

EFIGE country report: Austria

Austria Felix: The impact of the crisis on a small open economy

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AUSTRIA COUNTRY REPORT

Austria Felix. The impact of the crisis on a small open economy

By Luigia Mirella Campagna, Attilio Pasetto and Antonio Riti

Main policy questions and policy implications

Austria is a small, open economy characterised by ambitious innovation policies. In the 2000s, the country stimulated its research, technology and innovation policies as a matter of economic policy priority. To foster research and innovation activity, a variety of policies were used, including measures aimed at attracting foreign investment in R&D; it is not a coincidence that Austria is now characterised by a concentration of medium foreign enterprises. In the period 2000-2007, Austria was able to demonstrate the highest rate of change of its R&D intensity in the world (+0.63 percentage points); the corporate sector, including foreign-owned enterprises, has contributed significantly to this increase.

The results of these striking policies were tested for their resilience in a crisis for the first time in 2008-2009. The analysis presented in this report is based on data from the EU-EFIGE/Bruegel-UniCredit Survey, which provides a wide range of information on the characteristics of firms and their specific innovation strategy. While the crisis had a considerable impact on exports as prospects were gloomier than expected, the data show that Austrian firms suffered less than other countries surveyed, suggesting that a successful 'system of innovation', which includes the presence of foreign-owned businesses characterised by a high propensity for R&D and innovation, is not neutral. Over the crisis period, Austrian firms, regardless of their size, showed relatively greater resilience; also small businesses (10-49 employees) have been more able to exit the crisis when compared with other small European companies, and their success is strictly connected to their capability to invest, innovate and compete on quality.

The main policy indication that emerges from this report is the centrality of research, technology and innovation policies. For Austria, as a small country with a number of large firms, including foreign multinationals and many small- and medium-sized firms, it is important to foster innovation diffusion, whether created domestically or abroad, and to make choices that contribute to continuous technological upgrading of the economy, facilitating interaction between all the players in the innovation system.

Executive summary

As a 'small open economy', Austria faced special challenges with regards to the global crisis which affected the manufacturing sector by reducing the demand on products that were, essentially, for foreign markets.

Data from the EU-EFIGE/Bruegel-UniCredit Survey, however, show that Austria was the country which suffered the least of the seven countries surveyed. The relatively greater resilience of Austrian companies is evident in both the number of firms that experienced a reduction in turnover and the extent of the reduction. Looking at the breakdown by size, it is interesting to note that small enterprises (10-49 employees) contribute substantially to the relatively greater resilience of Austrian manufacturing firms, while large companies show an advantage only in terms of the extent of the reduction.

The data prompt two interesting questions. The first one concerns the factors underlying the relative 'strength' of the Austrian small enterprises. Why are Austrian small enterprises so successful with respect to those in other countries? The second question arises from the internationalisation model followed by Austria in the last decades. The opening up of Austria's economy has been impressive, as illustrated not only by the growth of exports, imports, direct investment activities and the many forms of cross-border relationships of its firms, but also by the growing role of foreign-controlled enterprises. Are they a different type of firm relative to domestic enterprises? Does their presence matter in the Austrian manufacturing industry?

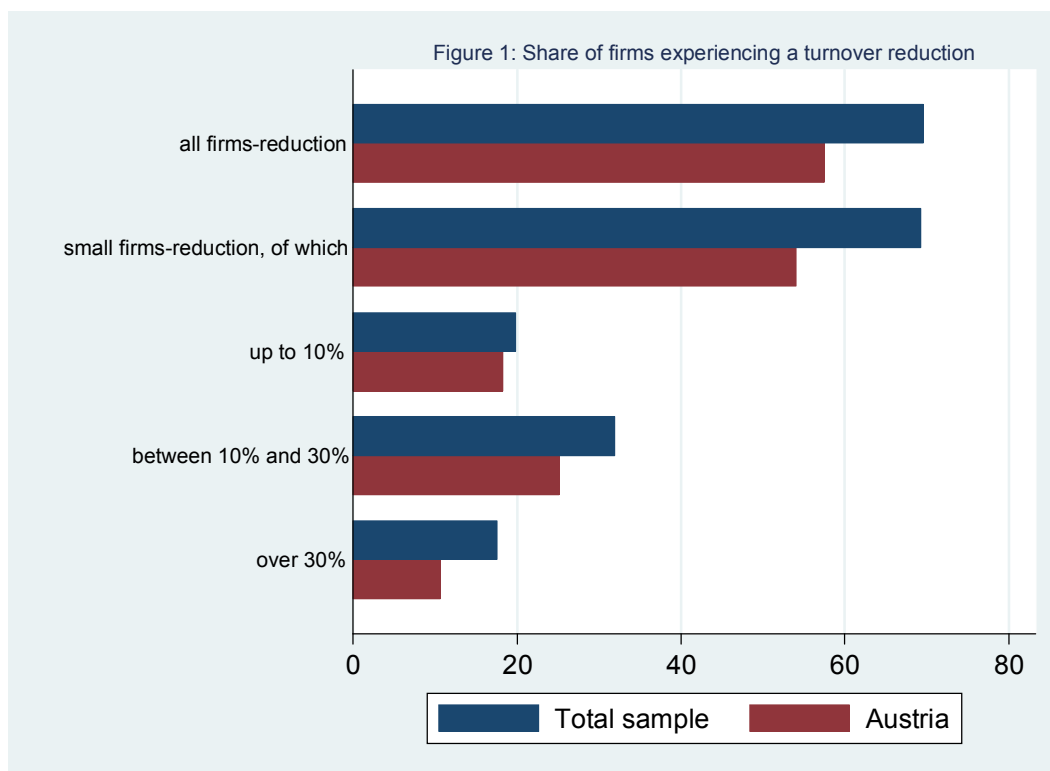
This report analyses the key characteristics of Austrian small enterprises and those of foreign-owned enterprises relative to domestic ones, with a focus on medium and large enterprises and their reaction to the crisis which occurred in 2008. The main strengths of small enterprises in Austria are the high capacity to invest, innovate and compete on quality. Public support also seems to have played an important role. Regarding inward foreign investment, evidence provides a mixed picture. On average, foreign-owned companies are firms having 'good' characteristics in terms of a skilled workforce, propensity for innovation, export intensity, geographical diversification and product diversity. In their response to the deepest recession since World War II, they preferred to cut employment and tangible investment rather than intangible investment. This choice may have had an immediate negative impact on the economy, increasing unemployment, reducing demand in investment goods and industrial property prices. However, this decision looks ahead, to a greater extent, at the future competitiveness of the company, with positive delayed effects on the economy, not only in terms of employment growth but also stimulating flows of innovation and technology.

