practices of Hungarian firms in domestic markets. More than half of the firms report having no influence on their prices ('Fixed by the market'). This is much higher than for the rest of the countries in the sample. Only a third of the firms engage in any form of mark-up pricing that covers at least part of their costs in their prices.

Table 17: How do firms set prices in their domestic market?

Country	Margin over total cost	Margin over variable cost	Fixed by market	Regulated	Other	No answer
Austria	27.8%	14.3%	44.8%	4.6%	5.8%	2.7%
France	39.7%	14.6%	41.8%	1.6%	2.3%	0.0%
Germany	35.2%	16.5%	38.8%	5.0%	3.1%	1.2%
Hungary	23.0%	10.9%	54.3%	0.6%	11.3%	0.0%
Italy	42.6%	13.2%	36.6%	3.6%	3.9%	0.0%
Spain	56.1%	10.7%	27.2%	2.9%	3.1%	0.0%
United Kingdom	34.8%	21.6%	32.4%	2.4%	3.1%	5.7%

*This table corresponds to Section E/ Table 10b of EFIGE Survey /Cross-section

One hypothesis for the lack of market power is the relatively smaller size of Hungarian firms. However, even conditional on size (not reported), we find more price-taking firms in Hungary than in other European countries. Taken together with the data on the geographical scope of competition; Hungarian firms seem to be following global competition and global trends, not shaping them.

This conclusion is reinforced by the data on currency choice in export markets. The vast majority of firms, 85 percent, set their prices in euros – just a touch below that of euro-area countries. Only 11 percent price in Hungarian forints. It seems that most firms do not have enough market power to pass through fluctuations in

their local costs (notably the quite volatile forint-euro exchange rate) to their buyers. The ratio of forint to euro is the same as the euro to other currencies in those countries in which euro is the domestic currency.

Overall, Hungarian firms behave very close to other European firms in terms of outsourcing; the differences are small. Interestingly, Hungarian exporters import relatively fewer goods but more services than the cross-country average. Hungary is smaller than other countries in the sample, and it is not surprising therefore that Hungarian exporters purchase from home to a lesser degree than the average. The fact the prices are set, often in euro rather than in forint, is enough to deter firms.

2.4. Crisis and exports

In terms of overall (home and foreign) sales, being internationalised made little difference – only a quarter of firms reported no drop in sales in 2009. Indeed, exporters, other internationalised firms such as importers, and non-internationalised firms on average suffered about 15-20 percent decline in sales. More firms focusing on domestic market only experienced a 10-30 percent decline, while more exporters than non-exporters faced a steep decline in sales.

Table 18: Share of firms by turnover change and internationalisation involvement

Type of firm	Turnover change in 2009			
	10% drop	10-30% drop	30% drop	No drop
Exporters	17.9%	34.6%	21.3%	26.2%
Other internationalised Firms	23.1%	42.4%	17.0%	17.5%
Non internationalised	17.4%	41.5%	17.7%	23.4%

*Other Internationalised Firms: firms that do not export, and do at least one of the following activities: FDI, IO, imports **This table corresponds to Section A/ Table 3 of EFIGE Survey /Hungary

Hungarian firms show a pattern similar to Spanish firms in terms of turnover change, where the majority of firms within each internationalisation category had a 10-30 percent drop in turnover in 2009. A large difference is that some other countries such as Austria have a greater difference between exporters and non-exporters. In Austria, 60 percent of non internationalised firms reported no negative change in turnover in 2009.

A key explanation of the financial crisis is related to a collapse of trade. But in Hungary domestic supplier firms faced declining sales as well. This suggests that the crisis affected Hungary directly and was not only the secondary effect of trade. This is in sharp contrast with Austria and Germany, where domestic markets performed fairly well.

Apart from the domestic problems, exporters faced decline in trade. Indeed, key European export markets for Hungary suffered a great deal, as almost half of firms exporting to EU markets reported a decline in sales. This figure is somewhat smaller for other European countries. Interestingly, sales to Asia and America suffered little.

The share of declining sales is actually above the EU average in this sample: 39 percent for EU15 and 29 percent for non-core EU members. At the same time, many firms in other countries (26-36 percent) reported declining sales outside Europe as well.