The common feature of both the analyses is the high attention paid to investment and innovation, regardless of their size. In our view, crucial support in these areas comes from a successful 'system of innovation', which also includes the presence of foreign-owned enterprises that have a strong focus on R&D and innovation. Their technological capabilities may or may not be easily appropriated by national firms, but what matters is their interaction with others economic players. Their presence is the result of an economic policy choice. To raise innovative activity, a variety of policies is used: these policies were aimed not only to fix direct subsidies and tax incentives, but also to attract foreign investment in R&D. The choice of the Austrian government to place a very strong emphasis on a national innovation system, also including foreign-owned enterprises, does not seem neutral.

1. The impact of the crisis on Austrian firms: two perspectives

As a 'small open economy', Austria faced special challenges with regard to the global crisis that affected the manufacturing sector by reducing the demand on products which were, essentially, for foreign markets.

Data from the EU-EFIGE/Bruegel-UniCredit Survey¹, however, show that Austria was the country which suffered the least of the seven countries surveyed. In 2009, the share of Austrian firms that experienced a reduction in turnover was 'only' 57.5 percent, significantly lower than the average for the whole sample (69.5 percent) and even Germany (60.9 percent). The relatively greater resilience of Austrian companies is also confirmed by the extent of the reduction: the percentage of enterprises that registered a reduction in turnover of up to 10 percent was 19.1 percent, versus 19.8 percent for the whole sample and the comparison remains favourable to Austrian companies even when we consider the firms that suffered a drop in sales between 10 percent and 30 percent (28.1 percent vs. 32.3 percent) and over 30 percent (10.3 percent vs. 17.3 percent). Looking at the breakdown by size, it is interesting to note that small enterprises (10-49 employees) contribute substantially to the relatively greater resilience of Austrian manufacturing firms: about 46 percent of them did not suffer any decline in sales in 2009, compared to about 30 percent for the total sample; also the extent of the reduction is relatively low. Regarding large companies (250 and more employees), the number of those that did not suffer a drop in turnover was only slightly lower than that for the overall sample (32.4 percent versus 35 percent), but the advantage in terms of the extent of the reduction is confirmed. The results do not change when we analyse the impact of the crisis by exporting firms and non-exporting ones.



We reach the same conclusions when we look at other variables. Regarding employment, the proportion of Austrian firms that experienced a reduction in the workforce in 2009 was 36.5 percent compared with 41.8 percent for the total sample, while 21.1 percent of Austrian companies experienced an increase versus only 13 percent from the seven countries. The best performances were achieved by small businesses, followed by medium ones, and then by non-exporting firms. In addition, the percentage of Austrian enterprises that during

¹ The sample includes 481 enterprises, with the following breakdown by size: 150 (10-19 employees), 179 (20-49), 105 (50-249), 47 (250 and more).

2009 reduced their investments in machinery, equipment and ICT or postponed investments in product or process innovation is lower than that for the entire sample (respectively, 27.4 percent versus 33.2 percent and 27.3 percent versus 34.6 percent).

The data prompt two interesting questions. The first one concerns the factors underlying the relative 'strength' of the Austrian small enterprises. Why are Austrian small enterprises so successful with respect to those in other countries? Given that the extent to which a firm could face a sharp drop in aggregate demand may be conditional to the relative importance of its ownership, skill of its labour force, innovation, R&D expenditure, exports, etc., it is interesting to look at the characteristics of the Austrian small firms and assess how they differ from corresponding companies in the other countries surveyed.

The second question arises from the internationalisation model followed by Austria in the past few decades. Drawing on its favourable location at the centre of an enlarged Europe, Austria experienced a remarkable increase in the internationalisation of its economy in the last 20 years. Some strong policy initiatives² and the opening of Central and Eastern European Countries contributed to a large increase in the number of both Austrian exporting companies and international companies that found in the country an obvious base to start operations in Eastern Europe.

The opening of Austria's economy has been impressive, as illustrated not only by the growth of exports, imports, direct investment activities and the many forms of cross-border relationships of its firms, but also by the growing role of foreign-controlled enterprises³. Looking at the manufacturing companies with more than 10 employees, the EU-EFIGE/Bruegel-UniCredit Survey's data show that the share of foreign-controlled enterprises is much higher in Austria than in any other country except Hungary. In 2009, they accounted for 13.9 percent of all companies, versus the total sample average of 7.4 percent. However, since most of them are medium and large companies, the percentage tends to be higher in the medium enterprises (28 percent) and large enterprises (24.3 percent) groups.

Their share of the manufacturing industry, however, is not their only point of interest; what matters most is their positive impact on apparent labour productivity (value added per person employed) and their high propensity for innovation. Foreign-controlled enterprises (FCEs) are often affiliated to global chains of companies located in other industrialised countries, mostly multinational enterprises. They are usually characterised by complex operations, large research budgets, geographical diversification and product diversity; they invest strongly in intangible assets, such as intellectual property (brands, patents, etc.), technology and an 'organisation capable of mastering complex tasks, giving them an edge over their rivals'⁴, which allow them respond to global opportunities. That is why recent literature considers foreign ownership as an element of market structure influencing other aspects of structure, conduct and performances⁵.

The impact of foreign-owned companies in an economy depends to a large extent upon how differently they behave compared to their local counterparts. In this broad framework, therefore, it is interesting to analyse their industrial characteristics and their adjustment strategy to the global crisis relative to those of local firms.

² In 2003 an internationalisation initiative 'Go International' was jointly launched by the Federal Ministry for Economy and Labour (BMWA) and the Austrian Federal Economic Chamber (WKÖ), in order to increase the competitiveness of Austrian businesses. Originally planned to expire in 2006, 'Go International' was extended to the end of 2010, and a further extension is under consideration. Export incentives, political stability, low telecommunication costs and the most attractive taxation system in Europe underpin the favourability of the Austrian business climate.

³ In 2008, 19% of all persons employed in Austria's market economy – some half a million people – worked in enterprises majority-owned by non-resident units. While accounting for just 3% of all domestic enterprises classified under sections C to K of the Austrian Statistical Classification of Economic Activities (ÖNACE) 2003, the foreign-controlled enterprises produced roughly a third of the turnover generated and a quarter of the gross value added by all enterprises in those sections. Foreign-controlled enterprises, moreover, accounted for more than 50% of corporate research expenditure.

⁴ Vernon, *Storm over the Multinationals*, 1977.

⁵ Caves, 1980; Newfarmer and Marsh, 1981.

2. The main characteristics of Austrian small enterprises

Let us now compare the key characteristics of small enterprises (10-49 employees) in Austria with those in other countries.

In small Austrian companies, ownership and control are very centralised. The percentage of capital in the hands of the first shareholder is higher than the overall sample, while the share of firms belonging to a group is the same. In family businesses, the individual owner is almost always the chief executive officer of the company (84.9 percent versus 73 percent for the total sample). However, it is more common to find executives who have worked abroad for at least one year and the organisational model is more decentralised. In 26.3 percent of cases, managers can take autonomous decisions in some business areas compared with 23.1 percent for the small firms total sample. In addition, small Austrian enterprises reacted to the crisis by further decentralising strategic decisions (6.8 percent versus 6 percent) and by acquiring or incorporating other firms (7.3 percent versus 6.7 percent).

In the period 2007-2009, 96.4 percent of small Austrian enterprises made investments in plants, machinery, equipment and ICT against 86.5 percent for the total sample, with a higher intensive margin (12.3 percent of the turnover against 10.8 percent for the total sample). In 2009, only 26 percent of small Austrian firms reduced their planned investments compared with 32.1 percent for the seven countries average. It should, however, be noted that in the same period, 28.1 percent of small Austrian enterprises benefited from special tax allowances and financial incentives supporting their investments compared with 19.1 percent for the total sample.

Small Austrian companies are the most innovative among the seven countries. In the period 2007-2009, 52.7 percent of small Austrian firms carried out product innovation, against 45.8 percent for the total sample, and 47.9 percent realised process innovation, against 40.3 percent for the entire sample. But what matters most is that 46.6 percent of small Austrian companies introduced organisational changes linked to product and process innovation against 30.2 percent for the total sample.