Table 19: Export Activity by region, regional composition, growth and decline

Export Destination (region)	Proportion of firms to all firms	Proportion of firms to exporters	Reduction experienced by firms	Increase experienced by firms	No change
15 UE countries	40.9%	71.1%	47.7%	8.0%	35.3%
Other UE countries	25.5%	44.3%	48.0%	7.7%	43.8%
Other European countries not UE	13.8%	23.9%	38.6%	8.0%	47.9%
China and India	2.1%	3.7%	0.0%	0.0%	0.0%
Other Asian countries	3.9%	6.7%	20.9%	5.1%	0.0%
USA and Canada	4.8%	8.3%	18.2%	13.1%	55.6%
Central and South America	1.7%	2.9%	0.0%	0.0%	0.0%
Other Countries	3.3%	5.8%	0.0%	0.0%	0.0%

*% do not add up to 100% as firms may export to many destinations

**In the last 3 columns 100%= number of firms exporting to the area

***This table corresponds to Section D/ Table 4 of EFIGE Survey /Hungary

In line with Bricongne et al (2009), there is weak correlation between firm size and the percentage of reduction. Basically, there is no correlation in Hungary and only weak in the rest of Europe. As Hungarian exporters experienced more reduction in export activities compared to others, they purchased relatively less input from abroad than other countries - but the difference is very small.

In Hungary foreign presence is quite strong in all areas of the economy, and almost the same percentage (74.6 percent and 78.0 percent) of firms experienced a turnover drop in 2009, whether they had foreign capital or not. Interestingly, there is some difference in terms of firm size; foreign owned small firms (which employ 20-49 staff) fared better than their domestically-owned counterparts. One difference with other countries is probably also related to the nature of crisis: in Hungary almost all micro/small firms (i.e. with less than 20 employees) experienced a decline in sales – while this is only the case for half of the Austrian firms.

3. Innovation

Hungary's place is special in the sample in terms of innovative activities, because it is farther away from the technology frontier than the Western European countries. Thus, the innovations implemented by Hungarian firms are more likely to be adaptations rather than new inventions, but these innovations lead to large productivity and export premia (Halpern and Muraközy, forthcoming). These innovations may be implemented with relatively small R&D inputs. A second consequence of the larger distance from the technological frontier is that Hungary's National Innovation System is less able to supply firms with knowledge and other resources important for developing completely new products. Finally, the less developed nature of the Hungarian financial system may lead to important financing problems when firms try to acquire funds for R&D and other innovative inputs.

Overall, the majority of firms implemented an innovation in all countries. While there are some differences in the share of innovator firms across countries, Western European firms show a similar level of innovative activity to each other and Hungary; 73 percent of the firms in the Hungarian sample reported innovation, and 54 percent reported that they had both exported and implemented an innovation. The results by industry suggest that the share of innovative firms is similar in each industry.

While the overall share of innovative firms is similar in Hungary and Western Europe, there are important differences in some innovative inputs and outputs. The greatest difference between Hungary and Western European countries is that in Hungary the average share of R&D staff is very low even among innovators: it is 5.5 percent compared to 13 percent in the cross-country sample (Table 20). This relatively small R&D staff leads to relatively small in-house innovation: only 20 percent of Hungarian firms reported such activities compared to about 45 percent in the comparison group (Table 21). This fact reflects that many Hungarian innovating firms introduce new products and processes without much formal R&D in-house.

Table 20: Employment

	Percentage of firms that innovate*	Percentage of firms that innovate and export	Percentage of firms that innovate and not export
Percentage of executives and white collar workers	35.18%	32.73%	40.89%
Percentage of blue collar workers	64.82%	67.27%	59.11%
Percentage of university graduates	16.74%	17.68%	14.38%
Percentage of fixed term contracts	16.85%	15.09%	21.02%
Percentage of part time contracts	4.07%	3.14%	6.27%
Percentage of employees involved in R&D	5.42%	6.16%	3.59%
Percentage of employees participating in training programs	19.65%	20.90%	16.70%

*Innovation will be measured by having answered yes to product innovation, or to process innovation or to R&D expenditures.