Table 1 – Small companies: Austria versus total sample

	Austria	Total sample
Group membership	12.4%	12.5%
Merger and Acquisitions	7.3%	6.7%
Capital share of the first shareholder	76.2%	64.7%
CEO member of the family that owns the firm	84.9%	73.0%
Decisions decentralised	26.3%	23.1%
Investment (share of firms)	96.4%	86.5%
Investment (share of annual turnover)	12.3%	10.8%
Reduction of investment in machinery and ICT in 2009	26.0%	32.1%
Tax allowances/financial incentives on investment	28.1%	19.1%
Product innovation	52.7%	45.8%
Process innovation	47.9%	40.3%
Organisational changes	46.6%	30.2%
Extensive margin of exports	48.1%	48.1%
Intensive margin of exports	32.3%	29.2%
Export insurance coverage	22.0%	24.1%
Tax allowances and financial incentives on export	3.7%	4.2%
Sales of produced-to-order goods	55.5%	71.1%
Rating of quality of own products	92.0%	86.7%

Regarding exports, the extensive margin of small Austrian enterprises (48.1 percent) is the same as the sample mean, while the intensive margin is higher (32.3 percent versus 29.2 percent). But small Austrian companies on average export to fewer countries than the total sample (6.8 versus 8.8). Also, they are less likely to benefit from export insurance coverage (22 percent versus 24.1 percent) and tax allowances or financial incentives on export (3.7 percent versus 4.2 percent). Regarding the effects of the crisis, the proportion of small enterprises in Austria that suffered a fall in exports is higher than the sample mean, but the extent of the reduction was not as great.

Sale on commission is less widespread among Austrian companies than in wider Europe as whole. The proportion of small Austrian firms' turnover made up by sales of produced-to-order goods is around 55 percent, a figure lower than that for the total sample (71 percent). Competition is limited to mainly Europe: the percentage of competitors located outside Europe is not as high as the sample mean. Small Austrian companies compete on quality. The quality of their products is rated higher than the average for the sample.

In conclusion, the main strengths of small enterprises in Austria are the high capacity to invest, innovate, introduce organisational changes and compete on quality. Public support also seems to have played an important role.

BOX - State intervention in the crisis and small businesses

In 2008 and 2009 the Austrian government approved several measures to counter the crisis. The extent of state intervention was €6 billion, equivalent to about 2 percent of GDP, a percentage higher than that recommended by the European Union to member countries (1.5 percent). Between October and December 2008 the government adopted two Economic Stimulus Packages. In the first one, €1bn of interventions were planned for small and medium-sized enterprises through subsidised interest loans provided by AWS (*Austria Wirtschaftsservice*), the Austrian public body for business support and technology innovation. In addition, the government set up a SME Fund, endowed with €80 million, within AWS for two years, allocated €25m for an internationalisation campaign and provided the research sector long-term loans for €100m. In the second Economic Stimulus Package, regional labour market programs were supported by €75m each and R&D activities were injected with € 50m. Interventions for infrastructure measures were adopted in both packages. In 2009, the government launched three Labour market packages focused on education programmes and apprenticeship training positions, the extension of the short-time working arrangement from 18 to 24 months, a new scheme for reducing the working hours of older workers and other measures for employment. In same year, a tax reform was approved by Parliament with a value of €3.2 billion.

It is not easy to say how these measures have impacted firms. We have seen, however, that almost 30 percent of small Austrian enterprises have benefited from special tax allowances and financial incentives to support their investments. It is therefore interesting to consider the main differences between subsidised enterprises and those that did not receive any subsidy.

In general, the indicators of subsidised small firms are better than those of non-subsidised ones. Export figures, however, do not compare favourably probably because most of the measures introduced by the government were aimed at strengthening the internal market.

The percentage of subsidised companies which experienced a reduction in turnover is lower than that for non-subsidised ones (49.4 percent versus 60.2 percent), as well as the share of firms that experienced a drop of more than 10 percent (36.7 percent versus 39.3 percent). The same can be said for employment. Subsidised companies that experienced a reduction in their workforce were 20.3 percent compared with 29.5 percent for non-subsidised ones, and the percentage reduction was lower (14.9 percent versus 18.3 percent).

Table 2 – Austrian subsidised firms versus non-subsidised ones (small companies)

	Subsidised firms	Non-subsidised firms
Turnover reduction in 2009	49.4%	60.2%
of which more than 10%	36.7%	39.3%
Workforce reduction in 2009	20.3%	29.5%
of which more than 10%	14.9%	18.3%
Investment (share of annual turnover)	17.3%	11.1%
Reduction of investment in machinery and ICT in 2009	29.1%	29.9%
Product innovation	62.0%	50.4%
Share of turnover from innovative products sales	21.6%	20.2%
R&D (share of firms)	46.8%	42.3%
R&D (share of annual turnover)	8.6%	6.4%
Decision to postpone investment in innovation	23.1%	34.2%
Extensive margin of exports	44.3%	50.0%
Intensive margin of exports	25.0%	32.8%
Exports increase in 2009	8.6%	28.1%
Exports reduction in 2009	34.4%	30.0%
Sales of produced-to-order goods	55.8%	61.9%
Firm's scale of adequate production	82.3%	88.5%
Product range widened in 2009	57.0%	45.7%
Product range reduced in 2009	0.0%	6.0%

Also, the indicators of investment/turnover and R&D/turnover ratios are better for subsidised firms (respectively, 17.3 percent versus 11.1 percent and 8.6 percent versus 6.4 percent). The proportion of subsidised small enterprises that introduced product innovation is higher (62 percent versus 50.4 percent) and the same is true for companies that invested in R&D (46.8 percent versus 42.3 percent). In addition, fewer subsidised firms decided in 2009 to postpone investment in product or process innovation than non-subsidised ones (23.1 percent versus 34.2 percent). As the reaction to the crisis, the subsidised firms have also shown more willingness to expand the range of products (57 percent versus 45.7 percent).

Only export indicators are better for non-subsidised companies. Both the extensive and intensive margins are higher for non-subsidised companies (respectively, 50 percent versus 44.3 percent and 32.8 percent versus 25 percent). In addition, non-subsidised companies reacted better to the crisis than subsidised ones. They are more likely to have increased exports during the crisis (28.1 percent versus 8.6 percent) and less likely to have suffered reductions (30 percent versus 34.4 percent).

3. Foreign-owned enterprises versus domestic firms: their reaction to the crisis

This section deals with an analysis of the discriminating characteristics and strategy of foreign-owned enterprises relative to local firms. Since these factors have implications for the performance of the firms, it is reasonable to expect that significant differences between the two groups may lead to different performances and, hence, a different impact on the Austrian economy. Table 3 shows the differences in observable characteristics for the two sub-samples of foreign and domestic firms.

Table 3 - Descriptive statistics: foreign versus domestic firms

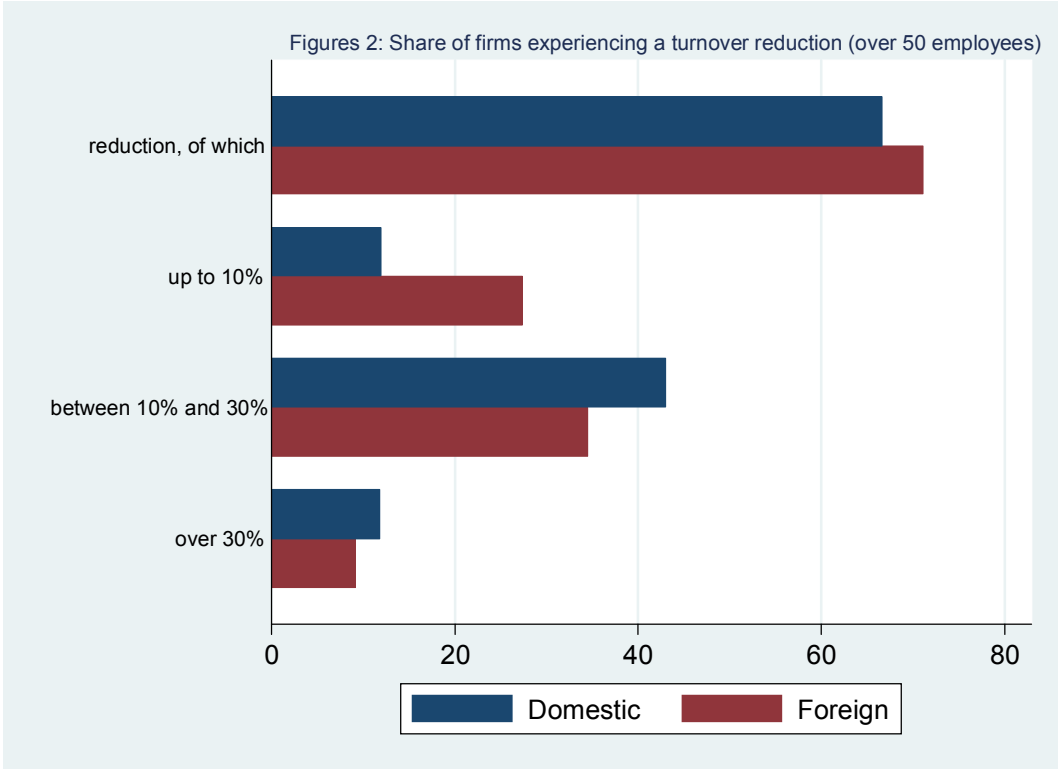
	all sample		over 50 employees	
	Domestic	Foreign	Domestic	Foreign
employees 10-19	14.0	13.9		
20-49	29.6	31.3		
50-249	108.6	108.5		
>249	758.3	1531.4		
Share of graduates	5.0%	7.6%	8.3%	8.0%
share of R&D employees	7.0%	11.2%	10.1%	7.0%
investment/turnover	12.0%	9.1%	10.0%	8.1%
product innovation	57.1%	63.8%	70.1%	81.0%
process innovation	52.6%	64.9%	74.0%	79.5%
organisational innovation	69.7%	63.9%	73.0%	64.7%
R&D	47.3%	77.6%	80.0%	81.3%
R&D/turnover	7.1%	4.3%	5.3%	4.6%
decentralised organisation	29.2%	70.5%	57.3%	68.6%
purchases of services	63.6%	69.3%	84.7%	71.0%
purchased services/turnover	13.5%	9.8%	11.9%	9.5%
share of foreign services	20.9%	33.5%	20.4%	32.2%
purchases of intermediate goods	59.3%	61.5%	63.7%	66.7%
purchased intermediate goods/turnover	19.8%	27.0%	20.8%	22.4%
share of foreign intermediate goods	25.9%	59.7%	26.5%	51.7%
FDI	5.8%	15.8%	20.8%	23.8%
FDI/turnover	28.9%	14.8%	29.4%	18.5%
Contracts and Agreements	4.8%	6.5%	8.4%	12.7%
C&As/turnover	22.5%	9.2%	19.1%	8.5%
Exporters	50.6%	80.3%	71.6%	80.8%
export/turnover	36.7%	56.8%	56.1%	65.2%
number of destination countries	10.3%	16.9%	22.1%	22.0%
product lines: 1	45.1%	28.2%	27.7%	23.6%
2-5	36.2%	27.6%	35.1%	30.4%
6-10	8.8%	20.4%	17.6%	30.5%
over 10	9.8%	23.8%	19.5%	15.6%