**Mean of the variables in the three categories of innovating firms

***This table corresponds to Section C/ Table 3 of EFIGE Survey /Hungary

Table 21: National innovation performances

	Austria	France	Germany	Hungary	Italy	Spain	United Kingdom
Share employees with higher education (B4)	39.44%	43.91%	42.12%	33.27%	33.55%	27.52%	37.28%
R&D expenditure as a percentage of total turnover (C21)	6.49%	6.19%	7.87%	5.87%	7.44%	7.32%	6.62%
Share of firms that receive public subsidies to innovate (C24)	6.87%	4.96%	6.55%	3.53%	3.86%	24.96%	4.50%
Share of firms innovating in-house (C20)	47.17%	47.21%	47.26%	19.93%	48.06%	38.69%	51.11%
Share of total sector sales from new to market products (C15)	21.03%	18.26%	20.28%	19.00%	23.98%	20.95%	20.69%
Share of total sector sales from new to firm but not-market products (C16)	73.56%	65.25%	56.97%	61.89%	69.94%	48.26%	76.98%
Share of firms that patent (C17)	14.91%	10.19%	12.92%	4.36%	12.65%	10.27%	14.42%
Share of firms that use trademarks (C17)	15.19%	10.95%	9.04%	5.70%	12.49%	15.86%	15.85%

*Remark: Input measures (1 to 4), Output measures (6 to 8)

**Mean of the variables for each sector

***This table corresponds to Section C/ Table 6 of EFIGE Survey /Cross-section

Table 22 and Table 23 show innovative outputs. The distribution of different types of innovation (ie process and product) across innovating firms was found to be very similar in all countries, and Hungary is not an exception: the share of firms conducting process, product and both types of innovation is 16.5 percent, 22 percent and 28 percent, respectively. If innovation output is measured in terms of patenting, however, Hungarian firms significantly under-perform in comparison with Western European firms. While 12 percent of the firms in the cross-section sample requested a patent, only 4.4 percent of the firms in the Hungarian sample did so. The situation is similar with trademarks: 9-16 percent of Western European firms used this kind of IPR protection compared with only 5.7 percent of Hungarian firms (Table 6).

Table 22: Type of innovation

	Only process innovation	Only product innovation	Process and product innovation
Austria	16.57%	22.13%	26.19%
France	17.94%	21.96%	27.77%
Germany	16.22%	23.09%	28.63%
Hungary	16.51%	22.13%	28.54%
Italy	17.01%	23.00%	28.10%
Spain	16.52%	22.68%	28.57%
United Kingdom	16.22%	23.44%	28.86%

*Process & Product: C14_m_c1 & C14_m_c2 // Process: Only C14_m_c2 // Product: Only C14_m_c1

**All measures are the percentage of firms in the categories

***This table corresponds to Section C/ Table 4 of EFIGE Survey /Cross-section

Table 23: R&D output by type of innovation activity

	Request a patent*	Sell a patent**
No process or product innovation (percentage of firms)	7.5%	0.9%
Only product innovation (percentage of firms)	34.8%	2.7%
Only process innovation (percentage of firms)	12.0%	1.2%
Process and process innovation	39.8%	3.4%
R&D expenditures (percentage of turnover)	8.09%	10.85%
Average age	38	39

* Answer yes in any of the options of C17

**Answer no in C18

***Measures are the percentage of firms but for the last two, which are the means

****This table corresponds to Section C/ Table 5 of EFIGE Survey /Cross-section

Besides these important differences, some details of the factors related to innovative activity also differ between Hungary and the comparison group.

Table 24 shows the share of innovation by size, firm age and industry. The share of innovative firms increases strongly with size in all countries. The speed of this increase is similar in Hungary to other countries; the share of innovating firms is 62 percent larger for firms with more than 250 employees than for the smallest firms. In Hungary the correlation between export and innovation status is very strong for large firms; while more than 80 percent of the largest firms implemented innovation, 95 percent of these innovators did export.

Table 24: Summary statistics

	Percentage of firms that innovate*	Percentage of firms that innovate and export	Percentage of firms that innovate and not export
Size			
10-19 employees	63.5%	39.6%	24.0%
20-49 employees	72.7%	52.5%	20.2%
50-249 employees	83.3%	68.9%	14.3%
more than 250 employees	87.6%	77.5%	10.1%
Age			
Start-ups	66.0%	42.8%	23.2%
Young	70.6%	47.1%	23.5%
Mature	72.6%	53.6%	19.0%
Country			
Austria	70.9%	51.8%	22.2%
France	72.3%	55.1%	20.9%
Germany	73.3%	56.0%	20.9%
Hungary	72.8%	54.0%	20.4%
Italy	72.8%	54.9%	20.7%
Spain	72.1%	53.8%	21.9%
United Kingdom	73.8%	56.1%	21.0%

*Innovation is measured by having answered yes to product innovation, or to process innovation or to R&D expenditures.

** Age groups are defined as: startup (0-3 years), young (4-15 years), mature (16-max)

***This table corresponds to Section C/ Table 1 of EFIGE Survey /Cross-section

Firm age does not seem to be a very strong determinant of innovativeness in the studied countries. A characteristic of Hungary (which is also true in Austria, but not in other countries), is that start-up firms are more innovative than older firms. This may, of course, reflect data problems, but it may also show that there are some highly innovative young firms in Hungary.

Table 25 shows that innovative performance is related to the characteristics of the CEO. The cross-country table shows that the age of the owner matters. Firms with very young CEOs (younger than 25-35 years) and very old ones (>75 years) are less inclined to innovate: lack of experience and old age do not help innovation. A composition effect may also play a role, as it is possible that younger CEOs manage smaller firms on average. This can also explain the fact that innovators with a very young CEO are less likely to import than those with older CEOs. While there are no very old CEOs in the Hungarian data, the figures confirm that firms managed by very young CEOs are less innovative than other firms. After the age of 25, however, there are no differences.

Table 25: Management and firm structure

	Percentage of firms that innovate*	Percentage of firms that innovate and export	Percentage of firms that innovate and not export
CEO			
Age			
less than 25 years	53.4%	17.6%	35.8%
35-44 years	72.5%	48.8%	23.7%
65-74 years	72.5%	56.4%	16.1%
Gender			
Male	72.6%	52.6%	20.0%
Female	65.4%	45.2%	20.3%
Type			
owner	71.0%	49.8%	21.2%
recruited outside	80.4%	66.5%	13.9%
appointed within	76.4%	59.1%	17.3%
other	74.6%	57.9%	16.7%
Management			
Family ownership			
Yes	71.7%	51.0%	20.7%
No	72.8%	54.5%	18.3%
Family executives**	55.4%	52.8%	61.8%
Foreign exposure of executives			
Yes	85.7%	72.2%	13.4%
No	68.6%	46.9%	21.7%
Percentage of Foreign employees in executives**	4.5%	4.4%	4.8%

*Innovation will be measure by having answered yes to product innovation, or to process innovation or to R&D expenditures.

** Mean of the variable in the three categories of innovating firms

***Any other measure is the percentage of firms in the categories

****This table corresponds to Section C/ Table 2 of EFIGE Survey /Cross-section

In Hungary, foreign-owned firms represent a large share of exports and turnover. Also, compared with Western European countries, large differences are found in terms of technology and knowledge between foreign and domestic firms. The difference between the two kinds of firms in terms of innovativeness, however, is not very large; it is 12 percent in Hungary compared with 13 percent in the cross-country sample. Interestingly, this gap is significantly smaller than in France and Germany (18 percent). This suggests that, while foreign firms are in a great advantage in earlier R&D, domestic firms are also able to implement innovations without much formal research.

Table 26 shows the relationship between innovation and pricing. The most important aspect in Hungary is that a large share of firms and innovators face regulated prices compared with Western Europe. Also, price

regulation may affect innovative activities negatively, as there is no regulated firm which implemented both product and process innovations.

Table 26: R&D and pricing

	Only Process Innovation	Only Product Innovation	Process & Product Innovation
Prices* are€			
Margin over total costs	6.6%	23.4%	27.4%
Margin over variable costs	12.2%	27.6%	11.4%
Fixed by the market	11.6%	23.0%	21.5%
Regulated	25.6%	37.2%	0.0%
Other	15.2%	11.3%	15.3%

* As reported in E10

**Mean of the variables for each category

***This table corresponds to Section C/ Table 7 of EFIGE Survey /Hungary

In terms of financing of innovative activities (Table 27), Hungary differs in important ways from Western European countries. In Hungary, self-financing is the dominant form of financing R&D, while no firm in the sample received venture capital or bank financing for R&D. Public financing also played a somewhat smaller role in Hungary relative to the comparison countries. A similar picture emerges for financing other investments, but here the role of bank financing is larger relative to Western Europe (but the share of bank financing is still 50 percent lower than in Western Europe).