Foreign-owned firms are significantly different to the domestic-owned ones in many respects, as the first two columns show. Size is one of the most important differences: the former are significantly larger in terms of employment as compared to the domestic ones. As a result their lower intensive margins of investment and R&D might be due to size effects, since those ratios are inversely related to the size of the company. Indeed, many of the other differences between foreign-controlled enterprises and domestic firms can be attributed to differences in the mean average composition of the two sub-samples. While medium and large enterprises account for more than half of the foreign-owned enterprises, they account for only around a fourth of the

domestic firms. Limiting the comparison to only medium and large enterprises (more than 50 employees), those differences tend to narrow or even to reverse, as shown by the third and fourth columns.

However, some differences remain. It has been shown that foreign-owned enterprises have a relatively higher tendency to invest in innovation and R&D and that they are likely to have a decentralised model of organisation. As expected, they are relatively more integrated into global production networks. A higher percentage of them purchase services, intermediate goods and raw materials from outside, mostly abroad; their purchases are not restricted to Europe, but also involve other economic areas, including emerging ones such as China, India and other Asian countries, as well as South and Central America. Moreover, foreign-owned firms export a much higher proportion of their output and are more likely to export a larger number of product lines. Similarly, we observe clear differences in the geographical areas of operation, where firms in domestic ownership operate mainly on an EU scale, while foreign-owned firms operate more on a world scale. To summarise the findings from Table 3, we may definitely conclude that the ownership issue is highly biased with respect to various characteristics of companies.

Given those differences, it is not so surprising that foreign-owned companies have reacted differently to the crisis than their local counterparts.