Table 27: Financing of the activities (public and regulation)

	R&D activities	Investment in plants, machines, equipment and ICT
Self financing	92.1%	75.6%
Intra-group financing	0.1%	2.7%
Venture capital	0.0%	0.1%
Bank credit	0.0%	12.4%
Public funding	3.5%	4.3%

*This table corresponds to Section C/ Table 8 of EFIGE Survey /Hungary

When comparing the reaction of firms to the crisis in different countries, one can observe that in terms of the access to bank financing Hungarian firms were hit in a similar way to their Western European counterparts. The cost of bank financing, on the other hand, increased significantly more in Hungary than in Western Europe: while in Western Europe 45 percent of innovator firms reported an increase, 71 percent of Hungarian firms had to pay higher interest rates. This difference may partly be explained by macroeconomic factors – ie Hungarian monetary policy was not able to lower significantly the prime rate and to rely on any kind of important quantitative monetary easing in response to the crisis.

All in all, while a similar proportion of firms implemented some innovation in Hungary and Western Europe, there are large differences in some innovative inputs and outputs. R&D staff and in-house R&D are especially low in Hungary, which is somewhat balanced by the relatively large expenditures on acquired R&D. Also, when innovative output is measured in patents or trademarks rather than new products or processes for the firm, the difference between Hungary and the comparison groups is large.

The relationship between different firm-level characteristics and innovation in Hungary is similar to that in other countries. There are large differences, however, in financing. As venture capital and bank financing was not available to finance R&D, Hungarian firms had to rely on self financing mainly. Also, the crisis hit innovative Hungarian firms heavily; while they could access credit, its costs increased steeply compared with western Europe.

The EFIGE Project

European Firms in a Global Economy (EFIGE) is a research project, funded by the European Community's Seventh Framework Programme (SSH-2007-1.2.1 Globalisation and its interaction with the European economy) Contract No. 225551. The project aims to analyse the competitive performance of European firms in a comparative perspective.

The **EFIGE Survey** is the backbone of the whole project: it is the first harmonised cross-country dataset containing quantitative as well as qualitative information on around 150 items for a representative sample of some 15,000 manufacturing firms in the following countries: Austria, France, Germany, Hungary, Italy, Spain, and the United Kingdom. These items cover international strategies, R&D, innovation, employment, financing and the organisational activities of firms, before and after the financial crisis.

References

Altomonte, C. and G. Békés (2009) 'Trade complexity and productivity', *CeFIG Working Paper* no. 12, October

Békés G, and B. Muraközy (2009) 'Temporary trade', *CeFIG Working Paper* no. 6, Budapest

Békés G, and B. Muraközy (2012) 'Temporary trade and heterogenous firms', *Journal of International Economics*, forthcoming

Békés, G., P. Harasztosi, and B. Muraközy (2011) 'Firms and products in international trade: Evidence from Hungary', *Economic Systems* Vol. 35, No. 1, 4-24

Bricongne, J-Ch., L. Fontagné, G. Gaulier, D. Taglioni, and V. Vicard (2009) 'Firms and the global crisis: French exports in the turmoil', *Working paper* Banque de France, 265, December

Bricongne, J-Ch., L. Fontagné, G. Gaulier, D. Taglioni, and V. Vicard (2012) 'Firms and the global crisis: French exports in the turmoil', *Journal of International Economics*, forthcoming

Görg, H., L. Halpern and B. Muraközy (2010) 'Why do within firm-product export prices differ across markets?', *CEPR Discussion Papers* no. 7708, London

Halpern, L. and B. Muraközy (2012) 'Innovation, Productivity and Exports: the case of Hungary', *Economics of Innovation and New Technology*, Vol. 21, No. 2, 151-173

Halpern, L., M. Koren, and A. Szeidl (2009) 'Imported inputs and productivity', *CeFIG Working Paper* no. 8, Budapest

Koren, M. and M. Csillag (2011) 'Machines and Machinists: The Effect of Imported Machines on the Wages of Hungarian Machine Operators', *CeFIG Working Paper* no. 14, Budapest

Mayer, T., Ottaviano, G. (2008) 'The happy few: the internationalisation of European firms', *Intereconomics: Review of European Economic Policy* 43, 135–148