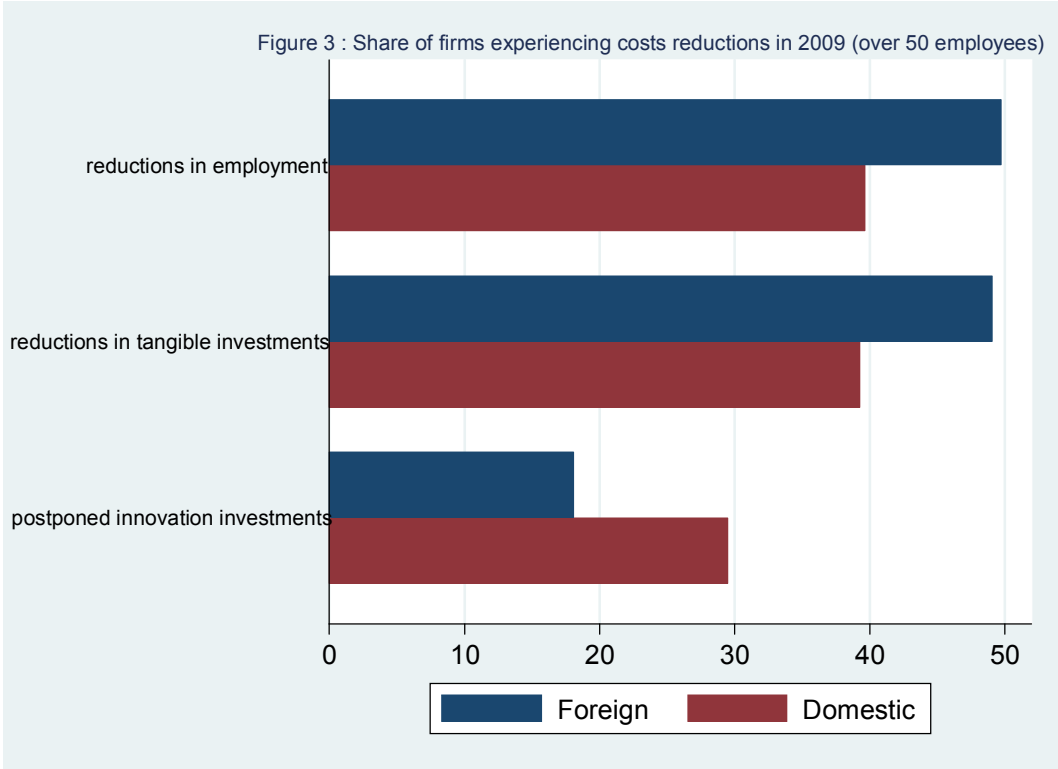


By restricting the analysis to medium and large enterprises in order to obtain more homogenous sub-samples, figures suggest that the higher investment in intangible assets and more complex models of internationalisation provided foreign-owned companies with only a partial edge over their local counterparts. Indeed, the global nature of the crisis which occurred in 2008 affected the vast majority of companies doing business in many international markets, as the contagion effect prevailed over the differentiation effect. Though it is true that the percentage of foreign-owned enterprises that experienced a reduction in turnover is slightly lower than that of domestic ones (66.7 percent versus 71.1 percent), it is equally true that the percentage of those that reported consistent reduction is higher (43 percent versus 34.5 percent with regard

to drop in sales of between 10 percent and 30 percent; 11.8 percent versus 9.2 percent with regard to a drop over 30 percent).

Apart from the impact of the crisis on sales turnover, however, it is interesting to observe how the two groups of firms have adjusted to it. Firstly, almost a third of foreign-owned enterprises (30.3 percent) changed their organisational model: most introduced management changes that allowed for strategic decision making to be more centralised. Local firms did the same: though starting from a situation of greater centralisation on average, the percentage that switched to more centralisation was only slightly lower (29.4 percent). Interestingly, there were also some local firms which opted for a less centralised model of organisation (13.3 percent). Summing up, the share of companies opting for a change in strategic decision management was higher for domestic firms than for foreign-owned ones.

Secondly, both groups of companies responded to declining demand and tightened credit conditions with cost cuts and changes in strategy, but a closer look reveals some differences. Almost half of the foreign-owned enterprises reduced both planned investment in tangible goods (49.1 percent) and employment (49.7 percent), thus proving to be more determined to cut those costs than their local counterparts (39.3 percent and 39.7 percent, respectively). Table 2 shows the data on the reductions in employment: job losses were mostly permanent and concerned, to a greater extent, workers rather than employees, especially in foreign-owned companies which have, on average, a larger share of employees in their workforces.

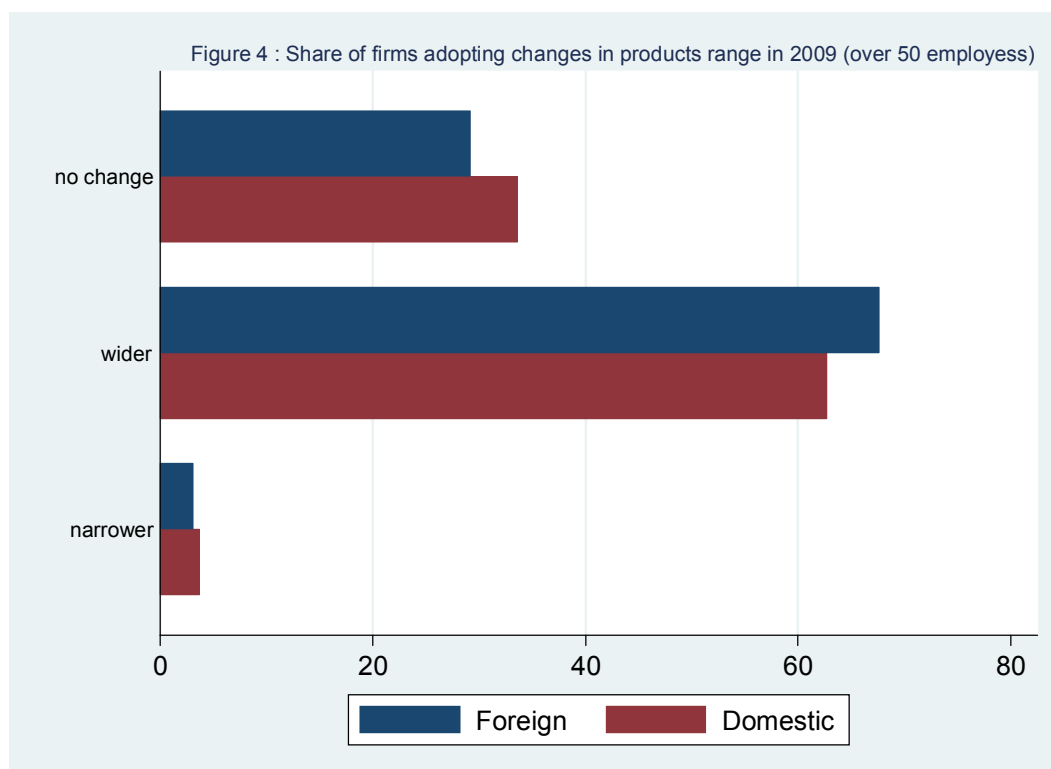


On the other hand, foreign-owned enterprises were very cautious in cutting innovation investment (18.1 percent versus 29.5 percent of domestic firms). These results are consistent with the ambitious Austrian innovation policies that have been pursued in recent decades. Designed to foster the sustainable development of new R&D expertise in Austria, a ‘Headquarter Strategy’ programme was launched in 1995 as an incentive to multinationals to set up their central R&D units in Austria: a federal R&D promotion fund (FFG), every year, spends several millions of euro on attracting foreign R&D firms and giving them financial incentives to stay.

Table 4 - Share of firms experiencing changes in employment: foreign versus domestic firms

	Firms with over 50 employees	
	Domestic	Foreign
reduction	39.7%	49.7%
increase	23.5%	18.7%
no changes	36.8%	31.6%
Reduction, of which		
permanent reduction	78.1%	81.1%
temporary reduction	21.9%	18.9%
workers	75.2%	85.0%
employees	24.8%	15.0%
managers	-	-
Increase, of which		
permanent increase	90.4%	100%
temporary increase	9.6%	
workers	56.7%	48.1%
employees	32.2%	51.9%
managers	11.1%	-

However, the adjustments of companies to the crisis went beyond simple cost cutting and involved changing strategy. In this respect, large foreign-owned companies were more active than their local counterparts. For example, over 70 percent of them changed their offer strategy, most opting for a wider product range (67.7 percent) and only a minority opting for a narrower one (3.1 percent). A broad range of products is usually seen as a source of strength because, while one line of business might be pressed hard by weak demand, another might have large sales potential. The corresponding percentages in the group of domestic firms were, respectively, 62.7 percent and 3.7 percent.



To sum up, regarding inward foreign investment in Austrian manufacturing industry, evidence provides a mixed picture. On average, foreign-owned companies are those with 'good' characteristics in terms of a skilled workforce, propensity for innovation, export intensity, geographical diversification and product diversity. In their response and also that of domestic companies to the deepest recession since World War II, cost cutting has played an important role. However, unlike their local counterparts, they preferred to cut employment and tangible investment rather than intangible investment. This choice may have had an immediate negative impact on the economy, increasing unemployment, reducing demand in investment goods and industrial property prices; however, it seems to take into account, to a greater extent, the future competitiveness of the company, with positive delayed effects on the economy, not only in terms of employment growth but also stimulating flows of innovation and technology.

4. Conclusions

Looking at the data on manufacturing firms with more than 10 employees, Austria's sources of strength which helped the country overcome the crisis in 2008-2009 better than the other seven surveyed countries are the same ones which permitted it "to occupy a place among the top performing economies"⁶ in the past. The most important of these is a business's high attention to investment and innovation, regardless of size. Even small firms show a relatively high tendency for investment and innovation.

The results are consistent with the well-known Austrian firms' ability to use and develop the most productive technologies, especially among medium-sized but globally-driven enterprises, without suffering from the relatively small size of the national science and technology base.

In our view, a crucial support for this comes from a successful 'system of innovation', which also includes the presence of foreign-owned enterprises that are likely to invest in R&D and innovation. Their technological capabilities may or may not be easily appropriated by national firms, but what matters is their interaction with the other economic players. Both empirical and theoretical research have drawn attention to the fact that innovation should be considered as a complex process involving many factors, among them interactive learning processes: through different interactions in the economy, areas of knowledge become combined in new ways, originating new discoveries and sometimes new products or processes. The interactions occur among different firms, between firms and consumers and between firms and other organisations (universities, state agencies, etc.). The innovative performance of a country depends, to a large extent, on how these players relate to each other as elements in a 'system of innovation'.

Indeed the Austrian government has placed a very strong emphasis on a national system of innovation. To raise innovative activity, a range of policies have been introduced. Innovation policies are not only intended to fix direct subsidies and tax incentives, but also to attract foreign investment in R&D. In order to foster the development of new R&D expertise in Austria, a 'Headquarter Strategy' programme was launched some years ago to encourage multinationals to set up their central R&D units in Austria. Although there is a debate about the tendency towards innovation in foreign-owned companies vis-à-vis domestic companies⁷, there is no doubt that foreign-owned firms finance 30 percent of Austria's total business R&D and contribute to its level of expertise. In short, choosing a policy that emphasises a national innovation system that includes foreign-owned enterprises does not seem neutral.

The EFIGE Project

European Firms in a Global Economy (EFIGE) is a research project funded by the European Community's Seventh Framework Programme/Socioeconomic Sciences and Humanities (FP7/2007-2013). The project aims to analyse the competitive performance of European firms in a comparative perspective.

The **EU-EFIGE/Bruegel-UniCredit 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.

⁶ OECD Economic Survey, *Austria*, July 2007.

⁷ M. Falk and R. Falk, *Do Foreign-Owned Firms have a Lower Innovation Intensity than Domestic Firms?*, WIFO Working Papers 275, 2006.